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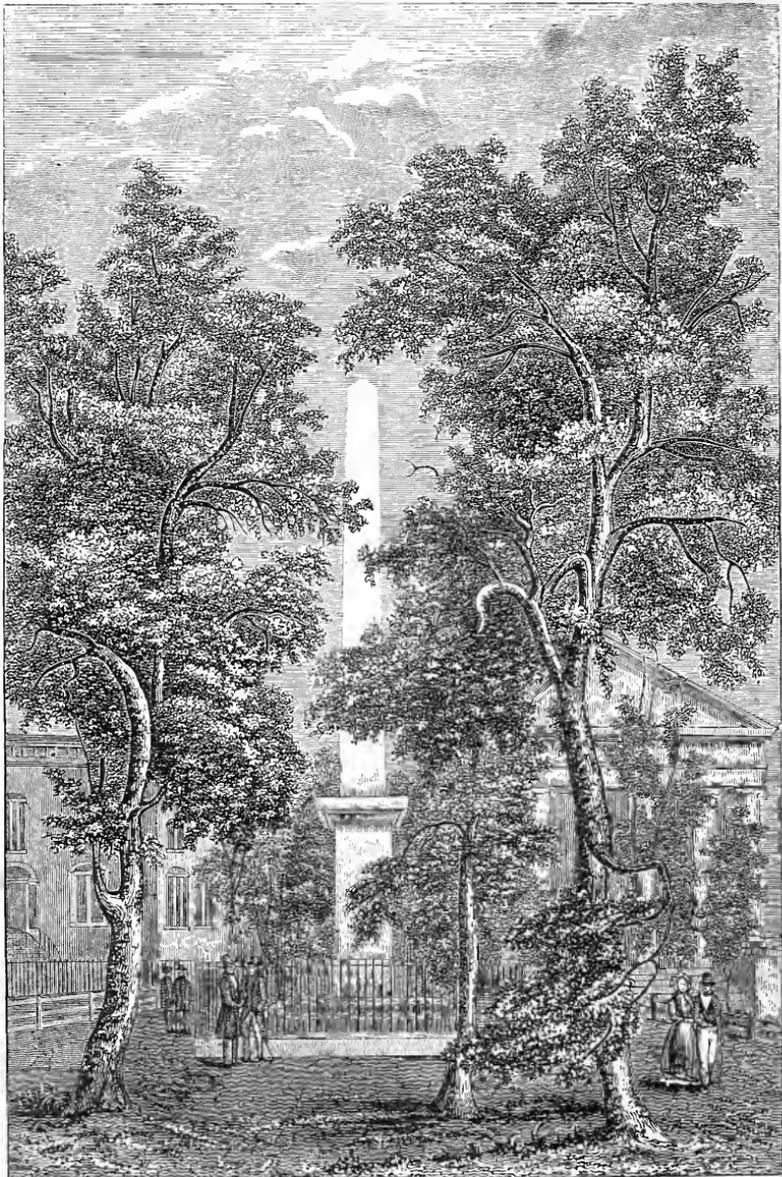
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PULASKI MONUMENT.—CHRIST CHURCH,
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THE
FAMILY INSTRUCTOR,
OR
DIGEST OF GENERAL KNOWLEDGE;

COMPRISING

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COMPILED FROM THE LATEST AND BEST AUTHORITIES,

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ILLUSTRATED WITH NUMEROUS ENGRAVINGS.

EDITED BY ROBERT SEARS.

Our needful knowledge, like our needful food,
Unhedged, lies open in life's common field,
And bids us welcome to the vital feast!—YOUNG.

NEW YORK.

PUBLISHED BY ROBERT SEARS, 181 WILLIAM STREET.

J. S. REDFIELD, CLINTON HALL.—EDWARD WALKER.—AND NAFISH & CORNISH,
BOSTON: E. J. PEET & CO., 109 WASHINGTON STREET.—PHILADELPHIA: WILSON & STOKES;
THOMAS, COWPERTHWAIT, & CO.; JOHN JONES; LINDSAY & BLAKINSON.—ALBANY, N. Y.: W. C. LITTLE.—
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DENDY

P R E F A C E .

THERE are no pleasures so unalloyed and so ennobling, as those derived from mental cultivation. By the acquisition of KNOWLEDGE, the mind not only becomes disabused of the debasing influences of prejudice and ignorance; but it is also enriched in its stores of individual happiness and enjoyment, and at the same time acquires the capacity of imparting the like benefits to those around. Trite as may be deemed the remark, it is no less true, that ignorance is the prolific parent of misery and vice; and one of the great characteristics of the present age being its universal diffusion of intelligence, the neglect of the pursuits of KNOWLEDGE can no longer be regarded as simply inexpedient, but it becomes inexcusably culpable. The incentives to these, are in unison with those which concern our common well-being: the fruits of KNOWLEDGE being the intellectual aliment, from which we imbibe the faculty of their ever-increasing indulgence. Thus the moral nature becomes matured, the taste refined, and all that constitutes the distinctive attribute of the human over the brute, proportionately augmented. The great utility of the acquisition of KNOWLEDGE, consists in the true dignity and independence it confers: empowering the mind to retire within herself, and expatiate in the quiet walks of contemplation; to explore the subtle mysteries of Science, or to muse over the vast expanse of Creation's Wonders. The DIVINE AUTHOR of nature has wisely and beneficently annexed a pleasure to the exercise of our active powers, and particularly to the pursuit of truth; which, if it be in some instances less intense, is far more durable, than the gratifications of sense, and is, not to refer to its other advantages, on that account incomparably more valuable. It may be repeated without satiety, and pleases afresh in every reflection of it. Such enjoyments as these are self-created satisfactions, always within our grasp: not requiring a peculiar combination of circumstances to produce or maintain them: they spring up spontaneously. They are a rich intellectual spring, ever welling up with their refreshing influences, and inciting to the pursuit of the highest good, to noble deeds, and to the purest and most elevating aspirations.

Important, however, as are the immunities conferred by literary pursuits, it is yet to be recollected that unassociated with habits of reflection and study, as well as a just regard to appropriateness and discrimination in the choice of books, they not only often prove unavailing to any practical purposes, but even sometimes, indeed, become

absolutely injurious. This consideration has been regarded with a less sedulous care than its importance claimed; especially in a day when the productions of the Press, from their vast numerical extent, no less than their heterogeneous character, would seem to demand redoubled caution.

To know what to read, is equally essential with the art of its right application; it is therefore with the view of supplying, in a compendious form, a judicious and varied selection of valuable reading-matter, garnered from the ample stores of Literature and Science, that the present work has been prepared. Stimulated by the urgent and increasing demand for books devoted to the purposes of sound and sterling Knowledge, the Editor has devoted whatever could be rendered available in the improved resources of the literature of the age, together with the attractions of Pictorial Embellishments, to a lavish extent, in order to supply the acknowledged chasm. How far he may have succeeded in the accomplishment of his object, the reader must decide; his aim has been to impart important instruction with amusement, in the earnest hope that his humble efforts may contribute to the promotion of an improved taste among that class of readers, whose restricted means or opportunities of leisure forbid the indulgence of more extended excursions over the wide domain of human Knowledge and inquiry.

R. S.

New York, 1846.

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PULASKI MONUMENT—

CHRIST CHURCH—SAVANNAH, GEO.

THE city of Savannah is built on a sandy plain, about seventeen miles from the ocean, by the course of the river. It is laid off in a regular manner, the streets intersecting each other at right angles. In each ward of the city a vacant space is left, the houses being built around in such a manner as to form a square. This space is enclosed with a circular railing, and in the enclosure a number of trees are planted, which in the spring and summer seasons present a beautiful appearance, forming a shady bower, under which the children may be seen sporting upon the green grass. Among the most beautiful of these squares is that known as Johnson's, and more recently Monument square, which is situated a few yards from Bay street and the Exchange. In the centre of this square stands a Doric obelisk, erected by the citizens of Savannah to the memories of Greene and Pulaski, the corner stone of which was laid by General Lafayette, during his visit in 1825. It is a marble monument, fifty-three feet in height. The base of the pedestal is ten feet four inches by six feet eight inches, and its height about twelve feet. The needle which surmounts the pedestal is thirty-seven feet in height. The monument is built upon a platform of granite, three feet above the ground, and the whole is enclosed by a cast-iron railing.

To the east of the monument may be seen Christ church, a newly erected edifice. The order of architecture adopted in this building is the Grecian Ionic, of the age of Pericles. Throughout the ex-

terior, the example followed is, so far as the material used would permit, that of the double temple of Minerva Polias and Erechtheus, in the Acropolis of Athens. In the interior, the proportions of the temple of the Ilissus have been adopted. The first temple stands unrivalled for the lightness and grace of its columns, and the delicate elegance of its ornaments, and the latter is much celebrated for its chaste simplicity. The three are confessedly among the most beautiful Ionic specimens that have come down to us of the exquisitely refined taste of the Athenians.

On the same side of the square is the Bank of the state of Georgia, a building which both externally and internally adds to the beauty and comfort of the city and its inhabitants.

The plan of the city of Savannah has been greatly admired by the many strangers who have visited it; and there is no doubt that the squares are productive of health, and contribute greatly to the appearance of the city.

LEGENDS RESPECTING TREES.

LIKE other natural objects of signal importance to man, whether yielding food, affording shelter, or simply conferring loveliness on the landscape, trees, in the earlier stages of society, have uniformly been the fertile subjects of poetical and mythological allusion. Many of the prettiest legends of heathen antiquity, as well as of our Christian progenitors, relate to trees; while poets, in all countries and ages, have borrowed from them their most

brilliant imagery and comparisons. Without inquiring into the causes of these varied allusions, we intend to present the reader with a few of the more remarkable legends.

The White Poplar, according to ancient mythology, was consecrated to Hercules, because he destroyed Cacus in a cavern of Mount Aventine, which was covered with these trees; and in the moment of his triumph, bound his brow with a branch of one as a token of his victory. When he descended into the infernal regions, he also returned with a wreath of white poplar round his head. It was this, says the fable, that made the leaves of the color they are now. The perspiration from the hero's brow made the inner part of the leaf white; while the smoke of the lower regions turned the upper surface of the leaves almost black. Persons sacrificing to Hercules were always crowned with branches of this tree; and all who had gloriously conquered their enemies in battle wore garlands of it, in imitation of Hercules. It is said that the ancients consecrated the white poplar to Time, because the leaves are in continual agitation; and being of a blackish green on one side, with a thick white cotton on the other, these were supposed to indicate the alternation of day and night.

The Black Poplar is no less celebrated in fable than its congener above-mentioned. According to Ovid, when Phaëthon borrowed the chariot and horses of the sun, and, by his heedless driving, set half the world on fire, he was hurled from the chariot by Jupiter into the Po, where he was drowned; and his sisters, the Helixades, wandering on the banks of the river, were changed into trees—supposed by most commentators to be poplars. The evidence in favor of the poplar consists in there being abundance of black poplars on the banks of the Po; in the poplar, in common with many other aquatic trees, being so surcharged with moisture, as to have it exuding through the pores of the leaves, which may thus literally be said to weep; and in there being no tree on which the sun shines more brightly than on the black poplar, thus still showing gleams of parental affection to the only memorial left of the unhappy son whom his own fondness had contributed to destroy.

The Apple-Tree, so singularly connected with the first transgression and fall of man, is distinguished alike in the mythologies of the Greeks, Scandinavians, and Druids. The golden fruits of the Hesperides, which it was one of the labors of Hercules to procure, in spite of the sleepless dragon which guarded them, were believed by the pagans to be apples. Hercules was worshipped by the Thebans under the name of Melius; and apples were offered at his altars. The origin of this custom was the circumstance of the river Asopus having on one occasion overflowed its banks to such an extent, as to render it impossible to bring a sheep across it which was to be sacrificed to Hercules, when some youths, recollecting that an apple bore the same name as a sheep in Greek (*mélon*), offered an apple, with four little sticks stuck in it, to resemble legs, as a substitute for sheep; and after that period, the pagans always considered the apple as especially devoted to Hercules. In the Scandinavian Edda, we are told that the goddess Iduna had the care of apples which had the power of conferring immortality, and which were consequently reserved for the gods, who ate of them when they began to feel themselves growing old. The evil spirit, Loke, took away Iduna and her apple-tree, and hid them in a forest, where they could not be found by the gods. In consequence of this malicious theft, everything went wrong in the world. The gods became old and infirm; and, enfeebled both in body and in mind, no longer paid the same attention to the affairs of the earth, and men having no one to look after them, fell into evil courses, and became the prey of the evil spirit. At length the gods, finding matters get worse and worse every day, roused their last remains of vigor, and combining together, forced Loke to restore the tree.

The Druids paid particular reverence to the apple-tree, because the mistletoe was supposed to grow only on it and the oak, and also on account of the usefulness of its fruit. In consequence of this feeling, the apple was cultivated in Britain from the earliest ages of which we have any record; and Glastonbury was called the apple orchard, from the quantity of apples

grown there previous to the time of the Romans. Many old rites and ceremonies are therefore connected with this tree, some of which are practised in the orchard districts even at the present day. "On Christmas eve," says Mrs. Bray, "the farmers and their men in Devonshire take a large bowl of cider, with a toast in it, and carrying it in state to the orchard, they salute the apple-trees with much ceremony, in order to make them bear well next season. This salutation consists in throwing some of the cider about the roots of the tree, placing bits of the toast on the branches, and then forming themselves into a ring, they, like the bards of old, set up their voices and sing a song, which may be found in Brand's Popular Antiquities. In Hone's Every-Day Book, this custom is mentioned, but with some slight variation.

The wassail bowl, drunk on All Hallow E'en, Twelfth Day Eve, Christmas Eve, and on other festivals of the church, was compounded of ale, sugar, nutmeg, and roasted apples, which every person partook of, each taking out an apple with the spoon, and then drinking out of the bowl. Sometimes the roasted apples were bruised and mixed with milk or white wine instead of ale; and in some parts of the country apples were roasted on a string, till they dropped off into a bowl of spiced ale beneath, which was called *Lamb's Wool*. The reason of this name, which is common to all the compounds of apples and ale, is attributed by Vallancey to its being drunk on the 31st of October, All Hallow E'en; the first day of November being dedicated to the angel presiding over fruit, seeds, &c., and therefore named *La Mas Ubhal*, that is, the day of the apple-fruit, and this being pronounced lamosool, soon became corrupted by the English into lamb's wool. Apples were blessed by the priests on the 25th of July, and an especial form for this purpose is preserved in the manual of the church of Sarum.

The custom of bobbing for apples on All Hallow E'en, and on All Saints Day, which was formerly common over all England, and is still practised in some parts of Ireland, has lately been rendered familiar by M'Clise's masterly painting of the Sports of All Hallow E'en. A kind

of hanging-beam, which was continually turning, was suspended from the roof of the room, and an apple placed at one end, and a lighted candle at the other. The parties having their hands tied behind them, and being to catch the apple with their mouths, frequently caught the candle instead. In Warwickshire, apples are tied to a string, and caught at in the same manner, but the lighted candle is omitted; and in the same county children roast apples on a string on Christmas Eve; the first who can catch an apple, when it drops from the string, getting it. In Scotland, apples are put into a tub of water, and then bobbed for with the mouth.

The Ash, according to heathen mythology, furnished the wood of which Cupid made his arrows, before he had learned to adopt the more fatal cypress. In the Scandinavian Edda, it is stated that the court of the gods is held under a mighty ash, the summit of which reaches the heavens, the branches overshadow the whole earth, and the roots penetrate to the infernal regions. An eagle rests on its summit, to observe everything that passes, to whom a squirrel constantly ascends to report those things which the exalted bird may have neglected to notice. Serpents are twined round the trunk, and from the roots there spring two limpid fountains, in one of which wisdom lies concealed, and in the other a knowledge of the things to come. Three virgins constantly attend on this tree, to sprinkle its leaves with water from the magic fountains, and this water, falling on the earth in the shape of dew, produces honey. Man, according to the Edda, was formed from the wood of this tree. Ancient writers of all nations state that the serpent entertains an extraordinary respect for the ash. Pliny says that if a serpent be placed near a fire, and both surrounded by ashen twigs, the serpent will sooner run into the fire than pass over the pieces of ash; and Dioscorides asserts that the juice of ash leaves, mixed with wine, is a cure for the bite of that reptile.

The Oak appears early to have been an object of worship among the Celts and ancient Britons. Under the form of this tree the Celts worshipped their god Tuet, and the Britons Ternawa, their god of

thunder. Baal, the Celtic god of fire, whose festival (that of Yule) was kept at Christmas, was also worshipped under the semblance of an oak. The Druids professed to maintain perpetual fire; and once every year all the fires belonging to the people were extinguished, and relighted from the sacred fire of their priests. This was the origin of the Yule log, with which, even so lately as the middle of last century, the Christmas fire, in some parts of the country, was always kindled; a fresh log being thrown on and lighted, but taken off before it was consumed, and reserved to kindle the Christmas fire of the following year. The Yule log was always of oak, and as the ancient Britons believed that it was essential for their hearth-fires to be renewed every year from the sacred fire of the Druids, so their descendants thought that some misfortune would befall them if any accident happened to the Yule log.

The worship of the Druids was generally performed under an oak, and a heap of stones or cairn was erected on which the sacred fire was kindled. Before the ceremony of gathering the mistletoe, the Druids fasted for several days, and offered sacrifices in wicker baskets or frames, which, however, were not of willow, but of oak twigs curiously interwoven, and were similar to that still carried by Jack-in-the-green on May-day, which, according to some, is a relic of Druidism. The well-known chorus of "Hey, derry down," according to Professor Burnet, was a Druidic chant, signifying literally, "In a circle the oak move around." Criminals were tried under an oak-tree; the judge, with the jury, being seated under its shade, and the culprit placed in a circle made by the chief Druid's wand. The Saxons also held their national meetings under an oak, and the celebrated conference between the Saxons and the Britons, after the invasion of the former, was held under the oaks of Dartmoor.

The Mistletoe, particularly that which grows on the oak, was held in great veneration by the Britons. At the beginning of their year, the Druids went in solemn procession into the forests, and raised a grass altar at the foot of the finest oak, on which they inscribed the names of those

gods which were considered as the most powerful. After this the chief Druid, clad in a white garment, ascended the tree, and cropped the mistletoe with a consecrated golden pruning-hook, the other Druids receiving it in a pure white cloth, which they held beneath the tree. The mistletoe was then dipped in water by the principal Druid, and distributed among the people, as a preservative against witchcraft and diseases. If any part of the plant touched the ground, it was considered to be the omen of some dreadful misfortune which was about to fall upon the land. The ceremony was always performed when the moon was six days old, and two white bulls were sacrificed at the conclusion. In Scandinavian mythology, Loke, the evil spirit, is said to have made the arrow with which he wounded Balder (Apollo), the son of Friga (Venus), of mistletoe branches. Balder was charmed against injury from everything which sprang from fire, earth, air, and water; but the mistletoe, springing from neither, was found to be fatal, and Balder was not restored to the world till by a general effort of the other gods. The magical properties of the mistletoe are mentioned both by Virgil and Ovid. In the dark ages a similar belief prevailed; and even to the present day the peasants of Holstein, and some other countries, call the mistletoe the "spectre's wand," from the supposition, that holding a branch of mistletoe will not only enable a man to see ghosts, but to force them to speak to him. The custom of kissing under the mistletoe at Christmas has been handed down to us by our Saxon ancestors, who, on the restoration of Balder, dedicated the plant to their Venus (Friga), to place it entirely under her control, and to prevent it from being again used against her as an instrument of mischief. In the feudal ages, it was gathered with great solemnity on Christmas Eve, and hung up in the great hall with loud shouts and rejoicing:—

"On Christmas eve the bells were rung;
On Christmas eve the mass was sung;
That only night in all the year
Saw the stoled priest th' chalice near.
The damsel donned her kirtle sheen;
The hall was dressed with holly green:
Forth to the woods did merry men go,
To gather in the mistletoe.

Then opened wide the baron's hall
To vassal, tenant, serf, and all.*

The Holly, like some other evergreens, has long been used at Christmas for ornamenting churches and dwelling-houses. It appears to have been first made use of for this purpose by the early Christians at Rome, and was probably adopted for decorating the churches at Christmas, because holly was used in the great festival of the Saturnalia, which occurred about that period. It was customary among the Romans to send boughs of holly, during the Saturnalia, as emblematical of good wishes, with the gifts they presented to their friends at that season; and the holly came thus to be considered as an emblem of peace and good-will. Whatever may have been the origin of the practice of decorating churches and houses with holly, it is of great antiquity. In England, perhaps, the earliest record of the custom is in a carol in praise of holly, written in the time of Henry VI., beginning with the stanza—

“Nay, ivy, nay, it shall not be, I wys;
Let holly hafe the maystry [mastery,] as the
manner is.
Holy stonde *in the halle*, fayre to behold;
Ivy stonde *without the dore*; she is ful sore a-cold.”

In illustration of which it must be observed that the ivy, being dedicated to Bacchus, was used as a vintner's sign in winter, and hung outside the door. The disciples of Zoroaster, the author of fire-worship, believed that the sun never shadows the holly-tree; and the followers of that philosopher, who still remain in Persia and India, are said to throw water impregnated with-holly bark in the face of a new-born child. In the language of flowers, the holly is the symbol of foresight and caution.

EDUCATION.

EVERY boy should have his head, his heart, and his hand educated: let this truth never be forgotten.

By the proper education of his head, he will be taught what is good, and what is evil—what is wise, and what is foolish—what is right, and what is wrong. By the

proper education of his heart he will be taught to love what is good, wise, and right; and to hate what is evil, foolish, and wrong; and by the proper education of his hand, he will be enabled to supply his wants, to add to his comforts, and to assist those that are around him.

The highest objects of a good education are to reverence and obey God, and to love and serve mankind: everything that helps us in attaining these objects is of great value, and everything that hinders us is comparatively worthless. When wisdom reigns in the head, and love in the heart, the hand is ever ready to do good; order and peace smile around, and sin and sorrow are almost unknown.

THE TEMPLE OF SOMNAUTH.

Place me on *Somnauth's** marbled steep,
Where nothing save the waves and I
May hear our mutual murmurs weep,
There swan-like let me sing and die.—BYRON.

RELIGION and learning have always selected for their seats the most romantic positions in every country in the world; and their professors seem to have been possessed of every acquirement that could render the combination of art and nature beautiful and impressive. There is not a conspicuous or picturesque hill, or rock, or cape, of ancient Greece, that is not still adorned with the classic remnants either of a temple to the gods or a school of philosophy; and the extraordinary resemblance between the temple and promontory of Sunium and those of Somnauth, suggested our adaptation of Byron's memorable apostrophe to fallen and neglected Greece. It can not, however, escape the observation of any one, the least acquainted with the history of the kingdoms of Europe, how presumptuously forward the pagan temple and the hall of a false philosopher invariably stand—Juno, Diana, and Minerva, generally fixing their thrones upon the rocky capitol that overhangs the city, while the noblest temples of Chris-

* Called also *Someswar* and *Somanatha*, from *Soma Natha*, Lord of the Moon, one of the twelve images of Siva, which, like the Palladium of Troy, or Ancile of the Romans, was said to have fallen from heaven.



Temple of Somnauth.



Interior of the Temple.

tianity are modestly placed in the most sequestered and secluded glens, remote from every idle gaze, and imposing a species of penance and pilgrimage on their votaries, from the difficulty of discovering and approaching them. How different the haughty height at which the temple of Capitoline Jove is elevated, from those abodes of reflection, and solitude, and sadness, where the lone aisles of Valle-Crucis, and of Tintern, and of Furness, hide their mouldering friezes! Are not these temples of worship in some degree emblematical of their respective faiths? Is not ignorance always presumptuous—truth and intelligence always modest?

In the vicinity of the ancient city of Pattan or Puttun, on a bold headland projecting into the Indian ocean, are the stately ruins of the famous temple and shrine of Somnauth.* The city having been rebuilt after the Mahomedan conquest, partakes of the architectural style of the spoilers; but the Hindoo columns and sculptures, and tablets, that everywhere appear incorporated with the walls of Moorish mosques, proclaim how much of their magnificence is traceable to the primitive founders. The venerable shrine of Somnauth, the noblest remains in the peninsula of Saraustra, occupies the summit of the promontory at the southwest angle of the city, looking down upon the waters and upon the embattled walls. Although much dilapidated, enough survives to indicate the original design, as well as the gorgeous style that pervaded it. The principal front, which is of black marble, and originally adorned with magnificent sculptures, has a grand porch, or *Subha*, on each side of which rise tapering minarets of Moorish origin, terminating in

* "Nothing can surpass the beauty of the site chosen for the temple, which stands on a projecting rock, whose base is washed by the ocean. Here, resting on the skirt of the mighty waters, the vision is lost in their boundless expanse; the votary would be lulled to a blissful state of repose by the monotonous roar of the waves. Before him is the bay extending to Billawul, its golden sands kept in perpetual agitation by the surf, in a bold and graceful curvature. It is unrivalled in India, and although I have since seen many noble bays from that of Penzance to Salernum, perhaps the finest in the world, with all its accessories of back-ground, and in all the glory of a closing day, none ever struck my imagination more forcibly than that of Puttun."—*Travels in Western India.*

pine-shaped capitals, called *Kullus*, in Hindoo architecture. From their disproportioned height and excessive delicacy, they have been compared (not inaptly to the horns of a beetle; and, owing to a lapse in the foundation, or some sudden shock, one of them is now so much bent as to threaten a speedy fall. Two rich side-doors were approached by flights of steps, the remains of which may still be distinctly traced. The famous entrance, the valves or gates of which are said to have been carried away eight centuries ago, by the victorious Mahmoud of Ghuznee, and recently recovered by an Anglo-Indian army, is perfectly Egyptian, narrow at the top and widening toward the base; and the broad lintels, richly carved with leaves and flowers, that constitute the principal ornaments around it, are obviously of the same date, design, and origin, as the re-edification. Five domes once rose majestically above these sculptured walls, only two of which now remain; and the roof is supposed to have sustained considerable injury from the conduct of a Nuwaub, who converted it into a battery of heavy ordnance, for the protection of the harbor of Verawul against piratical intrusion. All approach to the smaller *subhas* is completely interrupted by fragments of pillars, broken cornices, mutilated sculptures, and rude blocks of stone, whose former positions it would be now impossible to point out; but the emblems graven on them obviously belong to the worship of Siva, which succeeded that of the sun, the earliest object of adoration at this long-known scene of sanctity. "I found the temple," says a European traveller, "deserted, desecrated, a receptacle for kine, the pinnacle to its spring from the *cella* demolished, and the fragments strewing the ground." The exterior circumference of the whole building is 336 feet, its extreme length 117, and its greatest breadth 74.

The interior consists of an entrance vestibule, a hall or *munduff*, a second vestibule, and a sanctuary—the whole surrounded by a colonnade, beneath which was a spacious ambulatory. The great hall extends ninety-six feet in length, having a width of seventy, and includes an octagon, formed of pillars and architraves,

collected from the fragments of the more ancient edifice, and above this area rises a splendid dome thirty-two feet in diameter, and having a height of thirty feet from the floor to the spring of the concave. The sustaining pillars, which are all richly sculptured, and formerly adorned the lesser *subhas* and encircling colonnade, proving unequal to the weight of the incumbent dome and roof, would have sunk under the load, had not *vousoirs* been introduced to strengthen them. The stylobate is divided into compartments, filled with sculptured heads of horses, elephants, griffins, bacchantes, belonging to the worship of Siva, and groups of nymphs engaged in the mystic dance, typical of the movements of the spheres. The floor was paved with black marble, but the flags are much broken and injured, not by the action of human feet in so many centuries of time, but from the falling of large fragments from the roof and dome. The second vestibule, which was an interruption of the grand colonnade, is now choked up with rubbish and large masses of masonry that have fallen into it, so that the *cella*, or sanctum, a square chamber, twenty-three feet in length by twenty in breadth, is entered with much inconvenience. This vestibule was formerly vaulted, and on one of the supporting columns is an inscription recording the visit of a Hindoo architect, some few centuries ago. The recess appropriated to the idol, or image, a symbolic lingam, or Phallus, is not now distinguished; but a niche in the western wall, looking toward Mecca, indicates the site of the Moslem rostrum which Mahmoud "The Destroyer" had set up. The remaining parts of the ponderous roof are supported by rows of pilasters of various shapes, flat with brackets, and plain architraves; some of them are sculptured, others plain; and the latter are believed to have been cased with gilded copper, and adorned with precious stones, in the age of Mahmoud Ghuznavi.

From the admixture of Moorish with Hindoo architecture observable here, the transmutation which the fabric has undergone is clearly indicated—the "faithful" not having taken much pains to obliterate the former features of idolatrous worship. The first appropriation of this very ancient

temple was most probably in honor of the great luminary of our system—"Somnauth," signifying "Lord of the Moon;" it was afterward a Buddhist temple; but a close examination of its ground plan, or ichnographic section, clearly identifies it with the worship of Siva, being precisely similar to those of Lakhna Rana at Cheetore, and many other temples of that sect. There is no doubt that the space now occupied by the Moorish dome, rising from an octagonal pedestal, was once the multiangular base of a gigantic conical tower, like those of Karnaruc, Juggernaut, Bhaneswur, and elsewhere on the Indian continent, a shape common to all Brahminical temples in the present day. Upon the conquest of India the famous temple of Somnauth was converted into a Musjid; the faithful were in their turn expelled, and the idolatry of the natives, with British sanction, may be again revived, on a spot that has been consecrated to divine worship since the first records of history—perhaps of time.

It was soon after the year 1000, that Mahmoud, sultan of Ghuzni, or Ghazni, after the manner of Hercules, commenced his twelve expeditions into Hindostan, and it was in 1024 that he made that memorable attack on Somnauth, which oriental writers have commemorated in such glowing language. His public pretext was the acceptance of a challenge contained in an ancient prediction, "that if ever a Moslem, however powerful, should profane the shrine of Somnauth with his presence, he would instantly become the victim of his presumption"—his private and real inducement was, probably, the report of boundless treasure which was to be found there. Setting out with a native army 50,000 strong, with 30,000 Turkestan volunteers, and 1,900 elephants, he soon appeared before the walls of Putun, and summoned its inhabitants to surrender. The city herald, however, quickly answered that "their idol had brought the Moslems there for the purpose of confounding and delivering them into the hands of their enemies." Perceiving that surrender was not probable, Mahmoud caused a general assault to be made, which had the effect of thinning the walls of their defenders, and producing much

consternation among the inhabitants. The latter had recourse to their idol, and, during the time of their prostration before it, the enemy made a second attack, more vigorous than the first, and attempted to scale the walls. Disturbed and dismayed by loud shouts of Allah! Allah! Allah! they hastened from the temple to the ramparts, and by the most determined efforts succeeded in repelling the besiegers. In all momentous events the number three appears to be associated with the success of one party or ruin of the other; and it was on the third day, and when Mahmoud was about to make a third assault, that an army coming to relieve the city appeared in sight. The sultan boldly advanced and gave them battle; but perceiving a crisis, when victory seemed for an instant doubtful, he sprang from his horse, prostrated himself on the earth, and implored the favor of his prophet. The effect of this imposing spectacle upon his troops was immediate, and such as he anticipated: returning to the fight with loud shouts and renewed courage, they fell with fury on the Hindoos, nor desisted before they laid 10,000 dead upon the field, and put the remainder to shameful flight. A defeat so complete destroyed the hopes of the besieged, who now abandoned their homes, and sought safety by retreat, some escaping overland, others taking to their boats; both parties, however, being pursued, and unsparingly butchered by the victors.

The conqueror entered the city in triumph, and advancing to the object rather of his cupidity than his glory, beheld a superb structure, sustained by fifty-six pillars, each the pious offering of a rajah. Approaching the great stone idol, he aimed a blow with his iron mace at its head, but, missing the precise spot, struck off a piece of the nose. The fragment, by his order, was separated into two parts, and carried to Ghuzni, where one of them was placed in the threshold of the great mosque, and the other at the entrance to his own palace. Two more fragments, subsequently knocked off, were forwarded to Medina and to Mecca. Hindoo writers deny these statements, and assert that the idol, aware of the violent disposition of Mahmoud and his mercenary motives, on the fall of Puttun, retired into the ocean. The

trembling Brahmins are said to have offered ten millions sterling if the conqueror would spare the idol, urging that the destruction of an image of stone would not convert the hearts of the Gentoos, and that the sum they promised might be dedicated to the relief of the faithful. "Your arguments," replied the sultan, "are specious and strong; but I am desirous of being looked on by the eyes of posterity as a destroyer of idols, not as a dealer in them." Repeating his blows, one of them broke open the belly of the image, which was hollow, and disclosed a quantity of diamonds and rubies and pearls, of far greater value than the ransom offered by the Brahmins—explaining very sufficiently their devout prodigality. Some estimate of the treasures of Somnauth may be formed from the extent of its possessions, and multitude of attendants. It was endowed with a revenue of two thousand villages; two thousand Brahmins were consecrated to the service of the deity, whom they washed each morning and evening in water brought from the distant Ganges; the subordinate ministers consisted of three hundred musicians, three hundred barbers, and five hundred dancing-girls, conspicuous for their birth and beauty. Among the spoils carried to Ghuzni was a chain of gold, 400lbs. in weight, which hung by a ring from the roof of the building, and supported a great bell used for summoning the people to prayer; beside some thousands of images, of various shapes and sizes, all made of gold and silver.* Having annihilated, as he supposed, the whole fraternity of Somnauth priests, Mahmoud turned his steps toward his native land; but being led by his guide through a desert of burning sands, his troops began to fall around him, victims to thirst and phrensy. Suspecting the fidelity of his conductor, he caused him to be put to the torture, and, by these cruel means, extorted a confession, that, being the only survivor of the sacrilegious massacre at Somnauth, and having nothing

* Oriental mythologists attribute to the idol Somnauth the privilege of adjudging to departed souls the bodies appointed for their future residence, according to the doctrine of transmigration. The same writers consider the ebb and flow of the ocean as nothing more than a mark of its adoration toward their favorite idol.

more that was valuable in life, he resolved if possible, to avenge the fall of his countrymen, and die, if detected, in that glorious effort.

Mahmoud left, as his viceroy at Somnauth, a prince named Dabishleen, who restored the temple promptly, in consideration of the vast revenue derivable from its pilgrim-tax; and the poet Sadi, who visited the shrine at least two centuries after the sultan's death, gives the following account of his adventure, in a poem commencing with the words—"I saw an idol at Somnauth, jewelled like the idol Mumtā in the days of superstition and ignorance." Wondering at the folly of live people paying adoration to a senseless and motionless mass of matter, Sadi ventured to express his sentiments to an attendant priest. Enraged at the effrontery and impiety of the poet, the reverend man summoned his fraternity, and threatened immediate punishment if he did not retract his expressions and acknowledge his crime. Sadi very artfully extricated himself by averring that he only uttered such doubts for the purpose of giving the priests an opportunity of more fully confirming his belief in their idol. This was readily promised; but, in order to enjoy the great prerogative, it was necessary that Sadi should continue in the act of worship during the whole night, and at morning he would perceive the idol raise one of its arms in the act of supplication. Just before sunrise, at the sound of a deep-toned bell, the idol raised its monstrous arm to the inexpressible delight of worshipping thousands, while Sadi, creeping behind the image, discovered a servitor concealed, and tugging manfully at the rope which regulated the miraculous movement. The convicted servitor fled, but was pursued by Sadi, who now felt that his life would inevitably be forfeited should the priesthood lay hold of him; so, coming up with his victim, he pitched him head foremost into a well, and threw in after him several ponderous stones. Escaping from Somnauth and from Hindu, Sadi returned to Persia, and published the disgrace of the "Lord of the Moon."

The situation of Somnauth has occasioned its comparison with the temple of the *Sun* at *Kotah*, called the Black Pago-

da, which also stands upon a promontory washed by the waves of the eastern sea, in the bay of Bengal; and *Asoka's* selection of rocks on the high road to each, for the promulgation of his edicts, would seem to indicate that both enjoyed in his day a corresponding celebrity; and that, from the great resort of pilgrims, the approaches to them afforded the surest means of causing his doctrines and injunctions to be universally known.

Tradition alone asserts that the gates of sandal-wood which hung at the principal entrance of the temple, were carried away, among the spoils or trophies of Mahmoud's twelve expeditions, to Ghuznee, and ultimately placed in the entrance to his grand mausoleum, three miles distant from that city. It can easily be understood, from the least reflection upon the character of the hero, why he would have plundered the hoarded treasures of the temples, but it does not so clearly appear, in the absence of all written record of the fact, why a prince of such insatiable avarice would have felt desirous of possessing two wooden valves, and for no other purpose than to adorn a tomb. The calculations and passions of the avaricious are seldom extended to prospects beyond the grave. That such was his real character the concurrent testimony of oriental writers establishes beyond all doubt. Gibbon, one of the most accurate as well as eloquent historians, writes: "Avarice was the only defect that tarnished the illustrious character of Mahmoud the Ghuznevide, and never has that passion been more richly satiated. The orientals exceed the measure of credibility in the amount of millions of gold and silver, such as the avidity of man has never accumulated—in the magnitude of pearls, diamonds, and rubies, such as have never been produced by the workmanship of nature. Yet the soil of Hindostan is impregnated with precious minerals: her trade, in every age, has attracted the gold and silver of the world; and her virgin spoils were rifled by the first Mahometan conquerors. His behavior, in the last days of his life, evinces the vanity of these possessions, so laboriously won, so dangerously held, and so inevitably lost. He surveyed the vast and various chambers of Ghuz-

nee—burst into tears—and again closed the doors, without bestowing any portion of the wealth which he could no longer hope to preserve. The following day he reviewed the state of his military force: one hundred thousand foot, fifty-five thousand horse, and thirteen hundred elephants of battle. He again wept at the instability of human greatness; and his grief was embittered by the hostile progress of the Turkmans, whom he had introduced into the heart of his Persian kingdom.”

If this great man of a little mind ever carried away the worthless wooden gates of Somnauth, they are believed to have been set up in his grand mausoleum, where the iron mace was deposited with which he smote the Hindoo idol, and which “few men, such as mortals now are, could wield, yet he wielded easily and alone.” It is no particular proof that these famous doors were originally at Somnauth, and taken thence as military spoils, that Runjeet Sing desired to purchase them for Shah Soojah, for the bare existence of a tradition, although unsupported by history, would have been reason sufficient for such idolators to act upon.*

When the British got possession of Mahmoud's tomb no iron mace could be found, nor did Major Hough ever see it, though he speaks of it as having certainly existed; and as to the gates, the people of Somnauth retain no legend of any sort about them. Can it be possible, therefore, that the governor-general of India has congratulated the Hindoo people upon recovering sacred relics of which they had never been possessed, and has risked his high renown and learned reputation with his countrymen upon a disputed point in the ancient history of Asia? But gates, from immemorial time, appear to have occasioned sorrow and disappointment to some of the most illustrious characters in the history of mankind, who had the fortune to make spoils or prizes of them. The Philistines never forgave Samson the abstraction of the gates of Gaza—a name marvellously resembling Gazni; the Romans exiled Camillus for secreting the

* The gates are twelve feet high, consist of four leaves, on each of which has been discovered a Coptic inscription, supposed to relate to their capture by Mahmoud.

gates of Veii: the gates which Napoleon saw cast and fashioned for his tomb now lie neglected in the crypt of St. Denis, a memorial of the early ruin of his power. May the capture of the gates of Somnauth prove less luckless in its effects than those celebrated historic parallels to which we have here alluded!

A modern Somnauth, raised by the pious munificence of Ahila Byhe, widow of a prince of the Holkar family, occupies the site of the more ancient temple here, destroyed in the year 877, in which an image of Siva is erected. This idol is worshipped continually by the gentler sex, and pilgrims pay a small tribute to the Mussulman nabob for the permission; so that although the splendor of Somnauth is extinguished, its reputation lives. Through the interposition of the Bombay presidency, in the Junaghur state, greater liberty was extended to Hindoo pilgrims; and all castes and classes of that people have long exhibited a desire to extricate this ancient and favorite shrine from Mohammedan control.

NOTES ON THE NOSE.

UNDOUBTEDLY the most neglected and ill-used part of the human face is the nose. The poetical literature of all nations extols the other features: the eyes, for instance, have furnished a theme for the most sublime poetry; cheeks, with their witching dimples and captivating tints, have drawn forth some of the finest similes that were ever invented; and the raptures which have been indited concerning lips, it would take an age to enumerate. The hair, also, has from time immemorial been intensified into “silken tresses” in printed, as well as manuscript verses; and “sonnets to a mistress's eyebrow” are of continual occurrence; but it may be safely averred, that in the universal anthology of civilized or uncivilized man, there is not to be found a truly sentimental effusion to a nose! Indeed, so far from exciting any of the graver emotions of the mind, it would appear that there is a hidden something in that feature to dead-

en, rather than to excite sentiment. The cheeks, whether pale with care, or red with blushing, strongly excite the sympathies; a glance of the eye is all-powerful in calling up the most vivid emotions; but who ever remembers any very intense feeling being awakened by a twitch of the nose? On the contrary, that unfortunate feature seems to have been especially appropriated by humorists to cut their jibes upon. It has, from the earliest ages, been made the subject of disparaging and sportive remarks. It has been set up as a mark to be hit by ridicule—as a butt for the arrows of satire—as if it were an organ proper to be played upon by nothing but wit. We may grow eloquent concerning eyes, speak raptures of lips, and even sentimentalize upon chins, but the bare mention of the nasal promontory is certain to excite a smile. What the latent quality may be which is so productive of risibility in this instance, it seems difficult to discover, for, in point of utility, the physiologist will tell you that the nose is quite on a par with the rest of the face. To it the respiratory system owes the ingress and egress of a great portion of the food of life—air. To it we are indebted for the sense of smell. Moreover, it acts as the emunctuary of the brain. In an ornamental point of view, the physiognomist declares that the nose is a main element of facial beauty; and without stopping to inquire how very much this depends upon its shape, we may just corroborate the fact, by hinting the unpicturesque effect which is produced by a countenance that happens to be bereft of the nasal appendage.

The authority of physiognomists may, indeed, be almost taken without examination; for they are undoubtedly, of all connoisseurs, the greatest in noses. Their prototypes, the augurs, went so far as to judge of a man's character by the shape of his nose; and this has been in some degree justified by a French writer, who appears to be deeply versed in the subject. "Though," he asserts, "the organ is only susceptible of a moderate degree of action while the passions are agitating the rest of the countenance, yet these limited motions are performed with great ease." In addition to this, we find, Sir

Charles Bell remarking in his *Anatomy and Physiology of Expression*, "that the nostrils are features which have a powerful effect in expression. The breath being drawn through them, and their structure formed for alternate expansion and contraction in correspondence with the motions of the chest, they are an index of the condition of respiration when affected by emotion." The nose may therefore be regarded as somewhat indicative of, and in harmony with, the character of the individual.

It is probably by reason of this connexion of the external nose with the internal characteristics, that so many proverbs and axioms have taken rise in reference to both. Thus, the French say of a clever man, that he has a "fine nose;" of a proud one, that his is a "good nose;" of a proud man, that "he carries his nose in the air." An inquisitive person is said to "poke his nose everywhere." A gourmand is described as always having his nose in his plate: that of the scholar is declared to be always in his books. When an individual is growing angry under provocation, the French also say, "the mustard rises in his nose." Neither are we in this country deficient of similar sayings. A man, for instance, who does not form very decisive opinions—who is swayed more by the persuasions of others than by his own judgment—is described as being "led by the nose." The same is said when any strong inducement turns a person aside from a previously-formed intention; thus Shakspeare:—

"Though authority be a stubborn bear,
Yet he is often led by the nose with gold."

Individuals who are not blessed with much acuteness or forethought, are said, "not to see beyond their noses." Others who, to do some injury to an enemy, injure themselves, are declared "to cut off the nose to spite the face." The condition of a supplanted rival is described as that of a person who "has had his nose put out of joint;" with a hundred other proverbs in which the nose takes a most prominent part. All of these, it will be observed, are of a comic cast; while every simile and allusion made to the eyes, the brow, and the other features, is of the most serious and poetical character. If, there-

fore, the ordinary organ considered and alluded to in the abstract be provocative of jocularity, in how much higher a degree must it provoke the smiles of the comically inclined when it happens to be an oddly shaped or out-of-the-way nose?—when any of those very uncomplimentary epithets, which have been invented to designate different noses of all sorts and sizes, can be emphatically applied to it; such as hook-nose, hatchet-nose, club-nose, snub-nose, pug-nose, potato-nose, peaked-nose, parrot's-nose, turned-up-nose, or when it is figuratively termed a conq, a snout, a proboscis—or, like the nose of Slawkenbergius, a promontory. This, by the way, brings to mind the etymology of the word, which is in Saxon “ness,” meaning also a point of land, as Stromness, Blackness, and a hundred other nesses or noses which mother earth pokes out into the sea.

Of jests concerning eccentric noses, an immense collection might be made; but a few of them will suffice, chiefly to show to what a remote antiquity facetiæ on noses may be traced. One of the best is attributed to the emperor Trajan, on a man who had, besides a long nose, very large teeth. It has been thus versified:—

“Let Dick one summer's day expose
Before the sun his monstrous nose,
And stretch his giant mouth, to cause
Its shade to fall upon his jaws,
With nose so long, and mouth so wide,
And those twelve grinders side by side,
Dick, with very little trial,
Would make an excellent sun-dial.”

The literal translation of this epigrammatic extravaganza is—“Placing your nose opposite to the sun, and opening your mouth, you will show the hour to all passengers.” Another Greek poet describes a friend's nose as “being so immense, that its distance from his ears prevents him from hearing himself sneeze.” Castor's nose was said to be in itself all the useful instruments of life—a spade, a trumpet, an anchor, a pot-hook, &c.

Certain noses have, however, been celebrated in history, not as matters for jest, but as distinguishable features belonging to great men. The Romans had a proverb which signifies, “it is not given to every one to have a nose,” meaning that it was

not the good fortune of all to exhibit a marked and precise nasal individuality; to have, in fact, an expressive nose. The individuals whose noses have lived in history were, it would seem, favored in this particular. The great Cyrus had a long sharp nose; hence it is said that the noses of all Persian princes are pinched by bandages, that they may grow like their great prototype in at least one particular. Cicero was called the “orator with the equivocal nose.” Julius Cæsar's was an aquiline nose; as was that of Aspasia, of Paris, and of Achilles. The nose of Socrates was a decided pug.

As a matter of taste and ornament, the nose has engaged the attention and researches of authors and artists in a prominent degree. It has been truly remarked, that the nose is a centre around which the other portions of the face are arranged and harmonized. It is, in a degree, the regulator of the other features. Many celebrated artists estimate that its length should be a third of the length of the face, from the tip of the chin to the roots of the hair. If there be any deviation from this rule, it must, it would appear, be in excess, for all unite in preferring large to diminutive noses. Plato called the aquiline the royal nose; and it is evident, from their works, that none of the ancient masters of sculpture and painting considered a liberal allowance of nose as a deformity. Even in a physical point of view, this excess appears to be far from detrimental. “Give me,” said Napoleon, “a man with a good allowance of nose. Strange as it may appear, when I want any good head-work done, I choose a man—provided his education has been suitable—with a long nose. His breathing is bold and free, and his brain, as well as his lungs and heart, cool and clear. In my observation of men, I have almost invariably found a long nose and a long head together.” Like this great general, the ancients entertained a marked preference for an ample nose; but all beauty is relative, and taste as capricious and varying as the winds. Among the Kalmucks, a short dumpy club-nose is considered the perfection of beauty. The Hottentots press the noses of their infants so as to flatten them; and the Chinese require a nose to be short and

thick, ere it can accord with their notions of good form.

Among Europeans, the preference has always been given to the straight, or Grecian nose, as exhibited by the Venus de Medicis. Sir Joshua Reynolds observes, in his Essay on Beauty, that "the line that forms the ridge of the nose is beautiful when it is straight; this, then, is the central form which is oftener found than either the concave, convex, or any other irregular form that shall be proposed." Opinions are, however, occasionally divided between this and the aquiline, or Roman form of nose, especially for men. Yet how much soever tastes may differ, one fact is certain, that—with the exception of the Crim-Tartars, who formerly broke their children's noses, because they stood in the way of their eyes—all nations consider this prominent feature a great ornament.

It appears, then, that the nose differs from all the other features in as far as it is regarded by mankind in two entirely different points of view, namely, as a thing essentially ridiculous, and as a thing indispensable to the beauty of the face, and in itself beautiful. Does not this curiously show how near the whimsical and the serious are to each other? We gaze with pleasure on a female face which is set off with a fine nose, and acknowledge the effect which that elegant object has in the *toute ensemble*; yet, if wishing to apostrophize this lady's beauty in the language of the poet, we would allude to everything except the nose. On that point, not a word! It would at once mar the effect of the whole. Why is this? Because, in general, we associate only ridiculous ideas with the nose. And what, again, is the cause of this ridicule? Alas! good reader, I fear it must be traced to some of the useful functions, served by the organ. Man strains after the fine, which flies from him; the useful is his willing drudge, and he laughs at it. If the nose were of as little service to us as the cheeks, it would doubtless be as much, and as undividedly, admired.

A good education is a better safeguard for liberty than a standing army or severe laws.

DOMESTIC ENTERTAINMENTS

OF ANCIENT TIMES.

THE paintings on the Egyptian tombs, referring to a period some four thousand years bypast, give us a curious and perfect idea of the nature of domestic entertainments in that interesting country, the nurse of human civilization. The Egyptian houses of the better class were usually built in the form of a square, having a large court in the centre, with a well and rows of trees. The rooms opened into the main court, or into a small court between the buildings along the sides, and were lavishly decorated with paintings, while the furniture, chairs, tables, and the like, were of fine wood, inlaid with ivory, and covered with leather or rich stuffs, and were not to be excelled in beauty and convenience by the most luxuriously formed articles of the kind in modern times. "In their entertainments," says Mr. Wilkinson, "they appear to have omitted nothing which could promote festivity and the amusement of the guests. Music, songs, dancing, buffoonery, feats of agility, or games of chance, were generally introduced, and they welcomed them with all the luxuries which the cellar and the table could afford. The party, when invited to dinner, met about mid-day, and they arrived successively in their chariots, in palanquins borne by their servants, or on foot." Many passages in the sacred writings show how closely the manners of the Jews had concurred with those of the Egyptians. We hear of the "harp and the viol, the tabret and the pipe," at the feasts of the Jews, and are also told that they "dined at noon." An Egyptian painting shows us the arrival of a chariot at a house of feasting, with a footman knocking at the door, just as might be done now-a-days at the west-end of London. As was the case with the Jews, water was brought to the guests to wash their feet, if they desired it; their hands were always washed before dinner. The head of each guest was also anointed with a sweet-scented oil or ointment, necklaces and garlands of lotus-flowers, sacred in the eyes of the Egyptians, were thrown around the brows and neck, and every guest received a flower to hold in

his left hand during the feast. The Greeks, who derived most of their customs from Egypt, also presented water to their guests, and decked them with flowers, as appears from many passages in Homer, and other authorities; and the Romans took the same customs from the Greeks. Like the Greeks, the Egyptians considered it a want of good breeding to sit down immediately to dinner, but the "melancholy interval," felt sorely to this day, was enlivened by wine, which the servants poured from vases into cups for the use of the guests. The Chinese, at the present time, offer wine to all guests as they arrive. The Egyptians, at the same interval, kept up a continuous flow of music. "In the meantime," says Mr. Wilkinson, drawing his statements from actual representations in the paintings, "the kitchen presented an animated scene; and the cook, with many assistants, was engaged in making ready for dinner; an ox, kid, wild goat, gazelle, or ozyx, and a quantity of geese, ducks, widgeons, quails, or other birds, were obtained for the occasion." Mutton, it is supposed, was unlawful food to the inhabitants of the Thebais. Beef and goose constituted the staple animal food; and vegetables of all kinds, with fish, were largely used. At the party, men and women mixed together at the same table, a privilege not conceded to females among the Greeks, except with near relations; and this argues a higher degree of advancement in Egyptian civilization. With the Romans, it was customary for women to sit with the men, and Cornelius Nepos ridicules the Greeks on this point. "Which of us, Romans," says he, "is ashamed to bring his wife to an entertainment?" The Egyptians sat either on chairs or stools at meals, or on the ground, resting on one limb bent under them, with the other raised angularly. The Greeks and Romans did not take from Egypt the custom of reclining on couches at table. The Egyptians ate with their fingers, the meat being carved to them upon platters resting on small round tables. From the statement that Joseph ate apart while his brethren were present, and arranged them, "the firstborn according to his birthright, and the youngest according to his youth," we may conclude

that an etiquette relative to rank and age was preserved in Egypt. After the solid repast, fruits, and especially figs, grapes and dates, were served; and, at the close of all, the guests again washed their hands—an operation, indeed, almost indispensable previously to the use of knives and forks, or even of chopping-sticks like those of China.

While the paintings show the whole modes of preparing for an Egyptian entertainment, from the killing of the animal to its production on the table, they also show very curiously that excesses in wine occasionally followed. One painting exhibits individuals—ladies, we fear—in a state of unquestionable ebriety; and another pictures a person in the act of being carried home in a similar condition. But it would be wrong to charge them with habitual over-indulgence; and, indeed, a strange custom mentioned by Plutarch militates strongly against such a supposition. They were in the habit, at the end of feasts, of introducing a figure of Osiris, in the form of a mummy, on a bier, and showing it to each guest, while an attendant took care to lecture upon it as a memento of mortality, and the transitory nature of human pleasures. The Greeks perverted similar exhibitions to a purpose not dreamed of by the Egyptians. Petronius tells us, that at an entertainment where he was present, a finely-jointed silver model of a man was displayed, on which Trimalchio cried out, "Alas, unhappy lot! Such as this we shall by-and-by be; therefore, while we are allowed to live, let us live."

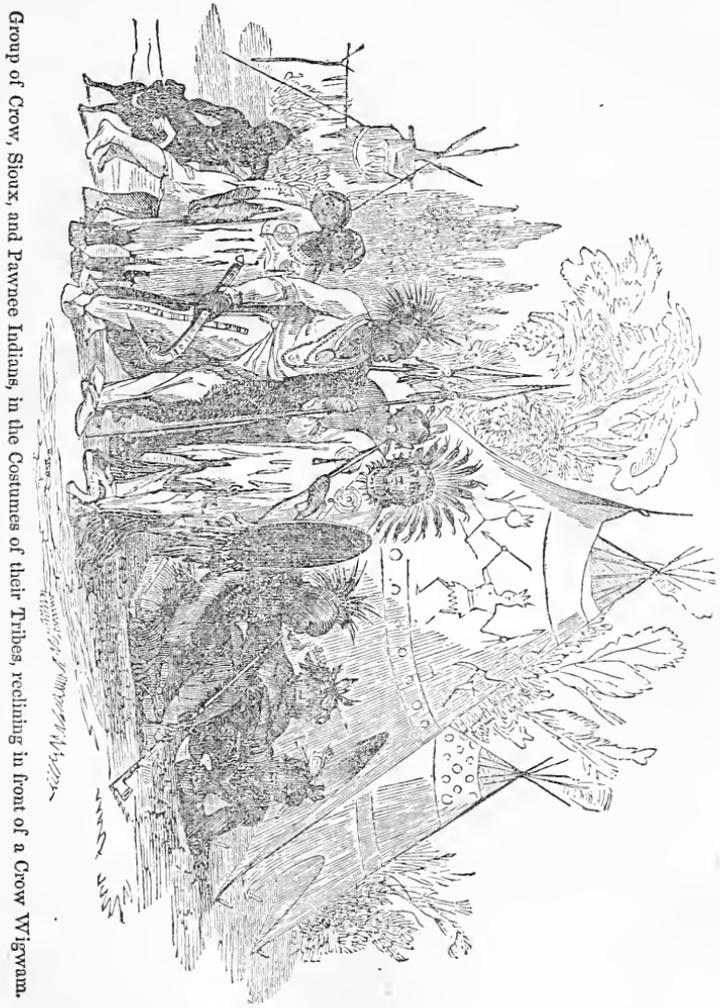
In the very early ages of Greece, a breakfast, and a meal after labor formed the diet of the day; but four meals were taken—in later times, the principal one being three or four hours after noon. The bath was almost universally used before meals; and the anointing which followed, was most probably to close the pores, or preserve the skin from roughness. The guests were offered all these conveniences by the host previous to an entertainment. At table, they sat occasionally upon chairs with inclined backs, but much more frequently upon couches, as did also the Romans. It was at first an honor to be allowed to enjoy the luxury of the couch.

In Macedonia, no man was allowed so to sit until he had killed a boar by the prowess of his arms. The manner of lying at meat was this: the table was placed in the centre, and around it the couches covered with tapestry, upon which the guests lay, leaning upon their left arms, with their limbs stretched out at length. In Greece, three, four, and five persons lay on one couch, the legs of the first being stretched out behind the second, and the head of the latter in front of the former's breast, and so on. This custom was decidedly of eastern origin. That it prevailed among the Jews, may be inferred from the position of the beloved disciple resting on the bosom of our Savior at the celebration of the passover. In Persia, and other eastern countries, a similar mode of sitting at table prevailed from the earliest times. The place of honor at these entertainments was not everywhere the same. In Persia and Rome, the middle was the place of honor; in Greece, the first or nearest the table. Men were careful of precedency in Greece; and at Timon's famous dinner, we find a haughty noble retiring because no place was fit for him. Couches, made for individuals, were a refinement of the Romans. Both in Greece and Rome, tables were usually made either round or oval, and the couches curved to suit them. The table was accounted a very sacred thing, and the statues of the gods were placed upon it. Before any portion of the food was tasted, it was universally the custom to offer a part to the gods as the first fruits; and even in the heroic ages, Achilles, when roused suddenly, would not eat till the oblation was made. In Greece, all the guests at a party were appareled in white; in Rome, the same custom was prevalent; and Cicero charges it as a sin against Verres that he appeared at supper in black. Three courses, the first consisting of light herbs, eggs, oysters, and such-like whets; the second of the solid meats; and the third of the desert, formed the repast, which being done, the gods were thanked, and the great after-business of a set entertainment was drinking; for any food taken afterward was scarcely to be called a meal. That the Greeks drank deeply, many historians prove; and, above all, is the fact estab-

lished in the annals of Alexander the Great. That conqueror himself pledged his friend Proteas in a cup containing two congii (somewhat less than a gallon), and Proteas did the same. It was in attempting to repeat the pledge, that Alexander, it is said caught his fatal illness.

VILLAGES OF NORTH AMERICAN INDIANS.

THE accompanying cut is from an original drawing by Mr. Catlin, who has probably seen more of the native tribes of North America than any other white man. His very interesting North American museum, formerly of this city, and which was recently exhibited in London, was collected during an intercourse of upward of seven years with nearly fifty different tribes. A more complete view of the life and habits of a people was never before presented to the eye. Nothing apparently can arrest the destruction of uncivilized races of men when their territory is invaded by the civilized. The ploughman and the hunter have interests so different, that either the one or the other must prevail; and all experience has shown that when the cultivator has once taken his stand, there he will maintain his conquest over the soil. Mr. Catlin informs us, that out of the 400,000 red men in North America, three fourths are dependant for food on the herds of buffalo on the western side of the Alleganies, and he expresses an opinion that in eight or ten years these animals will have become so scarce that it will be difficult for the tribes to find the means of subsistence. Indeed, so various are the uses of the buffalo to the Indians, that any great diminution in the number of these animals must have considerable effect upon their habits, and render it necessary for them to devise new means of supplying many of their wants. Mr. Catlin says: "The robes of the animals are worn by the Indians instead of blankets; their skins, when tanned, are used as coverings for their lodges and for their beds; undressed, they are used for constructing canoes, for sad-



Group of Crow, Sioux, and Pawnee Indians, in the Costumes of their Tribes, reclining in front of a Crow Wigwam.

dles, bridles, halters, lassos, and thongs. The horns are shaped into ladles and spoons; the brains are used for dressing the skins; their bones are used for saddletrees, for war-clubs, and scrapers for graining the robes. The sinews are used for strings and backs to their bows, for thread to string their beads and sew their dresses. The feet of the animals are boiled, with their hoofs, for glue, with which they fasten their arrow-points and use for various purposes. The hair from the head and shoulders, which is long, is twisted and braided into halters, and the tail is used for a fly-brush."

The Oneidas, Iroquois, Senecas, and Onondagas, who inhabited that portion of the continent which is now covered with cities and thriving settlements, are now little more than historical names, as these powerful tribes have disappeared. Civilization swept them away, because it communicated to them only its vices and diseases. Even within the last six years, a very interesting tribe, the Mandans, has become extinct through the ravages of the small-pox. When Mr. Catlin visited them they had two villages, about two miles from each other, containing about one thousand souls each. When the disease was first introduced among them, the Mandans were surrounded by several war-parties of the Sioux, and they were therefore confined closely to their villages. The disorder was so malignant that many died a few hours after being attacked. The accounts given to Mr. Catlin state, that so slight were the hopes of the poor people when once attacked, that "nearly half of them destroyed themselves with their knives or guns, or by leaping head-foremost from a thirty-foot ledge of rocks in front of their village." The chief, a man who possessed in an eminent degree all the virtues of the savage, recovered from the attack. "He sat in his wigwam and watched every one of his family die about him; his wives and his little children: when he walked round the village and wept over the final destruction of his tribe—his warriors all laid low: returning to his lodge, he laid his family in a pile and covered them with several robes; and, wrapping one round himself, went out upon a hill at a little distance, where

he remained several days, determined to starve himself to death. Here he remained till the sixth day, when he had just strength enough to creep back to his village and enter into his own wigwam. Then lying down by the side of his family, he perished of hunger, on the ninth day after he had first left it."

To return, however, to the subject of the cut. "The Crows," Mr. Catlin says, "make the most beautiful lodges of any of the North American tribes." The exterior consists of buffalo hides sewed together, and sometimes dressed as white as linen. They are picturesquely ornamented with porcupine quills, fringed with scalp-locks, and gayly painted. Perhaps there is on one side a picture of the Great Spirit, and on the opposite side one of the Evil Spirit. In some as many as forty men can dine, and the height of those of the better sort is twenty-five feet. It is supported by about thirty poles of pine-wood. The Sioux construct their lodges in a similar manner. The manner in which the wigwams of a whole village, consisting perhaps of six hundred habitations, are simultaneously struck, is a very singular scene. The chief sends his runners or criers through the village to give a notice of his intention to march in a few hours, and the hour fixed upon. In the meantime preparations are making, and as soon as the lodge of the chief is seen flapping in the wind, from some of the poles having been taken down, the example is followed instantly. In a few moments the chief's lodge is levelled with the ground, and immediately all the other wigwams are struck. The horses and dogs are then loaded in the following manner: "The poles of a lodge are divided into two bundles, and the small ends of each are fastened upon the shoulders of a horse, leaving the butt ends to drag on the ground on either side. Just behind the horse a brace or pole is tied across, which keeps the poles in their proper places. The lodge or tent, which is rolled up, and also numerous other articles of household and domestic furniture, are placed on the poles behind the horse and upon his back, and on the top of all two, three, and even sometimes four women and children. Each one of these

horses has a conductress, who sometimes walks before and leads him with a tremendous pack upon her back. In this way five or six hundred wigwams, with all their furniture, may be seen drawn out for miles, creeping over the grass-covered plain; and three times that number of men, on good horses, strolling in front or on the flank, and in some tribes in the rear. At least five times that number of dogs fall into the rank, and follow in the train and company of the women; and every cur of them who is large enough, and not too cunning to be enslaved, is encumbered with a sort of sledge on which he drags his load—a part of the household goods and furniture of the lodge to which he belongs.”

One of the Mandan villages which Mr. Catlin visited, was admirably selected on an angle of land forty or fifty feet above the bed of a river, so that the base of the angle toward the town was the only part requiring protection, the two sides being flanked by the river, with its banks of nearly solid rock. The base was defended by a stockade of timbers of a foot or more in diameter, and eighteen feet high, at sufficient distances to admit of the defenders discharging their weapons between them. The ditch, of three or four feet in depth, was on the inward side of the village. The lodges were closely grouped together, with just room enough to walk or ride between them. They were all of a circular form, and from forty to sixty feet in diameter, and within were neat and comfortable. The walls were firmly constructed with timbers of eight or nine inches in diameter, and six feet high, standing closely together, and supported on the outside by an embankment of mud. Then resting on these timbers were as many more, each about twenty-five feet in height, which were inclined at an angle of forty-five degrees, leaving an aperture at the apex of three or four feet wide for a chimney and a skylight. The roof is supported by timbers in the interior of the lodge. Outside, the roof is covered with a mat of willow boughs of half a foot or more in thickness, on which the earth is spread to the depth of two or three feet, which is covered with a clay that soon hardens and becomes impervious to water

The top of the lodge is the grand lounge of the whole family in pleasant weather. But only an eyewitness can describe the scenes which an Indian village presents. Mr. Catlin, speaking of this Mandan village, says:—“The groups of lodges around me present a very curious appearance. On the tops are to be seen groups standing and reclining; stern warriors, like statues, standing in dignified groups, wrapped in their painted robes, with their heads decked and plumed with quills of the war-eagle, extending their long arms to the east or the west, to the scenes of their battles, which they are recounting over to each other. In another direction are wooing lovers, the swain playing on his simple lute. On other lodges, and beyond them, groups are engaged in games of the “moccasin” or the “platter.” Some are to be seen manufacturing robes and dresses, and others, fatigued with amusements or occupations, have stretched their limbs to enjoy the luxury of sleep while basking in the sun. Besides the groups of the living, there are on the roofs of the lodges buffaloes’ skulls, skin canoes, pots and pottery, sledges; and, suspended on poles, erected some twenty feet above the doors of their wigwams, are displayed in a pleasant day the scalps of warriors preserved as trophies. In other parts are raised on poles the warriors’ pure and whitened shield and quivers, with medicine-bags attached; and here and there a sacrifice of red cloth, or other costly stuff offered up to the Great Spirit over the door of some benignant chief.” Contiguous to the village are a hundred scaffolds, each consisting of four upright posts, on which their dead are placed in their best costume.

The Comanches make their wigwams of long prairie-grass thatched over poles, which are fastened in the ground and bent in at the top, giving them from a distance the appearance of bee-hives. Where the buffaloes are numerous, skins are the materials employed; and in all cases the difference of style or material is the result of natural causes, just as formerly in the woodland parts of England timber dwellings prevailed, while in the champaign other materials were used; and as the traveller in a long day’s journey will pass

through districts where the cottages (the truest criterion) are in one tract thatched, in the next perhaps covered with tiles, in another with blue slate, and in a fourth with a slate of quite another kind.

THE OBJECTS AND ADVANTAGES OF CHEMISTRY.

THE present state of chemistry, and its acknowledged importance in the arts, render it necessary to make the study of it a branch of the education of every youth. The French have been long satisfied of the importance of chemical knowledge; they, and the Germans, in their public schools, have made it an essential part of the education of members destined for the liberal professions, and also for those intended for mercantile pursuits: we hope ere long to see this much-neglected science attended to in our own schools, in order to prepare the rising generation of our important agricultural and manufacturing country for their future destination. It is hardly possible to say what profession would not be benefited by the application of chemical knowledge. We profess, therefore, in this short essay, to point out some of the advantages of such knowledge.

Archimedes, two thousand years ago, was ridiculed for the cultivation of the mechanical and abstruse sciences: yet so great an effect had his knowledge and war engines upon the Roman army, that when a rope only was let down the walls of Syracuse, the Romans fled in fear and confusion. When Dr. Black, in his chemical lectures, was explaining the theory of heat and expansion of steam, Mr. Watt was one of his hearers, and he has acknowledged that by hearing these lectures he was led to his ideas upon the construction of the steam-engine. Here are two instances out of a large number that might be quoted, to prove the utility of the dissemination of useful and scientific knowledge.

We shall, in the first place, endeavor to prove that agriculture may be improved

by the application of chemical principles; and how important is it to improve a defective system upon which depends the sustenance and comfort of the human race!

When we know what kind of food plants require for their sustenance, we are able to supply it to them in the shape of manure, if the land upon which they are destined to grow has not the necessary constituents; but, to possess this knowledge, at least three analyses are necessary: the analysis of a perfect plant; the analysis of the soil; and the analysis of the substance to be added.

With respect to the first analysis, if potash, or soda, or magnesia, be found, it is evident these substances are used by the plant as nutriment; and having analyzed the soil, if these substances are not found, we have to supply them, to produce a good crop the next season. Before we apply the manure, it is necessary to ascertain what are its constituents, otherwise we may apply a substance which contains only those ingredients which are present in the soil in a sufficient quantity: we shall show hereafter what shifts a plant can make in the absence of an important part of its nutriment. We will now suppose the crop gathered in: it is necessary to analyze the soil upon which it grew to ascertain what qualities and in what quantity the crop has extracted from the soil, to know what plant to grow the next year to the greatest advantage; and this is especially necessary, as the previous crop may have exhausted the soil of one or more constituents required by the one we wish to succeed: and not only this, the excrements of the previous crops may be very injurious to the next; it is advantageous to know how to vary our crops, so that the excrements of one may be food for its successor; and this may be done with but a very small application of manure to a naturally good soil. We read in Lalande's *Life of Lavoisier*, a distinguished French chemist, that he perceived the advantage of cultivating land upon chemical principles; he hired 240 acres of land in La Vendée, which he cultivated with great success, producing a crop in value one third more than his agricultural neighbors: in nine years he doubled it: the farmers, perceiving the advantage

of his system, in some degree imitated his example, and with success. Thus we have shown, by incontrovertible proof, that chemistry may be applied with advantage to agriculture: how important, then, that the landlord and farmer should understand the principles of it! the first, that he may let his land to advantage (this word we do not use as applied to money matters only); and the other, that he may produce the largest crops of grain at the smallest expense, with the least impoverishment of the soil. If, by analysis, the landlord finds that, at no reasonable expense, he could make the soil of an estate productive, he ascertains to what order of geological deposits the strata belongs, and hence infers whether there is a probability of the interior being rich in mineral productions.

We can easily understand why agricultural chemistry has made so little progress among practical men: those who have been the most enthusiastic cultivators of this branch of the science, have met with so cold a reception at the hands of farmers generally, that they have turned away in disgust, and applied themselves to another branch of it. If the farmer is not convinced that the application of chemical principles to agriculture will be of advantage, he has reason to reject their aid, as upon the success of his produce depends the sustenance and comforts of his family, and the failure of which would bring them into ruin. If he can not be convinced, let us hope that he will, with the assistance of a zealous chemist, first experiment on a small scale, and we believe that actual proof of its advantage will show itself so forcibly, that he will henceforth call in chemical principles largely to his assistance.

We now turn to our manufactures, to ascertain whether they can be improved by the application of chemical science. Of all these, perhaps the most important are the woollen and calico manufactures and prints, which are among the greatest sources of national wealth; to preserve which, it is necessary to attend to the beauty, variety, and durability of the colors; it is from these that England enjoys her present monopoly of calico manufactures. In the printing of calico every

process is chemical, as not a color can be imparted but in consequence of the affinity which exists between the cloth and the coloring matter, or between, this and the mordant which is used as a chemical bond between them. The original practice of printing calicoes was effected as follows: the mordant was first applied to all those parts which were intended to be brown or black, and then it was necessary to remain for some days before it could be died—then exposed some time in the bleaching-ground to clear the places from the coloring matter of the die to which the mordant had not been applied: a mordant of a different kind was then applied by means of a pencil, then the cloth was a second time passed through the dying copper, in order to give the desired color to those parts, and to finish the patterns: to effect this, many weeks were required; but by the assistance it has received from chemistry, the same results, in a manner the older manufacturers had no idea of, are produced in a few days. At the present time the cloth is first died of a uniform color, and afterward printed with a chemical preparation, which, having discharged the original color, remains in its place. We believe we are not beyond the truth when we state that five chintz patterns formerly took two years to prepare; these, by the assistance of chemistry, are now effected in as many weeks.

It is to chemistry that manufacturers are indebted for their most valuable mordants, and their most brilliant and most beautiful colors. By a knowledge of chemistry they are able to examine the purity of the substances used in their dyes, without which they would be liable to be imposed upon in the most cruel and injurious manner, as many of the expensive articles they use are particularly liable to be adulterated, from their difficulty of being manufactured.

Bleaching was formerly carried on by exposure to air and light: several weeks were consumed in this operation; by chemical application, the same thing, but more effectually, is effected in a few hours. Thus can manufacturers receive great advantages from the application of chemistry, and, wisely, they have not rejected its aid.

Another branch of staple manufactures

is iron; and the whole process for preparing it from the ore is chemical: if chemical re-agents were not added, for which the gross part has a greater affinity than it has for the iron, it would not be possible to obtain it in a metallic state. Again, malleable iron is converted into steel, by a purely chemical process, by which carbon is united with the iron; the scientific part of this process was until the last few years, little understood, and consequently the preparation of steel depended upon the result of a certain routine of experiments, which, without knowing in what manner, brought about the desired end. The preparation of malleable iron from cast is also a chemical process.

The utility of chemical knowledge to members of the medical profession requires few words to demonstrate. By the chemical union of two or more substances they lose their original effect, and acquire another and different one: in what proportion these substances should be compounded is of the utmost importance to a medical man. The quacks in ancient days supposed that the more substances were united the greater and more beneficial the effect upon the human body: not knowing the chemical characters of the ingredients they used, they were consequently ignorant of their action upon each other, and often compounded those which became poisonous or neutral, and thus the patient suffered from their ignorance. The human stomach is the physician's laboratory; and if he understand the chemical action of his preparations, he will anticipate their effect on his patient with as much accuracy as if he performed an experiment at home.

We think we have clearly shown that chemical knowledge is an important advantage to the agriculturist, the manufacturer, the iron-smelter, and the physician. To the members of the legal profession, the botanist, the refiner of sugar, the preparer of sugar from beet-root or potato, the manufacturer of soap, candles, and glass, we could show that it is of as great advantage.

In observing the operations of nature, chemistry is an important acquisition; and in the walks of life the chemist possesses a decided advantage over a man

unskilled in action of different substances. Were parents convinced of this truth they would eagerly seek for their sons chemical education, that they might have the means for qualifying them to conduct with advantage the concerns with which they are to be intrusted. An old maxim is "knowledge is power," and the love of knowledge is the means to lead to opulence, to respectability, and to national enjoyment. The necessary result of an attention to chemical science, is a love of investigation, and the foundation of an inquiring and ardent mind. The insidious arts of sophistry are the most likely to lead away a young man—skepticism and superstition to bewilder his mind. The best means to avoid these results is to instil into him while young a principle of receiving nothing as true but what is the result of experiment; and thus by teaching him to esteem the knowledge of facts, no reasoning, however specious, will induce him to credit what appears incongruous, or to receive as truth that which can not be demonstrated or recommended by analogy.

CHANGES OF THE YEAR.

A YEAR of changes has brought us to that epoch, which, as we mark it down in our tablets, emphatically reminds us, "What shadows we are, and what shadows we pursue." The "happy new year," season as it is of pleasure and felicitation, celebrated with festival and song, is yet a striking and solemn memento; and he must be dull, indeed, who can write, for the first time, the number that designates it without a passing touch, at least, of serious emotion. It reminds him how far he is gone up, on the scale of the dread century's progress; what a floating atom he is upon the tide of passing ages; and how soon the frail records of time, which he strews like leaves upon the dark wave, will be swallowed up for ever. It is a memento of change, of instability, of uncertainty, of weary labors, of unsatisfying pursuits, of social bereavements, of a world whose fashion passeth away. Let

it be true that it is a memento of other things; our present design and mood lead us to say, that it is a memento of these.

As we gather up the confused impressions of the past, as the great scene of worldly toil, and turmoil, and vicissitude, passes in review before us; as we meditate upon the many things, the many events, which seem as if they revolved in eternal circles, tending to nothing and producing nothing, we are ready to exclaim with the ancient preacher, "All things are full of labor; men can not utter it. The sun ariseth, and the sun goeth down, and hasteth to his place where he rose. The wind goeth toward the south, and turneth about unto the north; it whirleth about continually; and the wind returneth again according to his circuits. All the rivers run into the sea, yet the sea is not full; into the place from whence the rivers come, thither they return again."

Thus is revolution, change, instability, written upon all things. The law is impressed on every varying form of nature. It is taught in the revolving skies. It comes up from the heaving depths of ocean. It is proclaimed in the convulsions of the earth: it is whispered in the stirring of the elements. The seasons change. The secret powers of nature are ever at work, and every instant are producing new forms, new combinations, new appearances. If we repose and rest, everything is in motion about us; and the world in which we wake is no longer the world in which we slept. If thought passes in its busy career, or recreates itself with idle and airy visions, yet nature's mighty work goes on; the circulating air, the rolling ocean, the springing or the decaying plant, the waving forest, the flowing river, the bursting fountains, are all undergoing momentary changes.

The elements, too—what a visitation of mystery and change, of mingled violence and gentleness is theirs! Fair visions of beauty and life, sweet and silent influences distilling, as the dew, soft breathings of balmy odors and heavenly melodies, spread themselves through all our senses, like the invisible wind swaying the cords of an Æolian harp. But rougher touches proclaim other and sterner uses. The elements minister dis-

cipline with pleasure. They often incommode; they sometimes alarm us. We are during a considerable portion of our lives suffering from the inconveniences of climate, and the incessant changes of nature; panting in the heats of summer, or shivering amid the chills of winter; drenched with the rain, or parched with the drought; our footsteps weary in the daytime, or stumbling in the darkness of the night. And often, too, the earthly pilgrim's path lies through storm and tempest, through dangers by flood and fire, through whirlwinds and tornadoes, through regions ploughed by the thunder of heaven, and the volcano on earth; where the lightning flashes, and the earthquake rends; where those tokens are, of almighty power, at which "the dwellers in the uttermost parts of the earth are afraid."

And thus it is, that in the very processes of nature, powers are at work, and results are produced, which in some form and at some time or other, proclaim to all men their insecurity, and from which all human safeguards are vain. There are vicissitudes, from which riches, if we had them, can purchase no immunity, and from which sagacity, though we were ever so wise, can invent no escape; vicissitudes which alike confound knowledge and ignorance, and baffle strength and imbecility.

Man's task, too, in the toiling world, when he makes himself but a part of that world; man's task, what is it but motion, action, change, for ever returning upon itself; a ceaseless revolution which never carries him beyond the circle of his absolute or artificial necessities? And from these necessities, moreover, there is no exemption. Every human hand is stretched out to procure something that is wanted, or to ward off something that is feared. The case even of boundless wealth furnishes no exception to this law, for it brings, in equal proportion, the care of preserving, and the fear of losing it. And then, for the mass of mankind, behold the scene of their labors, and behold the result. Behold factories multiply, establishments increase, engines, inventions lend their assistance; behold the earth and ocean vexed with human toil, and the ten thousand wheels of commerce busy; and for what? To obtain for man repose?

No; but to procure relief, to meet the demands, no matter whether real or fictitious, barely to meet the demands of necessity. All the energies of life are wasted, and to what end? barely to live. All the possessions of life are accumulated, and to what purpose? to be cared for, to be borne about with us for a little season, then to be laid aside, like the habiliments of a weary day. The entire physical energies of life are put in requisition to support life; and at last they fail even of that; so that there is not only perpetual toil, but toil which in the end is fruitless and unavailing.

Is the condition of the world within, of the mental world, any better? We are speaking, indeed, of the world as it is, and not as it should be; of the world of the many, and not of the few; is it any better governed or brought to any better account, than the world of man's fortunes and toils? The inward world is, as truly as the outward, a world of changes. It is, indeed, more variable and restless, more fluctuating than the sea, more wayward than the wind that bloweth where it listeth. Its workings are more unwearied than the toiling hands, or all the swift and untiring engines of industry. Every feeling is desire, or satiety. Every passion is inflamed with pursuit, or pained with excess. Every mind, in the worldly crowd, is either hurrying in the swift career of exertion, or is pausing, weary, unquiet, unsatisfied at the goal of attainment. Success is a stimulus to greater efforts; disappointment an apology for complaints and lamentations. The condition of pleasure is never to have enough; of pain, alas! ever to have too much. Ambition sees more than it can gain; discouragement sees nothing that it can gain. Wealth has cares, poverty has necessities; and it is sometimes difficult to tell whether the cares or the necessities are the greater burden, and occasion the greater disquietude; and whether the pride of wealth, or the murmuring of poverty, is the less easy and comfortable disposition.

What state of mind or of the affections then is there, whether desired or deprecated, that may not minister to our annoyance, if that holy principle which brings satisfaction, and strength, and harmony, to

the soul, be wanting? Knowledge may perplex our curiosity, and ignorance disturb our fear. Mediocrity of talent, failure in a profession, is commonly considered as an occasion of intolerable disquietude; but inferiority itself is not more agitating than the situation of a proud man, exalted in the public opinion, and obliged to satisfy the demands made upon an idolized reputation. Or will you look at the affections, and at the tenure and condition upon which they hold all the treasures of this imperfect state. What we value and highly prize, at some time or other distresses us; and what we dislike of course disturbs us. If we, have friends, we are anxious; if we have them not, we are forlorn. If we have hopes, we are agitated; if we have them not, we are depressed.

THE HUMBLE-BEE.

THE development of instinct, as manifested by the operations and in the economy of animated beings, affords much matter for reflection and observation. By instinct we mean that innate power or principle impelling to the performance of works necessary either to the well-being of the individual or the species, and which rules, irrespective of experience, in the mode adopted, in the materials selected, in the site, and arrangement; which directs in the observation of time, in attention to size, figure, and numbers, and which bears alike upon the present and a future day, leading to results which appear to be those of reason, reflection, and forethought, involving also a knowledge of the past. No living animal, not even man, is destitute of instinct: we see its manifestations in the infant, but as reason dawns it becomes weaker and weaker; and, indeed, in such of the lower animals as are susceptible of education we find it shaken by what we may well term artificial education, which, as in the dog, calls forth limited and imperfect trains of reasoning, simple deductions of effects from causes, the result of experience and discipline; and, more than this, we see the civiliza-



Nest of the Common Humble Bee (*Bombus terrestris*).--a, Male; b, Large Female; c, Worker.

tion thus effected, and kept up, influence the character and propensities of a whole race—we see it affect their physical structure.

The results of pure instinct are in no animals so wonderful, so interesting, as in insects. Birds, indeed, can not but attract our notice: who can examine their nests, so various in form and materials, so artfully constructed, without feelings of pleasure? Look at the nest of the tailor-bird, a soft couch in a leafy cradle suspended at the end of a slender twig; look at the hanging nests of the pensile weaver-bird (and how many could we not enumerate?); and acknowledge, reader, with me, that they are admirable examples of the operations of instinct.

Still, however, as we have said, even more wonderful exemplifications of the governing principle of instinct are to be found in the works of insects. The waxen architecture of the hive-bee (*apis mellifica*), its habits and economy, have been the admiration of intelligent minds in all ages, and the greatest philosophers have applied themselves to the elucidation of its history, and of the principles on which it proceeds, to build its hexagonal cells with such accurate precision.

It is not, however, to the hive-bee that we are about to invite attention, but to a relative of less pretensions, whose works are comparatively simple, yet far from being without interest. We allude to the common humble-bee, which all the summer long we see wandering over clover-fields, and through gardens, busy with every flower, and assiduously trying nectary after nectary with its proboscis. If one of these bees be watched with a little patience and some tact, it may be traced to its retreat, where it has labored in constructing cells and laying up a store of honey. The domicile of the humble-bee is a simple excavation in some bank, a little chamber of about six or eight inches in diameter, to which leads a long winding passage, capable of admitting of the ingress and egress respectively of two bees at the same time. Some species, as the *bombus muscorum*, select a shallow excavation which they dome over with a felt of moss or withered grass, lined with a coat of wax to render it waterproof; but

the *bombus terrestris* makes or enlarges a subterranean vault, a foot beneath the surface of the ground, and in this is the colony established. The population, however, is not numerous, seldom exceeding one or two hundred, and may be divided into *females*, *males*, and *workers*. The females are of two sorts, *very large* and *small*. The large females, or queens, look like giants compared to the smaller females and workers; they produce males, females, and workers, but the small females produce only male eggs. The large females, then, we may regard as the founders of every colony; and by following up the details we shall be able to render the plan clearly intelligible.

These large females, in an established colony, emerge from their pupa state in the autumn, and pair in that season with males, the produce of the small females which have previously acquired their due development. Now on the approach of winter these large females, the pairing time over, retire each to a little snug apartment, lined with moss or grass, and separate from the general vault, passing the cold season in a state of torpidity. Early in the spring they awake, issue forth, and take different directions, seeking for some convenient spot in which to begin their labors. At this time of the year large females may be often observed exploring every cavity, hole, or crevice, in banks or on the ground; they are seeking a fit site for their operations. We will now suppose one of these queens to have formed and established herself in her chamber; she begins to collect honey and pollen, and constructs cells in which her eggs are to be deposited. So rapidly are the latter built, that to make a cell, fill it with honey and pollen (the food of the young), commit one or two eggs to it, and cover them in, requires little more than half an hour. Her first and most numerous brood consists only of workers, which, as soon as excluded from the pupa, assist their parent in all her labors. Her next consists of large and small females and males; these appear in August or September; but, if Huber be correct, the male eggs, or some of them at least, are laid in the spring with those that have to produce workers. We have now, then, small

and large females, males, and workers, the produce of the original queen who singly began to found this establishment. It will be interesting to look a little closer into their transactions; and, first, those of the workers. These are by far the most numerous tenants of the colony, and to them is intrusted the reparation of any part by the deposition of wax, and the spreading of it in patches over the roof. When in any of the cells one of the larvæ has spun its cocoon and assumed the pupa state, it is their department to remove all the wax away from it; and after the pupa has attained its perfect state, which takes place in about five days, to cut open the cocoon, in order that the perfect insect may emerge from its imprisonment: it is theirs, moreover, to supply the young grubs with food after they have consumed the stock deposited with each egg in the cell, and regularly feed them either with honey or pollen introduced in their proboscis through a small hole in the cover of each cell, opened as occasion may require, and carefully covered up again. As the grubs increase in size, the cells which contained them respectively become too small, and by their struggles the thin sides split: the breaches thus produced they repair with wax as fast as they occur, attentive to see where their services are required: and it is in this manner that the cells gradually acquire an increase of size to accommodate the increasing larvæ. Besides these duties, in chilly weather and at night the workers brood over the pupæ shrouded in their cocoons, in order to impart the necessary warmth and maintain a due degree of temperature. They relieve the mother-queen, in fact, of half her cares and nearly all her labor. In some nests there are from forty to sixty honey-pots, the cocoons of the bees recently emerged from their pupa condition, and more than half of these are often filled in a single day. It must not be supposed that the interior of the nest presents the same appearance as that of the hive-bee. Instead of numerous vertical combs of wax, we see either a single cluster of cells or a few irregular horizontal combs placed one above another, and supported by pillars of wax. Each layer consists of several groups of yellowish oval bodies

of three different sizes, those in the middle being the largest, the whole slightly joined together by a cement of wax. These oval bodies are the silken cocoons spun by the young larvæ: some are closed at the upper extremity, some are open; the former are those which yet include their immature tenants; the latter are the empty cases from which the young bees have escaped. Besides these are the cells of wax, in which are eggs and a store of pollen and honey, but from which in due time the workers will remove the wax, the larvæ having completed their silken shroud. These larvæ, their food being exhausted, are, as we have said, regularly supplied by the workers. There are, moreover, the honey-pots, that is, the relinquished cocoons patched up, and strengthened with wax, and filled with nectar, and sometimes vessels of pure wax containing the same luscious store.

The workers have indeed plenty of business on their hands, and are busy all the summer long. But the winter comes, and they all perish; they have fulfilled their allotted part, and their services are no more needed. From the workers let us pass to the mother-queen, and inquire into her duties and actions. We have said that the workers are her first progeny, and we must suppose her surrounded by them. They are watching all her movements, for she is about to deposite in the cells the eggs from which the second brood is to spring; and, by a strange instinct, they endeavor to seize the eggs as soon as laid, and devour them. It is not easy to understand the object to be accomplished by this procedure on the part of the workers, unless it be to keep the population within due bounds. Be this as it may, the female has to exert herself to the utmost to prevent her eggs from being all devoured; and it is only after she has driven them back several times and utterly routed their forces, that she succeeds in accomplishing her purpose. When she has deposited her eggs in the cells (each supplied with a store of pollen moistened with honey) and closed them up with wax, she has still to keep vigilant watch over them for six or eight hours, otherwise the workers would immediately open the cells and devour their contents. After

this period, strange to say, the nature of the workers seems changed; they no longer evince any appetite for devouring the eggs or destroying the cells; the female gives up her charge, committing all to their care, and they faithfully and assiduously perform the duties we have previously detailed. From these eggs proceed a few large females, to be at a future day the founders of colonies; a few males, and small females, closely resembling the workers, but attended by the males, which form their court. And now, as Huber assures us, the whole establishment is a scene of confusion; for these small females begin to prepare cells for their eggs, and this proceeding rouses the anger and jealousy of the queen-mother to the highest pitch. She assaults them with fury, driving them away; puts her head into the cells, and devours their eggs, and is in turn herself assaulted and forced to retreat. They then contend among themselves for various cells, several females often endeavoring to lay their eggs at the same time in the same cell, but after a short period tranquillity seems restored. These small females all perish on the commencement of winter. Their produce consists only of males, which pair with the large females in the autumn, the latter retiring to their hybernaculum and sleeping till spring. The males are rather larger than the small females whence they sprung, and their antennæ are longer and more slender. They are not an idle race, for Reaumur asserts that they work in concert with the rest to repair any damage that may befall their common habitation. They act in some sort as scavengers of the settlement, removing every sort of rubbish, and the dead bodies of such individuals as may chance to die, but do not forage for building materials and provisions, nor do they take any share in rearing and attending to the young.

Such, then, is an outline of the proceedings which occur in every colony of humble-bees, all of which, with the exception of a few large females destined to continue the race, perish at the close of autumn.

It is the opinion of Huber that the workers of the humble-bee are really females in an imperfect condition, and inca-

pable of reproduction, and that the development of the large and small females is dependant upon the nature of the food with which they are supplied during their larva condition. Kirby says: "As in the case of the hive-bee, the food of these several individuals differs, for the grubs that will turn to workers are fed with pollen and honey mixed, while those that are destined to be males and females are fed with pure honey." It is, however, still a question to what specific cause we are to attribute the difference between the large and the small females, which are as distinct in appearance as in habits and operations. Humble-bees may be more easily studied than either hive-bees or wasps; the two latter, and especially the wasps, being very irritable, and displaying great resentment against any intruder; while the humble-bee is indifferent to the presence of a spectator, and while collecting honey will permit itself to be touched or stroked without attempting to use its sting.

Mr. Huber relates a very amusing anecdote respecting some hive-bees paying a visit to a nest of humble-bees placed under a box not far from the hive of the former, in order to beg or steal their honey. The narration places in a strong light the good temper and generosity of the latter. The circumstance happened in a time of scarcity. "The hive-bees, after pillaging, had almost taken entire possession of the nest; some humble-bees which remained, in spite of this disaster, went out to collect provisions, and bringing home the surplus after they had supplied their own immediate wants, the hive-bees followed them, and did not quit them till they had obtained the fruit of their labors. They licked them, presented to them their proboscis, surrounded them, and at last persuaded them to part with the contents of their honey-bags. The humble-bees flew away after this to collect a fresh supply. The hive-bees did them no harm, and never once showed their stings, so that it seems to have been persuasion rather than force that produced this singular instance of self-denial. This remarkable manœuvre was practised for more than three weeks, when the wasps being attracted by the same cause, the

humble-bees entirely forsook the nest." The care and attention displayed by the workers toward the larvæ or young is proved by an interesting experiment conducted by M. P. Huber, and which is recorded in the "Linnean Transactions," vol. vi., p. 247. This observer put under a bell-glass about a dozen humble-bees, without any store of wax, along with a comb of about ten silken cocoons, so unequal in height that it was impossible the mass should stand firmly. Its unsteadiness disquieted the humble-bees extremely. Their affection for the young led them to mount upon the cocoons for the sake of imparting warmth to the enclosed little ones, but in attempting this the comb tottered so violently, that the scheme was almost impracticable. To remedy this inconvenience, and to make the comb steady, they had recourse to a most ingenious expedient. Two or three bees got upon the comb, stretched themselves over its edge, and, with their heads downward, fixed their fore-feet on the table upon which it stood, while with their hind-feet they kept it from falling. In this constrained and painful posture, fresh bees relieving their comrades when weary, did these affectionate little insects support the comb for nearly three days. At the end of this period they had prepared a sufficiency of wax with which they built pillars, that kept it in a firm position, but by some accident afterward, these got displaced, when they had again recourse to their former manœuvre for supplying their place, and this operation they perseveringly continued, till Mr. Huber, pitying their hard case, relieved them by fixing the object of their attention firmly on the table.

Must we from these facts infer that the bees in question were guided in their operations by a process of reasoning? If so, we must admit that all the extraordinary manœuvres and labors of bees, wasps, and ants, are under the governance of the same principle; for all exhibit an appearance of forethought, and pursue the best means to produce a given result. "If," says Mr. Kirby, "in this instance these little animals were not guided by a process of reasoning, what is the distinction between reason and instinct? How could

the most profound architect have better adapted the means to the end? how more dexterously *shored* up a tottering edifice, until his beams and props were in readiness?" The architect could not, perhaps, have acted better; but he would have been influenced by experience, and reasoned upon the affair. In the case of the bees they were impelled to a given labor (and perhaps in that particular instance a very useless one) by an instinctive impulse, similar to that which urges the beaver to construct his dam, and the same instinct also directed them in the mode of its accomplishment. Surely the leaf-rolling caterpillar displays quite as much apparent reason in the means it employs to shroud itself in its dormitory, or the antlion when he makes his pitfall. Man in his operations is guided by experience and reason; and having no natural instruments, he fabricates them, and becomes a builder, a spinner, a miner, a worker in wood and metal; he varies his plans and operations as experience may dictate, as reason may suggest: he alters, he improves. Not so the instinct-guided insect or bird: it never deviates beyond a certain point from the plan which its species time immemorial has followed; the bird that builds a pendant nest never forms one in a hollow tree: the bee never attempts to become a paper-maker, like the wasp; and here be it remembered that to whatever operations instinct urges, the animal is by nature furnished with the proper implements for accomplishing them, and that it never impels to works which the animal has not the natural means of performing or carrying on.

ON SELF-DISCIPLINE.

THERE is always some danger of self-discipline leading to a state of self-confidence; and the more so, when the motives of it are of a poor and worldly character, or the results of it outward only, and superficial. But surely when a man has got the better of any bad habit or evil disposition, his sensations should not be those of exultation only: ought

they not rather to be akin to the shuddering faintness with which he would survey a chasm that he had been guided to avoid, or with which he would recall to mind a dubious, deadly struggle which had terminated in his favor? The sense of danger is never, perhaps, so fully apprehended as when the danger has been overcome.

Self-discipline is grounded on self-knowledge. A man may be led to resolve upon some general course of self-discipline by a faint glimpse of his moral degradation: let him not be contented with that small insight. His first step in self-discipline should be to attempt to have something like an adequate idea of the extent of the disorder. The deeper he goes in this matter the better: he must try to probe his own nature thoroughly. Men often make use of what self-knowledge they may possess to frame for themselves skillful flattery, or to amuse themselves in fancying what such persons as they would do under various imaginary circumstances. For flatteries and for fancies of this kind, not much depth of self-knowledge was required: but he who wants to understand his own nature for the purposes of self-discipline, must strive to learn the whole truth about himself, and not shrink from telling it to his own soul.

"To thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

The old courtier, Polonius, meant this for worldly wisdom; but it may be construed much more deeply.

Imagine the soul then, thoroughly awake to its state of danger, and the whole energies of the man devoted to self-improvement. At this point, there often arises a habit of introspection which is too limited in its nature: we scrutinize each action as if it were a thing by itself, independent and self-originating; and so our scrutiny does less good, perhaps, than might be expected from the pain it gives and the resolution it requires. Any truthful examination into our actions must be good; but we ought not to be satisfied with it, until it becomes both searching and progressive. Its aim should be not only to investigate instances, but to discover principles. Thus: suppose that our conscience upbraids us for any particularly bad habit;

we then regard each instance of it with intense self-reproach, and long for an opportunity of proving the amendment which seems certain to arise from our pangs of regret. The trial comes—and sometimes our former remorse is remembered, and saves us; and sometimes it is forgotten, and our conduct is as bad as it was before our conscience was awakened. Now, in such a case, we should begin at the beginning, and strive to discover where it is that we are wrong in the heart. This is not to be done by weighing each particular instance, and observing after what interval it occurred, and whether with a little more, or a little less temptation than usual: instead of dwelling chiefly on mere circumstances of this kind, we should try and get at the substance of the thing, so as to ascertain what fundamental precept of God is violated by the habit in question. That precept we should make our study; and then there is more hope of a permanent amendment.

Infinite toil would not enable you to sweep away a mist; but, by ascending a little, you may often look over it altogether. So it is with our moral improvement: we wrestle fiercely with a vicious habit, which would have no hold upon us if we ascended into a higher moral atmosphere.

As I have heard suggested, it is by adding to our good purposes, and nourishing the affections which are rightly placed, that we shall best be able to combat the bad ones. By adopting such a course you will not have yielded to your enemy, but will have gone in all humility, to form new alliances: you will then resist an evil habit with the strength which you have gained in carrying out a good one. You will find, too, that when you set your heart upon the things that are worthy of it, the small selfish ends, which used to be so dear to it, will appear almost disgusting; you will wonder that they could have had such hold upon you.

In the same way, if you extend and deepen your sympathies, the prejudices which have hitherto clung obstinately to you will fall away; your former uncharitableness will seem absolutely distasteful; you will have brought home to it feelings and opinions with which it can not live.

Man, a creature of twofold nature, body

and soul, should have both parts of that nature engaged in any matter in which he is concerned: spirit and form must both enter into it. It is idol-worship to substitute the form for the spirit: but it is a vain philosophy which seeks to dispense with the form. All this applies to self-discipline.

See how most persons love to connect some outward circumstance with their good resolutions: they resolve on commencing the new year with a surrender of this bad habit: they will alter their conduct as soon as they are at such a place. The mind thus shows its feebleness; but we must not conclude that the support it naturally seeks is useless. At the same time that we are to turn our chief attention to the attainment of right principles, we can not safely neglect any assistance which may strengthen us in contending against bad habits; far is it from the spirit of true humility to look down upon such assistance. Who would not be glad to have the ring of eastern story, which should remind the wearer by its change of color of his want of shame? Still, these auxiliaries partake of a mechanical nature: we must not expect more from them than they can give: they may serve as aids to memory; they may form landmarks, as it were, of our progress; but they can not of themselves maintain that progress.

It is in a similar spirit that we should treat what may be called prudential considerations. We may listen to the suggestions of prudence, and find them an aid to self-discipline; but we should never rest upon them. While we do not fail to make due use of them, we must never forget that they do not go to the root of the matter. Prudence may enable a man to conquer the world, but not to rule his own heart: it may change one evil passion for another; but it is not a thing of potency enough to make a man change his nature.

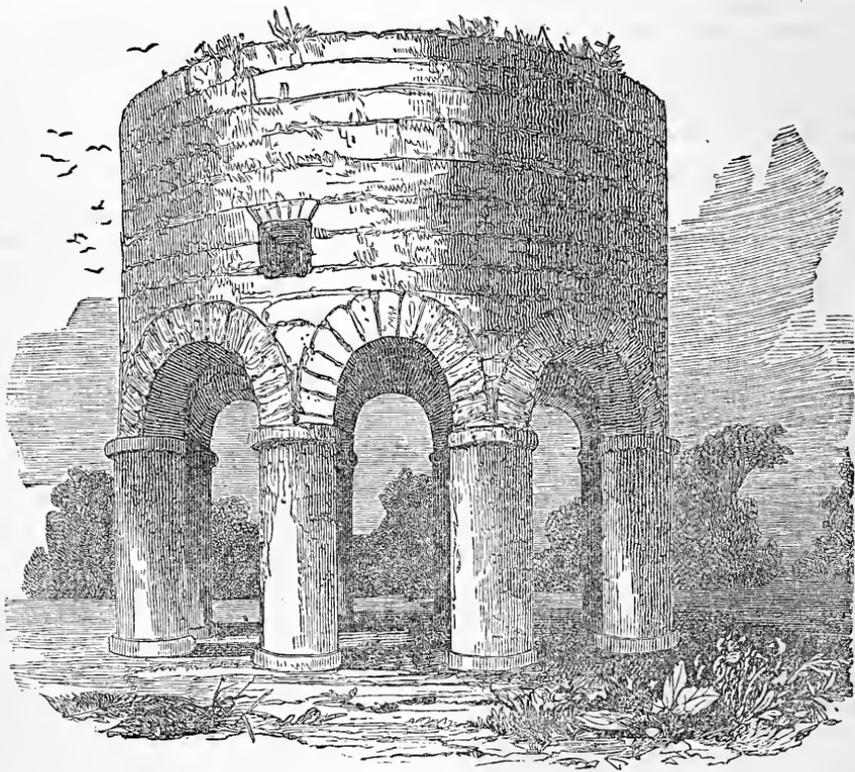
Prayer is a constant source of invigoration to self-discipline: not the thoughtless praying which is a thing of custom, but that which is sincere, intense, watchful. Let a man ask himself whether he would have the thing he prays for: let him think, while he is praying for a spirit of forgiveness, whether even at that mo-

ment he is disposed to give up the luxury of anger. If not, what a horrible mockery it is! To think that a man can find nothing better to do, in the presence of his Creator, than telling off so many words, alone with his God, and repeating his task like a child, longing to get rid of it, and indifferent to its meaning!

ANCIENT TOWER AT NEWPORT, RHODE ISLAND.

THE readers of Cooper's novels will without doubt remember a scene, near the beginning of his "Red Rover," which is represented as occurring at Newport, in Rhode Island, in a small ruined tower or circular building, standing on rude pillars connected by arches, which he says might have been constructed in the infancy of the colony as a place of defence, but which the townspeople were of opinion had been formerly a mill. The Royal Society of Northern Antiquarians established at Copenhagen have recently published some views of this ancient structure, from one of which, somewhat enlarged, our engraving is taken; together with a description by Dr. Webb, of Boston, who is inclined to think it a genuine relic of the ancient Scandinavians, the ante-Columbian discoverers of America. Proofs of the early occupation of the western shores of that continent by those intrepid mariners have been zealously accumulated by the society, and much of the documentary evidence of their discoveries at the close of the tenth century carefully edited and published. The building in question is placed upon the most likely spot in Vinland for the settlement of a maritime people.

Dr. Webb describes the building as situated near the summit of the hill upon which the upper part or rear of the town of Newport stands; he states that it is built of rough pieces of greywacke stone, laid in courses, strongly cemented by a mortar of sand and gravel of excellent quality, which nearly equals the stone itself in hardness; and that it appears to have been at some former period covered



Ancient Tower at Newport, R. I.

with a stucco of similar character to the cement with which the stone is held together. It is nearly twenty-five feet in height; its diameter outside is twenty-three feet, and inside eighteen feet nine inches. It is circular, and is supported upon eight arches resting on thick columns about ten feet high; the height of the centres of the arches from the ground is twelve feet six inches. The foundation extends to the depth of four or five feet.

The columns are peculiar, having only half capitals, which seem to have been simply rounded slabs of stone, of which the part projecting on the inside had been cut away; hollows are formed in the interior of the walls at some little height above the arches, as though intended to receive the ends of beams and rafters to support a floor which formerly was there, according to the testimony of some of the older inhabitants of Newport, and which is supposed in the scene described by Cooper. The building is pierced by two windows, one of which is seen in the engraving. The tradition of the town is, that it had once a circular roof, and that it had been used successively as a windmill, a place for stowing hay, and a powder-magazine.

Professor Rafn, the secretary of the Society of Northern Antiquarians, in a notice of this building, argues, from the complete absence in America of any work of similar nature to that under consideration, and from the resemblance which it bears to some other buildings of the Scandinavians in Europe, that this must be a genuine relic of the ante-Columbian colonists; and he reasonably enough accounts for the absence of many such remains by the circumstance that the country abounded in wood, a material which was in those ages, and is even now, preferred for building throughout the extensive regions inhabited by the Scandinavians, whose wooden houses and churches are mentioned by all travellers in Norway and Lapland; while the many remains of stone buildings by the same people found in Greenland, which must have been nearly contemporary with the ante-Columbian occupation of America, only show that stone was the only available material for building in that arctic country, where the little

wood used is stated in the ancient chronicles of Iceland to have been imported from America (Vinland), or found on the opposite shore of Baffin's bay, where drift-wood is said to accumulate much more than on the coast occupied by the colonists from Denmark.

Professor Rafn remarks, on the architecture of the building, that it is in the ante-Gothic style, which was common in the north and west of Europe from the eighth to the twelfth centuries; the circular form, the low columns, their thickness in proportion to their distance from each other, and the entire want of ornament, all point out this epoch. He gives plates of three churches in Denmark, in corroboration of his opinion: the first is that of Vestervig, in Jutland, founded in 1110, in honor of St. Theodgar; the second is that of the crypt under the cathedral of Viborg, of near the same date; the third is the church of Biernede, near Sorö, in Siedland, built in the middle of the same century. In all these, the low columns and arches, with the circular arrangement, are quite in the style of the American edifice, although the latter has less ornament of any kind. He cites, moreover, four churches in Biornholm, and one at Thorsager, in Jutland, all of the circular form; as well as some ruins of circular buildings in Greenland, near the churches of Igalikko, Kakortok, and Iglorsoit, which are conjectured to have been baptisteries; and this Professor Rafn supposes might have been the destination of the Newport structure, for he considers the windows and holes in the body of the building to have been additions, made in it by the recent colonists, when they converted it to a mill, a magazine, and a hayloft.

The first certain mention of this curious relic is in the will of Governor Arnold, dated in 1678, in which he bequeaths his "stone-built windmill" with other property. This was just forty years after the island had been settled. In a journal kept by Peter Easton, one of the first inhabitants, who appears to have minutely recorded all the occurrences of the settlement, the building of the first mill in the colony is noted, under the year 1663, in half-a-dozen words; but Dr. Webb is of opinion that if this building were the one

intended, it would hardly have been so summarily dismissed; doubtless concluding that a stone edifice of so much more imposing structure than any other of the colony would have demanded a more specific mention.

After what has been stated on this matter, it must appear doubtful whether or not this is a genuine relic of the ancient Scandinavian colony; there is assuredly not evidence enough of its authenticity to produce a conviction of the existence of such a colony in those who do not receive the evidence of the Icelandic sagas before alluded to; but if these sagas be admitted as conclusive of its existence, which we feel their circumstantiality fully deserves, then the building we have described may be added to the other evidences found in America, such as arrow-heads, bracelets, fibulæ, bronze ornaments, and even a Runic inscription, unfortunately undecipherable, as corroborative of the events detailed in those curious historical documents.

THE DEATH OF FRIENDS.

"Impress
Indelible, Death's image on his heart,
Bleeding for others, trembling for himself."
YOUNG.

THERE are certain periods in the life of man, which sometimes appear like unbidden guests, and leave an impression on the memory which after events can never wholly efface—periods which stand so prominent in the path we have trod, that on looking back we discern them standing as we met. Some of these periods afford us matter for much joy, both at the time they happen and in after years; others seem to start like spectres in our way, only to afford sorrow and pain; and others have so much of joy and sorrow mingled, as to produce both extremes according to the light in which they are viewed. The death of friends sometimes partakes of each description. Rarely, indeed, can we view their death with unmixed joy, but sometimes we can. When, for instance, some dear friend, after suffering the greatest pain for a length of time, with no pros-

pect of relief on this side the grave, having tears and sorrows for his meat, is at last released by death, with the glorious hope of immortality, we can sometimes look upon his death with joy. When, if our own wishes for his life were granted, they would only be accompanied with suffering and distress, we are sometimes able to sacrifice joyfully our own feeling and desires, in the assurance that our friend's sufferings are o'er—his pains and griefs for ever gone—his tears for ever wiped away. What joy could we experience, though he were still spared, when our souls are continually rent with anguish as we behold his sufferings—when every moment which adds to his suffering here, also keeps him from the enjoyment of heaven? Far be it from any one to *desire* the death of friends in such circumstances—let God's will be done; but need they sorrow when it is his will to release them from their pain? Our grief is thus dried up in the joy we experience; and, every time memory carries us back to their deathbed, our enfeebled faith is strengthened, and we strive, in the words of Scripture, "to live the life of the righteous, that our latter end may be like his." When we are ourselves in suffering and distress, we are often rejoiced amid our tears when we think of the faith and patience of the departed, and their dying examples speak in words of comfort and of power. When our journey in life is embittered with painful trials, when our hearts are deeply pierced with many sorrows, we are encouraged to bear up against them when we think of those

"Not lost, but gone before."

As when a man, journeying on a dreary road under great privations, is encouraged to persevere when he remembers he is going to his father's home, where he will meet those friends who have travelled the same road before; so, the death of friends in these circumstances often may communicate joy to our breasts, and chase our sighing and sorrow away.

But the death of friends may sometimes be the cause of the greatest sorrow. A friend may die when he is most needed—such as a dear parent; father and mother may both become the prey of the "insatiate archer," and we, mayhap left in the

days of youth, surrounded with many temptations, yet no one from whom we can receive advice, or to whom we can with confidence embosom our souls. Or it may be that the husband is deprived of the wife of his bosom—the partner of his cares and of his joys—when he most required her sweet advice and her many tender endearments to sooth him amid his cares, or when her love and watchful care were required for the objects of her affections in their helpless days. Or it may be that the wife is deprived of her husband, her stay and comfort, and left, perhaps, to toil and suffering and tears; or it may be that, as a widow, she is deprived of her “only son,” on whom she centred her affections, to whom she looked forward for support in her declining years, whose hand she fondly hoped should smooth her dying pillow, and lay her honored head with reverence in the tomb. In these and many other like cases is the death of friends sorrowful—the heart throbs with convulsive emotion, and almost chokes the utterance with its sighs and sobs. Oh! how these occasions furrow the brow and make the head hoary before the time! No smile lights up the countenance; we go along the streets with our heads hanging down; strength seems departed from us; former pleasures can give us no relief; they make our grief still more grievous. Every object which belonged to the departed reminds us of them, and opens anew the fountain of our tears. How we then think of them! how many graces we see in their characters which we formerly overlooked! We think that if we had them again with us, we would treat them with more kindness and love: no unkind word would ever pass our lips, nor would we harbor an unkind thought regarding them.

Sorrow, deep sorrow, may follow the death of friends in such cases, but with how much greater sorrow are we afflicted, should there be “no hope in their death”—if their lives have been stained with crime, and they have gone to the grave without repentance or peace! We can easily imagine the not unfrequent occurrence (alas! that it should be so) of a “prodigal son,” drawn away by the solicitations of evil companions, enticed by the glowing scenes which imagination has pictured, but

experience proves to be false. We can imagine him casting off parental restraint, deaf alike to the commands and entreaties of his loving parents, treating their tears with mockery and their admonitions with disdain. Can we conceive the grief which eats away the peace of his parents’ hearts, as they find all the anxiety with which they watched him in infancy abused, and the fond hopes they cherished of him entirely blasted? Who can paint the grief of the mother on whose breast he hung in infancy, and for whom so many prayers were breathed to Heaven? Who can paint the father’s grief? His brow is marked with it: his sleepless nights, his secret moments, should tell, with too convincing power, the sorrow of his heart. What consolation, then, can these parents have in the death of their son, when no repentance marks his last moments—when they are only embittered with disappointed hope and unavailing remorse?—

“Prayers then extorted may be vain,
The hour of mercy past.”

Ah! surely such a death must strike a heavier blow than even his sinful life. Such was the case with “the sweet singer of Israel,” when he mourned over his lost son: “Oh! Absalom, my son, my son; would God that I had died for thee!” We can think of the old man wringing his hands and rending his garments with grief when he heard of the death of his unfortunate son; how touchingly do his words express the love he felt for his ungrateful and rebellious son!

The death of friends, however, may sometimes take place under a different aspect, and produce somewhat different feelings in the breast. Let me transport you to a house of mourning, because a house of death: see, the windows are darkened, and we can discern the dim shadow—the indescribable gloom, which death has cast around; the girl who opens the door is filled with sorrow, and her eyes are red with weeping. Hark! these voices tremulous with emotion, interrupted with stifled sobs, are feebly attempting to raise the well-known hymn in which they have often joined, but never with such overwhelming feelings. Tread softly, for they have now finished. Let us stay here a moment. Hear you not that low, feeble

voice in prayer? we can not discern the words, but it gets louder, while heart-rending sobs are heard; it is entreating for some life to be spared, and as from the heart seems that prayer to come: but it concludes, "Thy will be done." Let us enter. Why do all these weep? That young man, so pale and weak, and yet so young, that we are apt to think death might well spare him, is now addressing these weeping friends, bidding them farewell. He tells them that shortly he will "die and appear before God." See how they weep! But he adds, "I die with joy; my heart feels no fear; I know in whom I have trusted; but I charge *you* to meet me *there*," as he raises his trembling hand and points it upward. He takes his mother's hand, and with a heart-rending shriek she falls upon his neck and weeps over him—"Oh, my son, my child! must you, then, leave your poor mother?" and again she hugs him to her bosom, as if that could shield him from the grim king. He tries to comfort her, though himself nigh overcome: he speaks to her of his hope, and how joyfully they will meet again, where death will part no more. He now takes his father's and his sister's hands, while he gives them his blessing. Oh! who can describe that scene, as they each "fell upon his neck and kissed him," while their hearts are too much filled with sorrow to utter even one farewell? Other friends now shake his withered hand, and to each he speaks a word of comfort; but exhausted he falls back upon his pillow, and his spirit seems to have fled; but he revives, and the man of God—the ambassador of Heaven—approaches and whispers those words of comfort which are fitted to his case. He then takes that good man's hand and thanks him for all his kindness—his admonitions and his prayers; every word he utters seems as a breath from heaven, and they all hearken to them as the words of one who will shortly enter upon its bliss. Exhausted he has again fallen back, and scarcely a sob is heard from his surrounding friends as they eagerly watch him in his last moments: he looks around them; that look whispers peace; and, with the softness of the zephyr in the summer noon, he has breathed his spirit away. He is dead! but why do these friends still look

so intensely? They can not believe that this is death, till the man of God breaks the silence, with a whispered prayer for "those still left behind." Oh! see how the mother again grasps that youthful form to her breast, and kisses its pale lips, while her tears drop scalding on those insensible cheeks! But she is borne away in a swoon; and let us hasten away.

Who was he, you ask, whose calm and peaceful death we now witnessed? He was a dutiful son; he was a loving brother, a dear friend, "the child of many prayers." Early was he brought to know the truth, and early was his life conformed to its commands. He had consecrated his life to the service of God; his great wish was to preach unto others what he so dearly prized himself. His days and nights were spent in study, and in doing good; often might his lamp be seen flickering through the gloom of night, while he pored over the sacred page. He died young, who, had it been the will of Heaven to spare him, would have been a blessing to the world. And surely, then, his friends had cause for sorrow; but they had also cause for joy: they did not "sorrow as those who have no hope."

"Why should they weep for him who, having won
The bound of his appointed years, at last,
Life's blessings all enjoyed, life's labors done,
Serenely to his final rest hath past,
While the soft memory of his virtues yet
Lingers, like twilight hues, when the bright sun
hath set?"

In cases such as this the heart is often disturbed with conflicting emotions—with the extremes of sorrow and of joy; we know not whether to weep or smile. When we think of the many hallowed associations and endearing remembrances connected with our friendship, the tears oft come unbidden, and sighs loaded with sorrow escape from the breast; yet, on the other hand, when we reflect upon his virtues, the hopes he breathed in death, the calm serenity of his deathbed—that he is taken "from the evil to come" to the felicity of heaven—these thoughts

"May charm the bosom of a weeping friend,
Beguile with magic power the tear of grief,
And pensive pleasure with devotion blend:
While oft he fancies music sweetly faint,
The airy lay of some departed saint."

It is one of the amiable traits in the character of man, that the remembrance

of departed friends never entirely fades from the mind; and to us it appears an additional proof of the immortality of the soul. And, in many cases, had we not the hope—nay, the *assurance*—that when this scene of things is over, there is another and a better world, where “death-divided friends shall meet,” the death of friends would be insupportable; we would be unable to bear the sorrow attendant thereon. This assurance revelation gives; and would we wish to die happy, and have a happy reunion with our friends, we must have our hearts and conduct ruled according to its dictates, contained in the standard of truth. It has become *fashionable* with certain parties to despise, or at least neglect, that standard: they will have anything but it. Let us, however, remind them, that there are few fashions at a deathbed; that at the deathbed of friends, or their own, this question will either be *forced* upon their minds, or become a subject of delight. Better, far better, then, it must be to *prepare* for it *now*, as the Bible directs, than, by waiting “till a more convenient season,” we find ourselves involved in confusion, misery, and despair.

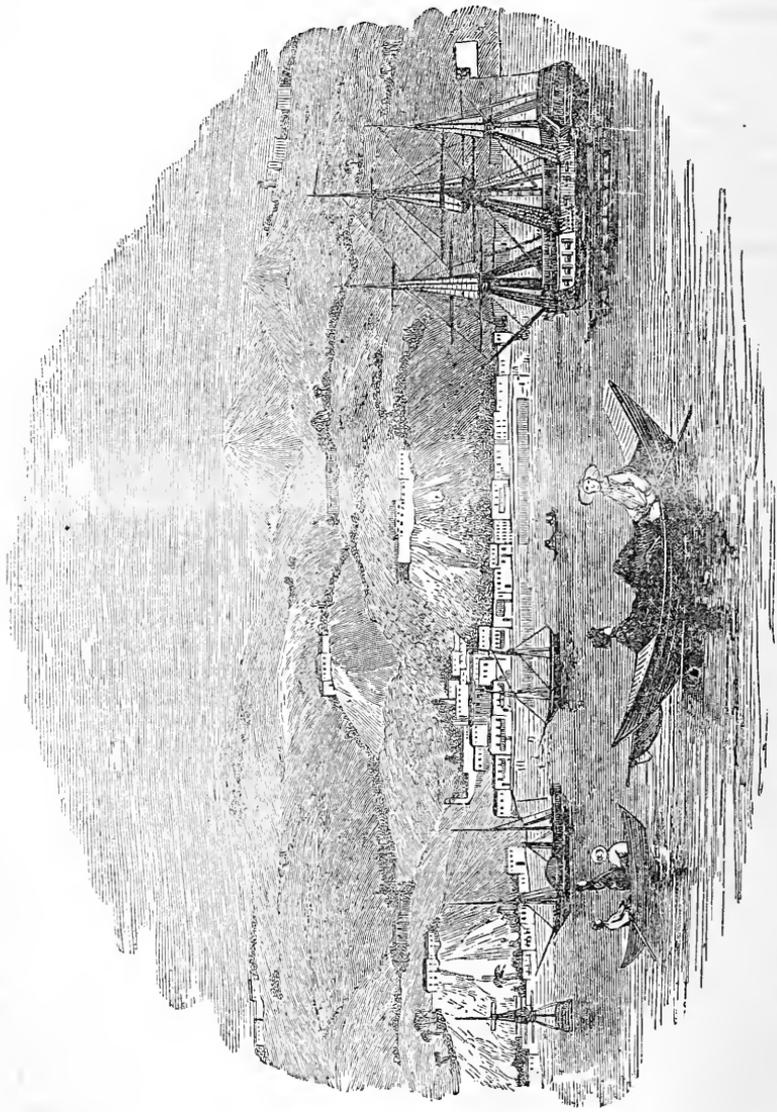
Were we inclined, we might profitably contrast authenticated “death-scenes” of the two parties, and show of which it might be truly said, “The death of that man is peace.” We think, however, enough has at present been said to show how paramount the influence of religion is at the death of friends—how paramount it is to the peace and consolation of the mourner; and we may, therefore, easily deduce the necessity of religion in preparing us for that solemn period when we must struggle with the last foe. If, at that time, as during our lives, the benign influence of religion be exhibited, we will leave an impression on the memory of our friends never to be effaced, which will whisper with a “still small voice” amid the noise and tumult of the world—“Go ye and do likewise.”

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LIGHT.—At the depth of seven hundred and twenty feet through sea-water, according to Bouguer, light ceases to be transmitted; and probably at three times that depth there is perpetual darkness.

JUNCTION OF THE ATLANTIC AND PACIFIC OCEANS.

THE extreme importance to all commercial countries of obtaining a ready access to the rich and productive countries of the east, has from the earliest dawn of European civilization led to efforts for its accomplishment. To the difficulties experienced in their oriental trade by the Venetians and Genoese we owe the discovery of America by Columbus; but though a continent was found, the object sought was not attained. Since that time repeated and even yet continued endeavors have been made to discover a north-west passage, which for England would be the most advantageous, giving her a direct entrance by the North Pacific at once to her colonial possessions in North America, and her establishments in India, China, and Australasia. Of any such passage, practically useful for commercial purposes, there now seems but little probability. Failing in this point, modern enterprise has turned its attention to effecting by art what appears to have been denied by nature. The narrow strip of land, uniting what may be called the two continents, north and south, of America, extends from 77° W., the east end of the gulf of Darien, to 83° W., St. Juan de Nicaragua, a length, measuring along the curve, of above five hundred miles, and lies between the parallels of 7° 20' and 8° 45' N. lat., with a breadth varying from thirty miles in Panama proper, to about one hundred miles in the province of Veragua, which forms the western part of the neck. Any transit across this narrow strip, available for commercial purposes, would be of much benefit, and a navigable passage through it would enable European vessels to avoid the long and dangerous course round Cape Horn to all the countries bordering on the Pacific; and facilitate their route to China and the East Indies by availing themselves of the trade-winds, and escaping the doubling of the Cape of Good Hope; while to the United States which border on the Atlantic the advantage would be still greater. The passage sought for by Columbus would be in fact accomplished.



Panama.—From an original Sketch.

The first attempt of this nature dates as far back as 1695, when the Scottish parliament passed an act incorporating a company with extensive privileges, at the solicitation of one Paterson to form a settlement on the isthmus of Darien, into which scheme the Scottish nation entered with more than their usual enthusiasm. Paterson "considered that isthmus as a place where a good settlement might be made, or rather two settlements, for he proposed establishing a town and block-house on the side of the Atlantic, and another over against it in Panama bay, on the shores of the Pacific, from which conjointly a trade might be opened both with the West Indies and the east." In 1698, 1,200 men sailed from Leith roads to form this settlement, and in October they landed at Acta, in a convenient harbor, one of the sides of which was formed by a long narrow neck of land. This neck of land they cut through, and, having thus formed a sort of island, they erected upon it their little fort, which they christened New St. Andrew's, or, according to other accounts, New Edinburgh. Some forty or fifty guns were landed from the ships and planted round the fort. On the opposite side of the commodious harbor there was a mountain commanding a very extensive view both seaward and landward, and here they erected a signal-house, and placed in it a corps of quick-sighted Highlanders to give notice of the approach of any hostile force. The first public act of the infant colony was a declaration of freedom of trade and of religion to all nations. This great and ennobling idea, which as yet had not been acted upon by any of the English colonies in the new world, with the curious exception of that of Maryland, planted by the catholic Lord Baltimore, seems to have originated with Paterson, who, whatever were his birth and education, possessed an enlightenment and liberality really extraordinary, and notions about commerce and conscience which had hitherto been confined to a few speculative and inoperative philosophers. Acta, or New St. Andrew's, was admirably situated on the northern coast of the isthmus of Darien or Panama, about midway between Puerto Bello and Carthagená, being about fifty leagues distant from either

town. The magnificent natural harbor was capable of receiving the greatest fleets, and was defended from storms by numerous islands and islets. On the other side of the isthmus, the little-frequented and unoccupied shores of the Pacific were indented with bays and harbors equally commodious: but the land communication from sea to sea lay over rough and lofty mountains, and through wild forests; the river Santa Maria, which ran across a great part of the isthmus into the South sea, was scarcely navigable by canoes, except at certain seasons of the year, and for short distances: there was almost every variety of natural difficulty to overcome; the whole line was fitted for ambuscades and hostile surprises, and if the Spaniards at any time chose to move from the town of Santa Maria or Panama, there were passes and places where five hundred men might have arrested the march of five thousand. Supported by the power of England, the settlement might probably have succeeded, and ultimately have become important. But the English government on the contrary, in reply to the remonstrances of Spain, declared that the expedition had been undertaken without their sanction, and forbade any assistance from or intercourse with our West India islands. The Spaniards commenced a series of hostile attacks, and though the colonists made a gallant and protracted resistance, bad food soon produced disease; the climate assisted in those ravages; the hardy mountaineers of Scotland perished by dozens a day; and, at last, when the sad residue, despairing of succor from their native country, took to their ships, there were scarcely a hundred men with health and strength enough to work them.

The colony was at length abandoned, though not till another detachment, consisting of thirteen hundred persons had been despatched, who, after experiencing numerous misfortunes, arrived only in time to find the abandoned fortresses, in which they ultimately surrendered themselves as prisoners to the Spaniards. Independently of the hostility naturally to be expected from the Spanish settlers, Paterson's error was in supposing that a transit trade could be profitably carried on

over rugged roads, in a most unhealthy climate, in a country almost uninhabited, and by adventurers with a limited capital. He had concluded that cargoes of goods landed at Acta, or New St. Andrew's, could easily be transported by land and river carriage from sea to sea, and then reshipped in the gulf of Panama for all the great countries of the east. But the streams were found in this part to be shallow and unnavigable; labor, except European, not to be procured; and no roads adapted for any burdens, except by mules. A village named Puerto Escoces, on the Atlantic side, seems the only existing monument of this melancholy undertaking.

The more modern idea has been that of constructing a navigable canal, either by cutting through the narrowest part, or, taking a longer course, by making the streams and lakes subservient to the purpose. To both these plans there are almost insuperable difficulties, as will be evident from a consideration of the nature of the country. Though the comparatively small width of the isthmus was soon discovered, and the means which it offered to a speedy and easy communication between the Atlantic and the Pacific were apparent, yet for three hundred years after this discovery the natural features of this region were entirely unknown. Robertson, in his "History of America," states that the isthmus is traversed in all its length by a range of high mountains; and it is only of late years that Mr. Lloyd, an Englishman, employed in 1827, by Bolivar, then president of Columbia, has surveyed the most eastern and narrowest part of it.

The place where the Andes of South America terminate has not been quite ascertained. On our maps a mountain is laid down, near 8° N. lat., which is called the peak of Candelaria, but it is not known whether it is connected with the Andes or is an isolated summit. There are some reasons for supposing that it is not connected with that mountain-range. But it is certain that west of this mountain (77° $30'$ W. long.) no range of hills or mountains, not even an isolated elevation of moderate height, occurs, and that the whole isthmus between the two seas is a

flat country, only a few feet above high-water mark. This low country extends westward for more than a hundred miles to the western extremity of Mandingo bay. The average width of this part of the isthmus does not exceed forty miles, and opposite Mandingo bay, called also the gulf of San Blas, it contracts to less than thirty miles. The shores on both oceans are rocky, and the whole region appears to consist of an immense mass of rock. The rocks, however, are covered by a thick layer of vegetable mould, and are covered with high forest-trees. The shores of the Caribbean sea are difficult of access for large vessels, being lined with numerous small rocky islands called *keys*. Two rivers drain the isthmus. They are called respectively Chucunaque and Chepo, and rise near 78° $30'$ W. long. The Chucunaque runs east-south-east about eighty miles, and, turning west by an abrupt bend, falls into the bay of San Miguel: the Chepo or Ballano runs west-northwest, and empties itself into the gulf of Panama, about twenty-four miles east of the town, making a similar turn to the south. Both rivers are navigable for large river-barges as far as the places where the great bend occurs. With all the advantages which this region possesses from its great fertility and the vicinity of two great oceans and navigable rivers, it is thinly inhabited, and chiefly by a tribe of Indians, the Mandingoes, or San Blas Indians, who are at constant enmity with the white settlers, though they receive in a friendly manner the vessels which annually visit the country from Jamaica. The whites have only a few settlements on the Chepo river, and even these are chiefly occupied by negroes. The small town of Chepo, above the bend of the river of that name, is the most considerable settlement of the whites, but the inhabitants have little communication with their neighbors the Mandingoes. The scantiness of the population of this region is mainly, if not entirely, to be attributed to the unhealthiness of the climate. Being open on all sides to a vast expanse of ocean, every wind brings rain, and thus hardly a day passes in which the country is not drenched by heavy showers, which sometimes last for several days together.

The surface of the country, not having sufficient slope to carry off such an abundance of moisture, is converted into an immense swamp. This moisture of the air, indeed, maintains a most luxurious vegetation, but the great quantity of vegetable matter, which is annually reproduced and decomposed, increases the miasma which exhales from a swampy soil under the influence of a vertical sun.

At the western extremity of Mandingo bay some hills commence, which gradually attain the elevation of mountains, and extend in a continuous chain as far west as a line drawn across the isthmus from Port Limones to the town of Panama, a distance of about sixty miles. These hills advance close to the shores of the Caribbean sea, where they surround the town of Puerto Bello, but they remain a few miles distant from the Pacific, and are separated from it by a level prairie destitute of trees. These hills occupy nearly the whole width of the isthmus, but they are divided longitudinally into two ridges, between which lies the valley of the river Chagres. The southern ridge does not exceed one thousand or eleven hundred feet in height, but the northern rises much higher, especially east of Puerto Bello. These hills are generally covered with thick and almost impenetrable forests. The valley of the river Chagres is rather narrow, but the river itself is navigable to a considerable extent. The climate in this portion of the isthmus differs considerably in the north and in the south. At Puerto Bello, on the northern coast, the rains are almost continual, and generally descend in torrents, a circumstance which renders that place very unhealthy. At Panama, on the shores of the Pacific, the seasons are regular. In April the weather becomes cloudy about noon, but after drizzling for half an hour it clears up. In May, from nine to eleven o'clock, it is dull, with slight rains, but the afternoon is fine. In June there is rain every morning and evening, but the middle of the day is fair. As the season advances the rains gradually increase, and are incessant during July, August, September, and October. In November the nights are always rainy and cloudy, but during the days the sky begins to break.

In December the weather improves, and in January, February, and March, a shower of rain is as uncommon as a beam of sunshine in the other season of the year. The valley of the Chagres seems to partake rather of the climate of Panama than of that of Puerto Bello. At Panama the thermometer, in the rainy season, is 82° during the night, and 87° during the day; but the winds being at that season variable and cool, there is no stagnation in the atmosphere, though the rain is incessant. In the dry season the temperature rises to 90° and even 93° in the daytime, and the days are very sultry, inasmuch as calms prevail at that season; but the land-winds at night are cool, coming chiefly from the adjacent mountains; and the climate may be called generally healthy, though a considerable mortality sometimes occurs.

[To be continued.]

LANGUAGE OF ANIMALS.

ONE thing strikes an observer of nature above all others, that whatever animals require for the economy of their situation upon earth, *that* they, by the bounty of Providence, possess. And there seems to be no other limit to the faculties bestowed upon the various tribes; whatever any particular species imperatively needed, in order that it might fulfil its destiny here, is enjoyed by that species. It is very obvious, considering the way in which many animals live, and particularly their social habits, that a means of communicating ideas from one individual to others was among the requisites of their situation: accordingly, all such animals have a means of communicating ideas; have, in short, what we comprehensively call language. Perhaps there is no species altogether deficient in this power; but of this we can not speak with any degree of certainty; we only can say that there is a considerable number of the families of the inferior animals which can be proved to possess and use a means of communicating their ideas. Some of these means we can distinguish and understand; others are as yet beyond our observation, and are of so mysterious a charac-

ter, that even conjecture as to what they consist of is set at defiance.

The insects are the lowest tribes in which a communication of ideas has as yet been detected. Rather unexpectedly, this does not seem to be connected with any of the numerous kinds of sound steadily emitted by insects, but to consist chiefly, at least, of silent signs made through the medium of the sense of touch. In ants and bees, it has been observed to consist simply in a mutual rubbing of the antennæ, or feelers, an organ of wonderful delicacy of organization, and which may comprehend a far greater variety of sensation than we have any idea of from what we feel in our own frames. These remarks, however, are not exclusive of the fact, that, on some particular occasions, a special sound is employed by insects to convey a certain kind of intelligence. One striking instance of a communication of intelligence by ants was observed by Franklin. He had a pot of treacle in a cupboard, to which the ants found access, and on which they regaled themselves very heartily, till he discovered them and drove them away. He then, to insure the preservation of his treacle, hung the pot by a string from the ceiling. It chanced that one ant had been left in the pot, and this animal he soon after observed leave it by the string, and pass along the ceiling toward its nest. In less than half an hour a great company of ants sallied out of their hole, climbed along the ceiling, and descending by the string, resumed their banquet at the treacle. As one set was satisfied, it left the rich repast to give place to another, and there was a constant passing up and down the string till the whole was eaten up. In this case there could not be the least doubt that the single ant had given information of a means having been left by which they could again approach the pot, and this information led to the new attack which the colony made upon it.

The possession of language by ants is pretty fully illustrated by Kirby and Spence in their elegant "Introduction to Entomology."—"If you scatter," say they, "the ruins of an ant's nest in your apartment, you will be furnished with a proof of their language. The ants will take a thousand different paths, each going by itself, to in-

crease the chance of discovery; they will meet and cross each other in all directions, and perhaps will wander long before they can find a spot convenient for their reunion. No sooner does any one discover a little chink in the floor, through which it can pass below, than it returns to its companions, and, by means of certain motions of its antennæ, makes some of them comprehend what route they are to pursue to find it, sometimes even accompanying them to the spot; these in their turn become the guides of others, till all know which way to direct their steps."

It has been observed of ants, while working, that the superintendent will occasionally make a particular noise by striking his antennæ against the wall of the nest, when the workers emit a sort of hiss, and immediately begin to exert themselves more strenuously. This seems to be a sort of call to make the laborers work harder, and an answer on their part expressing obedience. The same thing has been observed in what is called a march of ants: the soldiers standing by make the particular sound with the antennæ, when the ordinary ants answer with a hiss, and immediately increase their pace. When a military expedition is contemplated, spies are previously sent out, as if to reconnoitre, and bring intelligence. After their return, the army assembles, and begins its march toward the place where the spies had been reconnoitring. Upon the march, communications are perpetually making between the van and rear; and, when arrived at the camp of the enemy, and the battle begins, if necessary, couriers are despatched to the fornicary for reinforcements. It has been also observed, that ants can communicate an alarm of approaching danger, by which the community is put upon its guard; and this signal at once excites the defensive courage of the neuters, and awakens a sense of fear in the males and females, who are seen, consequently, retreating to the nest as to an asylum.

Kirby and Spence thus describe the *language* of ants: "In communicating their fear, or expressing their anger, they run from one to another in a semicircle, and strike with their head or jaws the trunk or abdomen of the ant to which they mean to give information of any subject of

alarm. But those remarkable organs, their antennæ, are the principal instruments of their speech, if it may be so called, supplying the place both of voice and words.

When the military ants go upon their expeditions, and are out of the fornicary, previously to setting off, they touch each other on the trunk with their antennæ and forehead : this is the signal for marching ; for, as soon as any one has received it, he is immediately in motion. When they have any discovery to communicate, they strike with the antennæ and forehead those they meet in a particularly impressive manner. If a hungry ant wants to be fed, it touches with its two antennæ, moving them very rapidly, those of the individual from which it expects its meal ; and not only ants understand this language, but even aphides and cocci, which are the milch kine of our little pismires, do the same, and will yield them their saccharine fluid at the touch of these imperative organs. The helpless larvæ, also, of the ants are informed by the same means when they may open their mouths to receive their food."

The communications among bees are much of the same character as those among ants, and the means seem to be nearly the same, namely, a particular use of the feelers. When a swarm is about to go off, scouts are sent out to choose a situation ; these are observed to hover about a particular place for a little while, as if considering its eligibility, then return, as to communicate the intelligence ; after which the swarm goes off, and settles on the place fixed upon. A wasp has, in like manner, been observed to go and give information in his nest of any deposit of honey or food which he had met with, when the whole fraternity would sally forth, go direct to the place, and partake of the treat.

It must be remarked, that ants and bees are so far peculiar creatures, that they live in societies forming a species of commonwealth. This mutual relation, and the various duties which they have by reason of it to perform in concert, make language necessary to them ; and language, accordingly, as we see, they have. It is probable that all other animals of their humble kind, which form more or less perfect societies, also possess some power of im-

parting their ideas to each other by means of regular signs instinctively suggested and instinctively understood, and which, like other matters of instinct, know no variation from one generation to another. This is probable, because there seems to be no other rule on the subject than that, where such a power of communicating ideas is required in the economy of the species, it is given ; but we are not aware that there are any ascertained facts which entitle us to speak of this as more than merely probable. We must ascend out of the articulated sub-kingdom, before we find any other ascertained instances of the possession of language by the inferior animals.

And the first examples that we encounter can not, it must be acknowledged, be reckoned as a language nearly so perfect as that of the above insects. The frogs croak at certain periods as a call to the female ; but this only expresses a certain feeling : the modulations do not represent a variety of ideas. We may say nearly the same thing of the hiss of the serpent, the singing of birds, the lowing of kine, the roar of the fiercer animals, and so forth. These sounds express a particular feeling, but in no other respect can they be considered as language. One is the note of anger, another of hunger, another of destructiveness. There is one, however, which naturalists have remarked as universally understood, and this is the signal of danger. " The instant that it is uttered, we hear the whole flock [of birds], though composed of various species, repeat a separate moan, and away they all scuttle into the bushes for safety ; the reiterated 'twink, twink' of the chaffinch is known by every little bird as information of some prowling cat or weasel. Some give the maternal hush to their young, and mount to inquire into the jeopardy announced. The wren, that tells of perils from the hedge, soon collects about her all the various inquisitive species within hearing, to survey and ascertain the object, and add their separate fears. The swallow, that shrieking darts in devious flight through the air when a hawk appears, not only calls up all the hirundines of the village, but is instantly understood by every finch and sparrow, and its warning attended to." The no-

tice of food, which we so often hear from the domestic hen addressed to her straggling young, and the invitation to gather when dispersed, are other parts of speech among birds, but which appear to be different in different species. Buffon thought the singing of birds an act of gallant attention on the part of the male to his mate, to cheer her during the business of hatching; but this is a mere poetical fancy. It certainly, however, is connected with certain constitutional changes in the animal, appropriate to the season; and the melodies of the grove, and the flowers of the field—two of the most beautiful things in nature, everywhere enjoyed in reality and in literary allusion—may be considered as bound in an exquisite analogy, not less interesting to the philosopher than the poet, being alike glorifications of the passion of love. There is, it is well known, great variety of song among the feathered tribes, but this seems to be simply owing to the variety of organization, and not designed to express any particular ideas or feelings in particular birds. Each gives voice to the feelings of the season in its own way, as its organs for the time enable it; and the rich notes of the blackbird, and delicious trills of the nightingale, convey but one meaning with the twitter of the sparrow, and the monotonous *falling third* of the cuckoo.

There is, however, even so low as this class of animals, a means of communicating ideas altogether independent of the stated and familiar cries and notes. Such a conclusion we must needs come to, when we know that many anecdotes like the following could be produced: "An old goose, that had been for a fortnight hatching in a farmer's kitchen, was perceived on a sudden to be taken violently ill. She soon after left the nest, and repaired to an out-house, where there was a young goose of the first year, which she brought with her into the kitchen. The young one immediately scrambled into the old one's nest, sat, hatched, and afterward brought up the brood. The old goose, as soon as the young one had taken her place, sat down by the side of the nest, and soon after died. As the young goose had never been in the habit of entering the kitchen before, I know of no way of accounting for this fact, than

by supposing that the old one had some way of communicating her thoughts and anxieties, which the other was perfectly able to understand." This is reported to Mr. Loudon's Magazine by a gentleman named Brew, residing at Ennis, who adds, "A sister of mine, who witnessed the transaction, gave me the information in the evening of the day it happened."

In the mammalia, the existence of such a language is borne out by almost daily observation. A bull, seeing a cow straying behind the rest of the herd, will go toward it, and call something, which causes the cow to rejoin her companions. We have been assured of the truth of the following incident by a gentleman who witnessed it, and who says that it agrees with many other anecdotes of cattle which he has heard: A number of cattle were placed together in a field, for the purpose of feeding on turnips. Two of the number became extremely troublesome to the rest, butting at and leaping upon them, and seeming to take a malicious pleasure in disturbing them in eating—in short, playing the tyrant over their more peaceable companions. This was patiently endured for some time; but at length a sort of conference was held by the peaceable cattle; they literally laid their heads together, and seemed to converse on the subject of the annoyance to which they were exposed, and, we may be allowed to add, on the proper means to be adopted for putting a stop to it. These cattle were then observed to make a simultaneous rush at the two offensive ones, whom they attacked in such spirited style as to drive them out of the field.

Unquestionably there was here some species of language employed; otherwise, how could the common sentiment have been ascertained, or the uniform movement concerted? A curious question now arises: Has each species or genus its own language, or is there a language common to several species or genera? It would appear from the following anecdote, that the latter supposition is the true one: "Last spring," says Mr. Barker of Bedale, Yorkshire, writing in 1834, "an old mare (she has, I believe, completed her twentieth year, and has lost an eye) being relieved, in consideration of age and infirmity, from

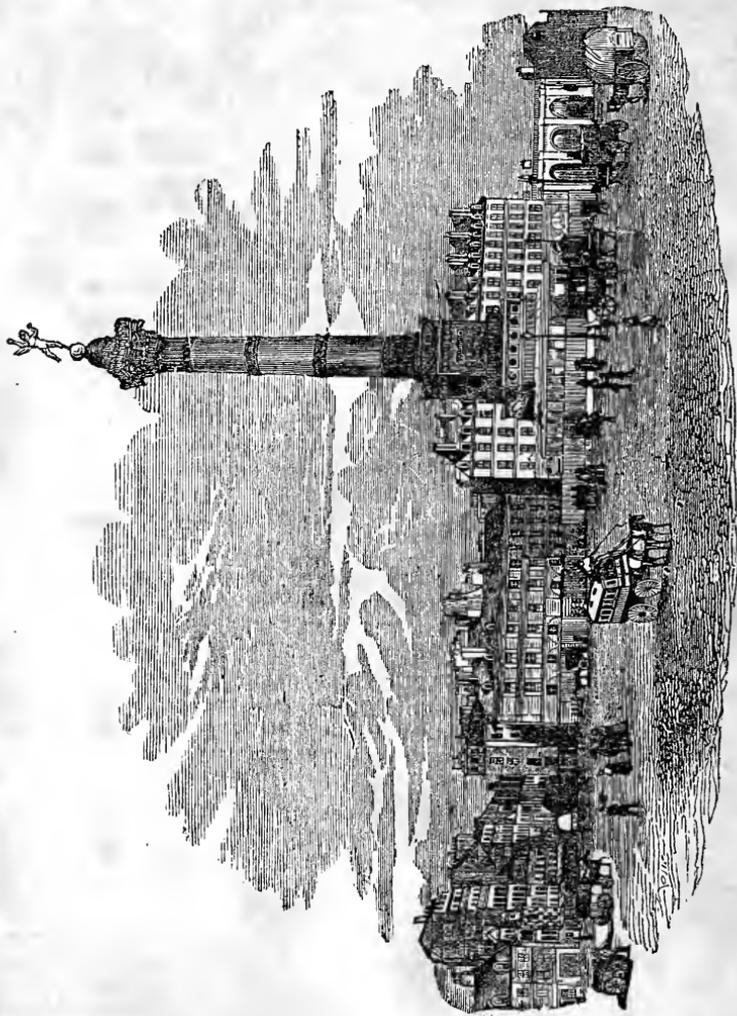
heavy labor, was turned out in company with a cow and four or five heifers into a small field at a distance from their former companions. The grass in this enclosure was not very plentiful, and the adjoining pasture being adorned with luxuriant vegetation, and divided by an indifferent fence, they frequently took the liberty of trespassing upon the neighboring property. This, indeed, occurred so often, that a watch was obliged to be set upon their actions; and one day a singular instance of animal instinct [intelligence ?] was observed. The mare, doubtless tired of staying so long at home, made the circuit of the field, with a view to escape from her confinement; and having discovered a place suited for her exit, she returned to her horned companions, who were ruminating at a little distance, and having approached the cow, she gently struck her on the shoulder, first with her hoof, and then with her head. The cow being roused from her reverie, the loving friends advanced together to the gap, and having jointly reconnoitred it, returned to the rest, and then, the old mare leading the way, the whole company leaped over in succession after her."

The Etrick Shepherd's anecdote of the small dog which, being ill used by a large one at an inn, went home and brought a friend of superior strength to avenge its wrongs, completes our list of illustrations for the meantime. To multiply such anecdotes might become tedious, as a few are sufficient to establish the fact that a means of communicating ideas and sentiments does exist among the animals inferior to man. That this language among the insect tribes chiefly consists of signs by touch, we have seen. Of what nature is the language of the mammalia? These can convey expressions of hunger, impatience, and some other feelings, by their looks and attitudes; but this is only such natural language as we ourselves possess, and often employ. They have evidently another mode of communicating their ideas, in which, as far as can be observed, neither sounds nor signs are used. Of what nature is this silent speech? Who can give an answer?

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In water, sound passes 4,708 feet in a second; in air, from 1,130 to 1,142.

COLUMN OF JULY, PARIS.

THE space, on which the column given in the cut is erected, was once the site of a great state-prison, in which through four long centuries, any man might be immured for life at the will of the sovereign, or at the instigation of some powerful personage. When a prisoner was removed to the Bastille, no one could tell how long he might remain there. The period of his incarceration depended on chances, the smiles of a mistress or the frown of a court favorite. Many passed thirty years of their lives within its walls; and it is recorded of one prisoner that he was removed to Charenton, a lunatic asylum and a prison, after a confinement of fifty-five years and five months. Such an abuse of power as this has long ceased in England, and can not now be exercised in France. It is not uninteresting to mark the means by which, in the two countries, the liberty of the subject has been secured from illegal imprisonment. In England this is effected by the Habeas Corpus act, one of the great safeguards of the rights and freedom of Englishmen. The purport of the great writ of Habeas Corpus is a command by the courts of common law at Westminster to the person who detains another to produce the body of such a prisoner, and to state the day and the cause of his caption, and further to submit to and receive whatsoever the judge or court awarding the writ shall direct. At a time when even villeinage was not extinct in England, the old writ *de homine replegiando* could be resorted to in order to deliver a man out of custody, by giving security to the sheriff that the person detained should be forthcoming to answer any charge against him. The great mass of the cases arising out of the issuing of these writs in the old law books relate to the seizure and detention of persons whom the parties seizing claimed as their villeins or serfs. But the writ was liable to be made use of as a means of evading justice, and hence the privileges which it conferred were not easily to be obtained, as the legal proceedings were naturally surrounded with many difficulties. In cases where the crown was concerned, this writ was also an insufficient



Column of July, Paris.

remedy. In the reign of Charles I., the judges of the king's bench decided that they could not bail or deliver a prisoner committed without any cause assigned in cases where he was committed by the special command of the king or by the lords of the privy council. Not without a struggle with the court and the judges did the parliament extort an act, in 1641, which enacted that by whomsoever a person might be committed, the courts of king's bench or common pleas should, within three days after a writ of habeas corpus, examine and determine the legality of a committal. Still attempts were made to fetter the right, when, in 1680, another act was passed, which is more particularly known as the habeas corpus act, and is frequently spoken of as another magna charta. This act points out plainly the method in which the writ is obtained. There have been periods of alleged danger when the habeas corpus act has been suspended; but these are in fact the very times when the statute is most necessary. The habeas corpus is the protection only of the innocent, not the defence of the guilty. It has been customary to pass an act of indemnity after such suspensions of the act, for the protection of those who have acted during the suspension.

The capture of the Bastille by the Parisians, on the 14th of July, 1789, from which day the revolution may truly be said to have commenced, led to the speedy abolition of the despotism which had filled the building with so many victims; and finally, after years of blood and terror, of anarchy and the supremacy of the sword, the liberties of the French people appeared to be established on a firm basis. But the last Bourbon kings, like the Stuarts, were an infatuated race; and on Sunday, July 25, 1830, the "Moniteur Universel," the official journal of all the French governments for the last half-century, published six ordinances, which, if they had not been successfully resisted, would have deservedly abased the French people in the eyes of every free nation. The first declared that no journal or work of less than twenty sheets of letter-press should appear without the royal permission granted both to the writers and printers; and this

permission was to be renewed every three months, and might be revoked at pleasure. The second ordinance annulled the elections of members of the chamber of deputies which had just taken place, and which had not yet met. The third abrogated the rights of the electoral body, disfranchising three fourths of the former constituency, and reducing the number of members of the chamber from 430 to 258; besides making other innovations, all of which had a despotic tendency. The fourth ordinance merely convoked the electoral colleges; and the remaining two nominated to the dignity of councillors of state a number of the most unpopular men in France, men who had been inimical to, and were incapable of comprehending, the spirit of a constitutional government.

In the three days of July the people of Paris fought with a spirit which proved that they were not unworthy of the liberties of which so audacious an attempt had been made to deprive them. The events of these days are so well known, that it is not necessary to enter into any details concerning them. The number of citizens killed was 788, and the number of wounded 4,500, according to an official report of the committee of national rewards. Eighty-five persons were interred in front of the Louvre, and seventy in the Marché des Innocens; and others, though not in so large a number together, in several other parts of the capital. The ashes of 504 of these patriots, removed from other places, now repose beneath the Column of July, which serves at once as a mausoleum and a monument of their devotion.

The Place de la Bastille, which witnessed the first combats of the first revolution, is in every respect an appropriate site for a memorial of the triumph of the second. The basement is of white marble, supported by blocks of granite; and on one side of the pedestal is a figure of a lion passant in very bold relief, and underneath is an inscription, of which the following is a translation:—

TO THE GLORY OF FRENCH CITIZENS WHO ARMED
AND FOUGHT FOR THE DEFENCE OF THE PUBLIC
LIBERTIES ON THE MEMORABLE DAYS OF JULY
27, 28, AND 29, 1830.

At each angle of the pedestal is a figure

of the Gallic eagle, bearing a wreath of oak in its claws. The shaft of the pillar consists of metallic cylinders, partly fluted and partly enriched with bands bearing lions' heads, and their mouths form apertures for the admission of light and air to the staircase in the interior of the column. The spaces into which these bands divide the column are filled with the names of 504 combatants who were killed during the three days. It is said that the Corinthian capital, over which is a railed gallery, is the largest piece of bronze ever cast, being sixteen feet and a half wide. It is ornamented with lions' heads, and figures of children bearing garlands. A gilt globe surmounts the capital, on which stands a colossal figure, also gilt, representing the genius of liberty, on tip-toe, as if in the act of taking flight, with a torch in his right hand, and in his left a broken chain. The Parisians tell us that the attitude of the figure is significant of the propagandism of French political ideas; but it might also mean that liberty was on the point of deserting the fort-encinctured capital of France. The column is of the composite order, and is about 163 feet high (being 39 feet less than the London monument), with a diameter of 12 feet. The cost of the whole work was 48,000*l.*, or about \$240,000, and the weight of metal used was above 725 tons. The staircase in the interior, by which an ascent may be made to the top, is suspended on a new principle, and vibrates with every blast of wind. The view from the top is very interesting. Within the marble pedestal there is a circular corridor, paved with white marble, relieved with stars and crosses of black marble, and lighted by windows of stained glass; and the descent of a few steps leads to the funereal vaults, which are closed by four cast iron doors, richly ornamented with tracery. Each vault contains a sarcophagus, fourteen yards in length, one in width, and one deep, in which the remains of the bodies have been deposited. The enclosure around the pedestal is flagged with white marble. The column was "inaugurated" in July, 1840.

The bulk of the sun is 1,300,000 times greater than that of the earth.

MENTAL COURAGE.

MORAL and physical courage are generally understood and appreciated, but there is a kindred attribute which may be denominated mental courage; and the former are not more indispensable in the common relations of life, than is the latter to the successful pursuit of knowledge and discipline of the mind. It implies a hearty readiness and alacrity to all kinds of intellectual work, with the power and the will to apply the forces of the mind with steady and persevering vigor, in mastering difficulties. Much may doubtless be done to promote this habit of mind, by a judicious method of instruction,—the true object of which is, not to relieve the student of the necessity of labor, but to direct and stimulate him to the use of his own powers. Carsten Niebuhr, the celebrated traveller, and father of the history of Rome, made the following remark to his son on the subject: "No man deserves to learn anything which he does not principally work out for himself; and the business of the instructor is to help the scholar out of otherwise inexplicable difficulties."

The formation of this habit must, however, depend principally on the student himself. And in order to acquire it, the mind should grapple vigorously with such difficulties as occur, before extraneous aid of any kind is called in. The student must expect to climb the hill, and swim the flood, and thread the forest, in his intellectual progress, as well as to walk over the smooth and level plain. And when he comes upon such difficulties, he should not too readily take the arm of another, but boldly and patiently try his own strength upon it first. If he succeed in mastering it, the acquisition will be much more secure and valuable to him. It is these very difficulties, with the patient labor they require which principally *educate* the mind, that is, which call out and teach it to master and apply its forces: it is these difficulties, whether of language or of science, which the mind combats in the course of education, which produce the acuteness and the ready command of his resources that distinguish the scholar and the thinker from the uneducated man.





THE LAST ARROW.

THE LAST ARROW.

"And who be ye who rashly dare,
To chase in woods the forest child?
To hunt the panther to his lair—
The Indian in his native wild!"

OLD BALLAD.

THE American reader, if at all curious about the early history of his country, has probably heard of that famous expedition, undertaken by the vicegerent of Louis XIV., the governor-general of New France, against the confederated Five Nations of New York; an expedition which, though it carried with it all the pomp and circumstance of European warfare into their wild-wood haunts, was attended with no adequate results, and had but a momentary effect in quelling the spirit of the tameless Iroquois.

It was on the fourth of July, 1696, that the commander-in-chief, the veteran Count de Frontenac, marshalled the forces at La Chine, with which he intended to crush for ever the powers of the Aganuschion confederacy. His regulars were divided into four battalions of two hundred men each, commanded respectively by three veteran leaders, and the young Chevalier de Grais. He formed also four battalions of Canadian volunteers, efficiently officered, and organized as regular troops. The Indian allies were divided into three bands, each of which was placed under the command of a nobleman of rank, who had gained distinction in the European warfare of France. One was composed of the Sault and St. Louis bands, and of friendly Abenakis; another consisted of the Hurons of Lorette and the mountaineers of the north; the third band was smaller, and composed indiscriminately of warriors of different tribes, whom a spirit of adventure led to embark upon the expedition. They were chiefly Ottawas, Saukies, and Algonquins, and these the Baron de Bekancourt charged himself to conduct. This formidable armament was amply provisioned, and provided with all the munitions of war. Besides pikes, arquebusses, and other small-arms then in use, they were furnished with grenades, a mortar to throw them, and a couple of field-pieces; which, with the tents and other camp equipage, were transported in large batteaux built for the purpose. Nor

was the energy of their movements unworthy of this brilliant preparation. Ascending the St. Lawrence, and coasting the shores of Lake Ontario, they entered the Oswego river, cut a military road around the falls, and carrying their transports over the portage, launched them anew, and finally debouched with their whole flotilla upon the waters of Onondaga lake.

It must have been a gallant sight to behold the warlike pageant floating beneath the primitive forest which then crowned the hills around that lovely water. To see the veterans who had served under Turenne, Vauban, and the great Condé, marshalled with pike and cuirass beside the half-naked Huron and Abenakis; while young cavaliers, in the less warlike garb of the court of the magnificent Louis, moved with plume and mantle amid the dusky files of wampum-decked Ottawas and Algonquins. Banners were there which had flown at Steenkirk and Landen, or rustled above the troopers that Luxemburgh's trumpets had guided to glory when Prince Waldeck's battalions were borne down beneath his furious charge. Nor was the enemy that this gallant host were seeking unworthy of those whose swords had been tried in some of the most celebrated fields of Europe. "The Romans of America," as the Five Nations have been called by more than one writer, had proved themselves soldiers, not only by carrying their arms among the native tribes a thousand miles away, and striking their enemies alike upon the lakes of Maine, the mountains of Carolina, and the prairies of the Missouri; but they had already bearded one European army beneath the walls of Quebec, and shut up another for weeks within the defences of Montreal, with the same courage that, a half a century later, vanquished the battalions of Dieskau upon the banks of Lake George.

Our business, however, is not with the main movements of this army, which, we have already mentioned, were wholly unimportant in their results. The aged Chevalier de Frontenac was said to have other objects in view besides the political motives for the expedition, which he set forth to his master the Grand Monarque.

Many years previous, when the Five Nations had invested the capital of New France and threatened the extermination of that thriving colony, a beautiful half-blood girl, whose education had been commenced under the immediate auspices of the governor-general, and in whom, indeed, M. de Frontenac was said to have a parental interest, was carried off, with other prisoners, by the retiring foe. Every effort had been made in vain during the occasional cessations of hostilities between the French and the Iroquois, to recover this child; and though, in the years that intervened, some wandering Jesuit from time to time averred that he had seen the Christian captive living as the contented wife of a young Mohawk warrior, yet the old nobleman seems never to have despaired of reclaiming his "nut-brown daughter." Indeed, the chevalier must have been impelled by some such hope when, at the age of seventy, and so feeble that he was half the time carried in a litter, he ventured to encounter the perils of an American wilderness, and place himself at the head of the heterogeneous bands which now invaded the country of the Five Nations under his conduct.

Among the half-breed spies, border scouts, and mongrel adventurers, that followed in the train of the invading army, was a renegade Fleming of the name of Hanyost. This man, in early youth, had been made a sergeant-major, when he deserted to the French ranks in Flanders. He had subsequently taken up a military grant in Canada, sold it after emigrating, and then, making his way down to the Dutch settlements on the Hudson, had become domiciled, as it were, among their allies, the Mohawks, and adopted the life of a hunter. Hanyost, hearing that his old friends, the French, were making such a formidable descent, did not now hesitate to desert his more recent acquaintances, and offered his services as a guide to Count de Frontenac the moment he entered the hostile country. It was not, however, mere cupidity, or the habitual love of treachery, which actuated the base Fleming in this instance. Hanyost, in a difficulty with an Indian trapper, which had been referred for arbitration to the young Mohawk chief, Kiodago

(a settler of disputes), whose cool courage and firmness fully entitled him to so distinguished a name, conceived himself aggrieved by the award which had been given against him. The scorn with which the arbitrator met his charge of unfairness stung him to the soul, and fearing the arm of the powerful savage, he had nursed the revenge in secret, whose accomplishment seemed now at hand. Kiodago, ignorant of the hostile force which had entered his country, was off with his band at a fishing station, or summer-camp, among the wild hills about Konnediëyu;* and, when Hanyost informed the commander of the French forces that by surprising this party, his long-lost daughter, the wife of Kiodago, might be once more given to his arms, a small, but efficient force was instantly detached from the main body of the army to strike the blow. A dozen musketeers, with twenty-five pikemen, led severally by the Baron de Bekancourt and the Chevalier de Grais, the former having the chief command of the expedition, were sent upon this duty, with Hanyost to guide them to the village of Kiodago. Many hours were consumed upon the march, as the soldiers were not yet habituated to the wilderness; but just before dawn on the second day, the party found themselves in the neighborhood of the Indian village.

The place was wrapped in repose, and the two cavaliers trusted that the surprise would be so complete, that their commander's daughter must certainly be taken. The baron, after a careful examination of the hilly passes, determined to head the onslaught, while his companion in arms, with Hanyost to mark out his prey, should pounce upon the chieftain's wife. This being arranged, their followers were warned not to injure the female captives while cutting their defenders to pieces, and then a moment being allowed for each man to take a last look at the condition of his arms, they were led to the attack.

The inhabitants of the fated village secure in their isolated situation, aloof from the war-parties of that wild district, had neglected all precaution against surprise,

* Since corrupted into "Canada;" Beautiful Water: probably so called from its amber color—now Trenton Falls.

and were buried in sleep when the whizzing of a grenade, that terrible, but now superseded engine of destruction, roused them from their slumbers. The missile, to which a direction had been given that carried it in a direct line through the main row of wigwams which formed the little street, went crashing among their frail frames of basket-work, and kindled the dry mats stretched over them into instant flames. And then, as the startled warriors leaped all naked and unarmed from their blazing lodges, the French pikemen, waiting only for a volley from the musketeers, followed it up with a charge still more fatal. The wretched savages were slaughtered like sheep in the shambles. Some overwhelmed with dismay sank unresisting upon the ground, and covering up their heads after the Indian fashion when resigned to death, awaited the fatal stroke without a murmur; others, seized with a less benumbing panic, sought safety in flight, and rushed upon the pikes that lined the forest's paths around them. Many there were, however, who, schooled to scenes as dreadful, acquitted themselves like warriors. Snatching their weapons from the greedy flames, they sprang with irresistible fury upon the bristling files of pikemen. Their heavy war-clubs beat down and splintered the fragile spears of the Europeans, whose corslets, ruddy with the reflected fires mid which they fought, glistened back still brighter sparks from the hatchets of flint which crashed against them. The fierce veterans pealed the charging cry of many a well-fought field in other climes; but wild and high the Indian whoop rose shrill above the din of conflict, until the hovering raven in mid air caught up and answered that discordant shriek.

De Grais, in the meantime, surveyed the scene of action with eager intentness, expecting each moment to see the paler features of the Christian captive among the dusky females who ever and anon sprang shrieking from the blazing lodges, and were instantly hurled backward into the flames by fathers and brothers, who even thus would save them from the hands that vainly essayed to grasp their distracted forms. The Mohawks began now to wage a more successful resistance, and just

when the fight was raging hottest, and the high-spirited Frenchman, beginning to despair of his prey, was about launching into the midst of it, he saw a tall warrior who had hitherto been forward in the conflict, disengage himself from the *melee*, and wheeling suddenly upon a soldier, who had likewise separated from his party, brain him with a tomahawk, before he could make a movement in his defence. The quick eye of the young chevalier, too, caught a glance of another figure, in pursuit of whom as she emerged with an infant in her arms, from a lodge on the further side of the village, the luckless Frenchman had met his doom. It was the Christian captive, the wife of Kiodago, beneath whose hand he had fallen. That chieftain now stood over the body of his victim, brandishing a war-club which he had snatched from a dying Indian near. Quick as thought, De Grais levelled a pistol at his head, when the track of the flying girl brought her directly in his line of sight, and he with held his fire. Kiodago, in the meantime, had been cut off from the rest of his people by the soldiers, who closed in upon the space which his terrible arm had a moment before kept open. A cry of agony escaped the high-souled savage, as he saw how thus the last hope was lost. He made a gesture, as if about to rush again into the fray, and sacrifice his life with his tribesmen; and then perceiving how futile must be the act, he turned on his heel, and bounded after his retreating wife, with arms outstretched, to shield her from the dropping shots of the enemy.

The uprising sun had now lighted up the scene, but all this passed so instantaneously that it was impossible for De Grais to keep his eye upon the fugitives amid the shifting forms that glanced continually before him; and when, accompanied by Hanyost and seven others, he had got fairly in pursuit, Kiodago, who still kept behind his wife, was far in advance of the chevalier and his party. Her forest training had made the Christian captive as fleet of foot as an Indian maiden. She heard, too, the cheering voice of her loved warrior behind her, and pressing her infant in her arms she urged her flight over crag and fell, and soon

reached the head of a rocky pass, which it would take some moments for any but an American forester to scale. But the indefatigable Frenchmen are urging their way up the steep; the cry of pursuit grows nearer as they catch a sight of her husband through the thickets, and the agonized wife finds her onward progress prevented by a ledge of rock that impends above her. But now again Kiodago is by her side; he has lifted his wife to the cliff above, and placed her infant in her arms; and already, with renewed activity, the Indian mother is speeding on to a cavern among the hills, well known as a fastness of safety.

Kiodago looked a moment after her retreating figure, and then coolly swung himself to the ledge which commanded the pass. He might now easily have escaped his pursuers; but as he stepped back from the edge of the cliff, and looked down the narrow ravine, the vengeful spirit of the red man was too strong within him to allow such an opportunity of striking a blow to escape. His tomahawk and war-club had both been lost in the strife, but he still carried at his back a more efficient weapon in the hands of so keen a hunter. There were but three arrows in his quiver, and the Mohawk was determined to have the life of an enemy in exchange for each of them. His bow was strung quickly, but with as much coolness as if there were no exigency to require haste. Yet he had scarcely time to throw himself upon his breast, a few yards from the brink of the declivity, before one of his pursuers, more active than the rest, exposed himself to the unerring archer. He came leaping from rock to rock, and had nearly reached the head of the glen, when, pierced through and through by one of Kiodago's arrows, he toppled from the crags, and rolled, clutching the leaves in his death-agony, among the tangled furze below. A second met a similar fate, and third victim would probably have been added, if a shot from the fusil of Hanyost, who sprang forward and caught sight of the Indian just as the first man fell, had not disabled the thumb-joint of the bold archer, even as he fixed his last arrow in the string. Resistance seemed now at an end, and Kiodago again

betook himself to flight. Yet anxious to divert the pursuit from his wife, the young chieftain pealed a yell of defiance, as he retreated in a different direction from that which she had taken. The whoop was answered by a simultaneous shout and rush on the part of the whites; but the Indian had not advanced far before he perceived that the pursuing party, now reduced to six, had divided, and that three only followed him. He had recognised the scout, Hanyost, among his enemies, and it was now apparent that that wily traitor, instead of being misled by his *ruse*, had guided the other three upon the direct trail to the cavern which the Christian captive had taken. Quick as thought, the Mohawk acted upon the impression. Making a few steps within a thicket, still to mislead his present pursuers, he bounded across a mountain torrent, and then leaving his foot-marks, dashed in the yielding bank, he turned shortly on a rock beyond, recrossed the stream, and concealed himself behind a falling tree, while his pursuers passed within a few paces of his covert.

A broken hillock now only divided the chief from the point to which he had directed his wife by another route, and to which the remaining party, consisting of De Grai, Hanyost, and a French musketeer, were hotly urging their way. The hunted warrior ground his teeth with rage when he heard the voice of the treacherous Fleming in the glen below him; and springing from crag to crag, he circled the rocky knoll, and planted his foot by the roots of a blasted oak, that shot its limbs above the cavern, just as his wife had reached the spot, and pressing her babe to her bosom, sank exhausted among the flowers that waved in the moist breath of the cave. It chanced that at that very instant, De Grai and his followers had paused beneath the opposite side of the knoll, from whose broken surface the foot of the flying Indian had disengaged a stone, which crackling among the branches, found its way through a slight ravine into the glen below. The two Frenchmen stood in doubt for a moment. The musketeer, pointing in the direction whence the stone had rolled, turned to receive the order of his officer. The chevalier, who

had made one step in advance of a broad rock between them, leaned upon it, pistol in hand, half turning toward his follower; while the scout, who stood furthest out from the steep bank, bending forward to discover the mouth of the cave, must have caught a glimpse of the sinking female, just as the shadowy form of her husband was displayed above her. God help thee now, bold archer! thy quiver is empty; thy game of life is nearly up; the sleuth-hound is upon thee; and thy scalp-lock, whose plumes now flutter in the breeze, will soon be twined in the fingers of the vengeful renegade. Thy wife—But hold! the noble savage has still one arrow left!

Disabled, as he thought himself, the Mohawk had not dropped his bow in his flight. His last arrow was still griped in his bleeding fingers; and though his stiffening thumb forbore the use of it to the best advantage, the hand of Kiodago had not lost its power.* The crisis which it takes so long to describe, had been realized by him in an instant. He saw how the Frenchmen, inexperienced in woodcraft, were at fault; he saw, too, that the keen eye of Hanyost had caught sight of the object of their pursuit, and that further flight was hopeless; while the scene of his burning village in the distance, inflamed him with hate and fury toward the instrument of his misfortunes. Bracing one knee upon the flinty rock, while the muscles of the other swelled as if the whole energies of his body were collected in that single effort, Kiodago aims at the treacherous scout, and the twanging bow-string dismisses his last arrow upon its errand. The hand of THE SPIRIT could alone have guided that shaft! But WANEYO smiles upon the brave warrior, and the arrow, while it rattles harmless against the cuirass of the French officer, glances toward the victim for whom it was intended, and quivers in the heart of Hanyost! The dying wretch grasped the sword-chain of the chevalier, whose corslet clanged among the rocks, as the two went rolling down the glen together; and De Grais was not unwilling to abandon the

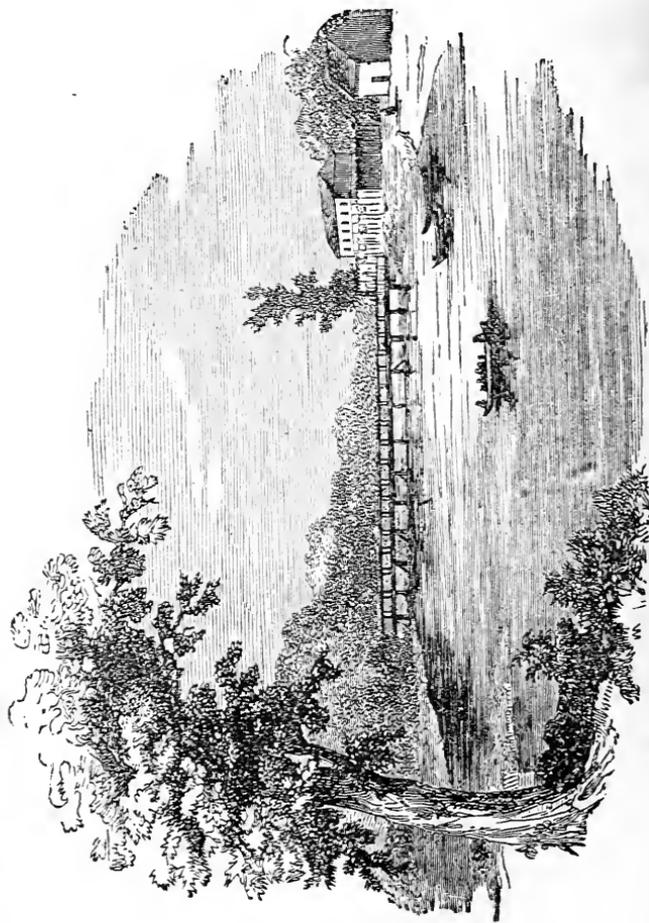
pursuit when the musketeer, coming to his assistance, had disengaged him, bruised and bloody, from the embrace of the stiffening corpse.

What more is there to add. The bewildered Europeans rejoined their comrades, who were soon after on their march from the scene they had desolated; while Kiodago descended from his eyry to collect the fugitive survivors of his band, and, after burying the slain, to wreak a terrible vengeance upon their murderers; the most of whom were cut off by him before they joined the main body of the French army. The Count de Frontenac, returning to Canada, died soon afterward, and the existence of his half-blood daughter was soon forgotten. And—though among the dozen old families in the state of New York who have Indian blood in their veins, many trace their descent from the offspring of the noble Kiodago and his Christian wife—yet the hand of genius, as displayed in the admirable picture of CHAPMAN, has alone rescued from oblivion the thrilling scene of the Mohawk's LAST ARROW!

THE NIAGARA DISTRICT, WESTERN CANADA.

THE district situated between Lake Ontario and Lake Erie, as it has been longest settled, so also is it the best cultivated part of western Canada. The vicinity to the two great lakes renders the climate more agreeable, by diminishing the severity of the winter, and tempering the summer heats. Fruits of various kinds arrive at great perfection, cargoes of which are exported to Montreal, Quebec, and other places situated in the less genial parts of the eastern province. Mrs. Jameson speaks of this district as "superlatively beautiful." The only place approaching a town in size and the number of inhabitants, from the Falls all along the shores of Lake Erie for a great distance, beyond even Grand river, is Chippewa, situated on the river Welland, or Chippewa, which empties itself in the Niagara strait, just where the rapids commence and the navi-

* The English mode of holding the arrow, as represented in the plate, is not common among our aborigines, who use the thumb for a purchase.



Fort Chippewa, on the River Welland, or Chippewa,
From a Drawing by Mrs. Sincock, taken during the American Revolutionary War

gation terminates. One or more steamboats run between Chippewa and Buffalo. Chippewa is still but a small village, but as it lies immediately on the great route from the western states of the American Union to the Falls of Niagara and the eastern states, it will probably rise into importance.

In no country on the face of the globe has nature traced out lines of internal navigation on so grand a scale as upon our American continent. Entering the mouth of the St. Lawrence, in its north-eastern part, we are carried by that river through the great lakes to the head of Lake Superior, a distance of nearly nineteen hundred miles. On the south we find the Mississippi pouring its waters into the gulf of Mexico, within a few degrees of the tropics, after a course of three thousand two hundred miles. The "Great Water," as the name signifies, and its numerous branches, drain a surface of about one million one hundred thousand square miles, or an area of about twenty times greater than England and Wales. The tributaries of the Mississippi equal the largest rivers of Europe. The course of the Missouri is probably not less than three thousand miles. The Ohio winds above a thousand miles through fertile countries. The tributaries of *these* tributaries are great rivers. The Wabash, a feeder of the Ohio, has a course of above five hundred miles, four hundred of which are navigable. When the canal is completed which will unite Lake Michigan with the head of navigation on the Illinois river, it will be possible to proceed by lines of inland navigation from Quebec to New Orleans. There is space within the regions enjoying these advantages of water communication, and already peopled by the Anglo-Saxon race, for five hundred millions of the human race, or more than double the population of Europe at the present time. Imagination can not conceive the new influences which will be exercised on the affairs of the world when the great valley of the Mississippi, and the continent from Lake Superior to New Orleans, is thronged with population. In the valley of the Mississippi alone there is abundant room for a population of a hundred millions.

The line of navigation by the St. Lawrence did not extend beyond Lake Ontario until the Welland canal was constructed. This important work is forty-two miles long, and admits ships of one hundred and twenty five tons, which is about the average tonnage of the trading vessels on the lakes. The Niagara strait is nearly parallel to the Welland canal, and more than one third of it is not navigable. The canal, by opening the communication between Lake Ontario and Lake Erie, has conferred an immense benefit on all the districts west of Ontario. The great Erie canal has been still more beneficial, by connecting the lakes with New York and the Atlantic by the Hudson river, which the canal joins after a course of three hundred and sixty-three miles. The effect of these two canals was quickly perceptible in the greater activity of commerce on Lake Erie, and the Erie canal has rendered this lake the great line of transit from New York to the western states.

MEDICINE-TAKING.

MEDICAL practice is generally debased by the less worthy of its professors, but the public are also to blame for much of its errors. Whether as a natural result of eagerness to see *something done* for the relief of their sick friends, or as a consequence of habits handed down from ignorant times, there is a very general prejudice against all practice which does not involve a liberal exhibition of medicine. It must of course often be that only a careful study of the case, directions for the proper care of the patient, and a supervision of the treatment which he receives, is all that is properly required of a medical man. Medicines may not be required, or may be calculated to produce injurious effects, even in the smallest quantities. But when the medical man finds that procedure such as he believes to be necessary is unfavorably required by those who call him in, and that, if he persists in it, they will discharge him and call another, he is very apt to give way,

and order a few medicines such as he believes may do the least possible harm. He ought not to take this course; but the temptation is strong, and a regard to his own interest probably carries the day. Thus the practice of medicine is vitiated, the minds of practitioners are depraved, and the character of the whole profession is lowered.

The evil of much medicine-giving is greatly more prevalent in England than in our own country, a consequence apparently of the custom of the former country with regard to the practice of paying for medicine furnished, and not for attendance. The practitioners, finding they can only be paid for a visit if they order a draught, or box of pills, or set of powders, prescribe such articles accordingly, whether needed or not; the medicines are taken as a matter of course. Thus a prejudice is formed, to the effect that from illness of any kind medicine is inseparable, and an Englishman is very apt to take powders and pills on the slightest experience of an unpleasant sensation, or perhaps for no sensation of the kind, but only to prevent illness. Accordingly, an enormous amount of medicine is consumed needlessly in England. In London there are pill-warehouses like castles. Large fortunes are realized by patent medicines of the most doubtful character, and the public health is by these means undoubtedly much injured. The Scotch, however, have never had any mode of medical practice of this kind among them. Their medical men are generally paid for attendance. They therefore are not so apt as the English to think a practitioner inattentive or inactive when he orders no medicine; and they are a people not at all disposed to take doses at any time except for strong and compelling causes.

Of a great many anecdotes told to us by one well acquainted with English medical practice, we shall select one as an illustration of the extent of prejudice existing upon this subject, and its effects in corrupting practitioners. An elderly lady had received a hurt in her arm, which required the attendance of a medical practitioner residing at two or three miles' distance. He dressed it about twenty times, and saw it completely healed. Now

was his time to consider how he should be paid. "My only chance," said he to himself, "is to begin ordering medicine." He therefore affected to think unfavorably of the appearance of the skin of her arm: it betokened a bad state of the blood. "I shall send you something for it," said he. He now began a course of medicine, to which the old lady very willingly submitted; and at length when it amounted to nine pounds, he admitted she was well, and sent in his bill. When he next called, she told him she had got the bill, and was wishing to pay it; "but I think," said she, "you must have surely committed a mistake in drawing it out." "What seems wrong, ma'am?" inquired he. "If there be any error, of course we can easily rectify it." "Oh, why, you have nine pounds here for medicine—that is all very well—I have had *that*. But here you have three pounds ten for dressing my arm. Now, you know, I had nothing there. You were only put to a little trouble, which was the same as nothing. I can not understand this part of your bill at all." "Oh, very well," said he; "if you think so, we'll deduct the charge for dressing." It is needless to add that the balance was ample remuneration for his services as well as his medicines.

A judicious law has lately been passed to enable practitioners under certain regulations to charge for attendance as well as for medicine. Let us endeavor to convince all who need such knowledge, that in a vast number of cases of illness, the only thing required is right disposal and treatment of the patient, for the direction of which medical skill is as necessary as for the dispensation of therapeutics. This skill has cost its possessor much time and money; it is therefore as well entitled to its reward when only employed in giving needful directions, as when prescribing medicines. Let no one suppose that a medical attendant is doing nothing when he does not dose, or give a great many orders. He often does his duty best by doing nothing; and even for this, supposing him to act with judgment and conscientiousness, he is fully entitled to his remuneration.

A good man is just even in little things.

SUPERSTITIONS RESPECTING ANIMALS.

BEFORE the characters of animals were rigidly investigated, as they have latterly been by men of science, it is not wonderful that they should have been misunderstood in many instances, and thus become the subject of superstitious notions. Even now, when the supernatural is generally abandoned, some of these superstitious notions may be said to have a sort of twilight existence in the form of antipathies and suspicions, the result of which to the animals themselves is far from favorable, while it is, to say the least of it, discreditable to mankind. We propose here to review the superstitions of this class generally, as a curious chapter in the natural history of the human mind, and in doing so, to lay particular stress on such notions as tend in any degree to encourage cruelty or unreasonable fears.

There are several animals, perfectly innocent toward man, which have obtained an evil reputation, from apparently no other cause than that which formerly rendered the aged of the female sex of our own race the objects of superstitious dread—namely, their unlovely aspect and solitary mode of life. Such are the owl and the raven, both of them, time out of mind, proclaimed by man to be unlucky birds—birds of evil omen—and so forth. The owl was so reckoned among the Romans:—

“*Ignavus bubo, dirum mortalibus omen.*”—*Ovid.*

[Ill-omened in his form, the unlucky fowl
Abhorred by men, and called a screeching owl.]

Virgil speaks in like manner of the fatal prognostications of the crow:—

“*Sæpe sinistra cavâ prædixit ab ilice cornix.*”

[And the hoarse raven, on the blasted bough,
By croaking from the left presaged the coming blow.]

This great nation even had officers—officers, too, selected from the patrician or aristocratic class—one of whose duties it was to study the omens of the owl, crow, and other birds, and interpret them to the people—man thus placing himself, it may fairly be said, into a position meaner than that of the humble animals which were the subjects of their observations. But

ler, the poet, has touched off this “institution” of the masters of the ancient world:—

“The Roman senate, when within
The city walls an owl was seen,
Did cause their clergy with lustrations
(Our synod calls humiliations)
The round-faced prodigy t’ avert,
From doing town or country hurt.”

The prevalence of this superstition respecting the owl in England is shown by the frequent allusions to it in the works of our poets—as where Shakspeare says:—

“The owl shrieked at thy birth, an evil sign,”

and applies it metaphorically to an inauspicious person:—

“Thou ominous and fearful owl of death,
Our nation’s terror, and their bloody scourge.”

It can scarcely be necessary to quote the equally significant exclamation of Lady Macbeth:—

“The raven himself is hoarse
That croaks the fatal entrance of Duncan
Under our battlements.”

These notions respecting the owl and raven still have a considerable hold of the English rustic mind, and cause many most superfluous cruelties; for these creatures are doomed to destruction wherever they can be found.

It is the barn owl (*Strix flammea*) which is thus ill regarded. A solitary mode of life, generally among old secluded buildings, a habit of seeking its food at night, and its screeching voice, seem to be the causes of its bad reputation. A peculiarly soft noiseless flight, bringing the bird under observation without any warning, may have also helped to fix its terrible character. The eccentric but benevolent Watterton gives a whimsical account of an effort which he made to counteract the common notion in his own place of residence. “Up to 1813,” he says, “the barn owl had a sad time of it at Walton Hall. Its supposed mournful notes alarmed the ancient housekeeper. She knew full well what sorrow it had brought into other houses when she was a young woman; and there was enough of mischief in the midnight wintry blast, without having it increased by the dismal screams of something which people knew very little

about, and which everybody said was far too busy in the churchyard at night-time. Nay, it was a well-known fact, that, if anybody were sick in the neighborhood, it would be for ever looking in at the window, and holding a conversation outside with somebody, they did not know whom. The gamekeeper agreed with her in everything that was said on this important subject; and he always stood better in her books when he had managed to shoot a bird of this bad and mischievous family. However, in 1813, on my return from the wilds of Guiana, having suffered myself, and learned mercy, I broke in pieces the code of penal laws which the knavery of the gamekeeper and the lamentable ignorance of the other servants had hitherto put in force, far too successfully, to thin the numbers of this poor, harmless, unsuspecting tribe. On the ruin of the old gateway I made a place with stone and mortar, about four feet square, and fixed a thick oaken stick firmly into it. Huge masses of ivy now quite cover it. In a month or so after it was finished, a pair of barn owls came and took up their abode in it. I threatened to strangle the keeper if ever, after this, he molested either the old birds or their young ones; and I assured the housekeeper that I would take upon myself the whole responsibility of all the sickness, wo, and sorrow, that the new tenants might bring into the hall. She made a low courtesy, as much as to say, "Sir, I fall into your will and pleasure;" but I saw in her eye that she had made up her mind to have to do with things of fearful and portentous shape, and to hear many a midnight wailing in the surrounding woods. I do not think that, up to the day of this old lady's death, which took place in her eighty-fourth year, she ever looked with pleasure or contentment on the barn owl, as it flew round the large sycamore trees which grow near the old ruined gateway." Mr. Waterton adds, that the barn owl, so far from being in any way a noxious, is a highly useful bird, on account of the vast quantity of mice which it destroys. When it has young, it will bring a mouse to its nest every twelve or fifteen minutes. Some country people think it attacks pigeons in their houses, but it only goes

there for repose, and concealment, when its perfectly harmless conduct is fully evidenced by the tranquillity with which the pigeons regard it.

There is the same error respecting the crow. The portentous character of this bird is probably owing, in the first place, to its uncommonly harsh voice, and, secondly to its carnivorous habits. Shakspeare says of an army:—

"Their executors, the knavish crows,
Fly o'er them all, impatient for their hour."

"It has often occurred to me," says an observer of nature, "when exploring the more inaccessible parts of the British mountains (though without any feeling of superstitious dread on the occasion), that the ravens, whose 'ancient solitary reign' I had invaded, uttered their harsh croak, as they soared over my head, in expectation, as it were, of my falling down the ravines and precipices, and of their chance of becoming my 'executors,' and having to feed on my lifeless carcass." Now, granting that several of the crow tribe gluttonize over dead bodies, whether of human beings or of the inferior animals, whether of men killed in battle, or men accidentally killed in solitary places, what harm is there in it? Are not these animals, on the contrary, performing a useful service to the living, in removing what is so offensive to sense, and often so injurious to health? Justly regarded, the crow is an emissary of Providence, which ought to call forth feelings of admiration toward that great Power, instead of exciting sentiments of disgust or antipathy toward itself.

We shall vary our theme by adverting next to a set of superstitions respecting bees, which have an element of beauty in them. It is a custom still pretty prevalent in the more rural districts of England, to inform bees of any death that takes place in the family; and this is done in a formal manner, a person going with the house-key and tapping three times every hive, and then whispering the communication. It is thought that, if this not done, the bees will desert the place, and seek out other quarters. For the same reason, when the funeral is to take place, the bees are put into mourning, by the hanging of a piece of black cloth from

their hives; and a service of wine and cake is, in families of good condition, set down for them on that occasion. They are also made to participate in the family rejoicings; for, when a marriage takes place, a triumphant piece of scarlet cloth is in like manner hung upon the hives. It appears that this custom, if not the others, obtains in Brittany as well as in England. As indications of kind social feelings toward a class of creatures time out of mind the emblems of industry, foresight, and good regulation, these practices, it is submitted, are highly poetical and redeeming. It is only unfortunate that, while superstition is sometimes thus beautiful, it is most frequently gross and barbarous; so that it can never form a principle to be depended upon. There is another notion very prevalent respecting bees, that the death of a hive in the possession of a farmer foretells his speedy removal from the place. Perhaps there is a natural basis for this supposition. Bees usually die only in very wet unfavorable seasons: such seasons are injurious to the farmer, and very apt (at least in a country of yearly leases) to lead to his removal.

Several other superstitions about animals are probably founded, in like manner, on natural circumstances. This has been remarked by Sir Humphry Davy in his *Salmonia*. To see one magpie, as is well known, is held to betoken misfortune. Now, there is a natural reason why, to the angler at least, it is not well to see a single magpie. The fact is, that in cold and stormy weather, one magpie alone leaves the nest in search of food, the other remaining sitting upon the eggs or young ones, and such weather is unfavorable for the piscatory sport; whereas in fine mild weather, which is the reverse, both magpies are at liberty to leave the nest together. The notion about the magpie is thus expressed:—

“One’s sorrow, two’s mirth.”

To this is added another line:—

“Three’s a wedding, four’s death.”

which, however, is probably no more than a postscriptive coinage of the popular mind to make out a rhyme. The notion that rooks always leave their haunt

near an old house when a death takes place in it, may have its origin in fact, and the cause may be some sense of an unpleasant odor, of which human organs are insensible. A naturalist, speaking of this superstition, states that a medical gentleman of his acquaintance, being in attendance upon a lady during her last illness, some one observing that she had not long to live, said to him, “I wonder whether the rooks will leave the rookery on this occasion? they did so on the decease of the late — (the former possessor), and likewise on that of his brother who preceded him.” The birds, in the present instance, did quit the house, but thirty-six hours *before* the death.

A few of this class of superstitions seem at first sight rather amiable. The smallness of the wren, and the repose in human generosity shown by the redbreast, have disarmed even boys, and established an immunity of their nests from plunder. The innocence of the dove has also made a powerful appeal to the rustic bosom, but only to this unexpected effect, that it is not good to use its feathers in a bed, as they prolong the sufferings of those who die upon it. The raven, too, notwithstanding its unluckiness, is safe from rustic fowling-pieces—it is held to be extremely unlucky to kill this bird. The reason is said to be a consideration of the services of the raven to the prophet Elijah, when he fled from the rage of Ahab. A humane spirit would be thankful for the feeling shown in these popular notions, if they were consistently supported; but who ever heard of any one sparing a blow to the unfortunate ass, from a consideration of the several remarkable appearances which that animal makes in Scripture? Not even the cross marked on its back—as they think, in consequence of our Savior having ridden upon an ass into Jerusalem—seems to have the least effect in obtaining a decent show of humanity toward this modest though buffeted quadruped. The inconsistency of superstition is further shown in the antipathies contracted against birds equally harmless as any of the above; for example, the yellow-hammer, which is persecuted in consequence of an idea that it receives three drops of the devil’s blood on May

morning; the fact being that it is a pretty, and also a tame bird, with no harm about it whatever. So strong is the prejudice against this innocent warbler of our fields, that many persons who would not injure the nest or young of any other birds, will invariably take, and even ill-use, that of the poor yellow-hammer. Sailors are equally unreasonable with respect to the well-known storm petrel. This bird is often seen before severe storms, whose utmost rage never seems to disturb it as it breasts the waves and faces the blast, uttering its low cry of *weet, weet*. The mariner absurdly considers it as raising the storm, which its habits only bring it into connexion with, and he execrates it accordingly. "As well," says Wilson, the American ornithologist, "might they curse the midnight lighthouse that star-like guides them on their watery way, or the buoy that warns them of the sunken rocks below." The petrel is in reality a monitor of the approach of stormy weather, perhaps designed to be so by an all-wise Providence.

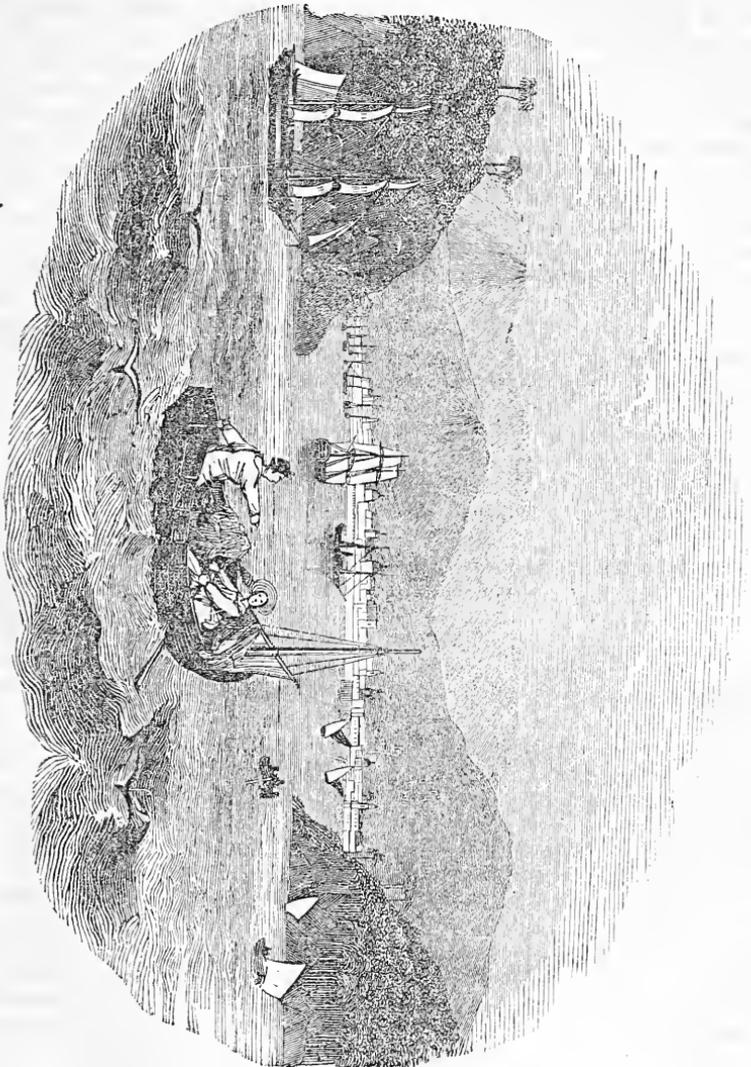
JUNCTION OF THE ATLANTIC AND PACIFIC OCEANS.

NO. II.

WEST of a line drawn from the vicinity of Panama to the bay of Limones begins the third region of the isthmus, which extends westward on the Caribbean sea to the rocky island called Escudo de Veragua, and on the Pacific to the innermost corner of the gulf of Parita, a distance of about eighty miles. This country exhibits different natural features. It is, properly speaking, a plain which rises from both oceans with a very gentle ascent toward the middle of the isthmus. Numerous isolated hills, however, rising from three hundred to five hundred feet above their base, are dispersed over the surface of this plain. These hills occur much more frequently toward the extremities of the region near the mountains of Puerto Bello and the table-land of Veragua; in the middle of the region are plains of con-

siderable extent, especially between the towns of Chagres and Chorrera; on these plains some isolated ridges of hills of inconsiderable height occur. The hills are generally covered with trees, but the plains and low grounds which surround them are savannahs or prairies, destitute of trees, but covered with grass, which supplies pasture to numerous herds of cattle and horses. Though the vegetation of this region is generally much less vigorous than in the country further east, there are several cultivated tracts, and others which may be cultivated. The climate also is much more healthy, especially on the slope toward the Pacific, which in climate and season exactly resembles the country surrounding the town of Panama. The country along the shores of the Caribbean sea is far less healthy, and the season much more irregular. Accordingly we find that the southern districts are comparatively thickly settled, while the northern are nearly uninhabited. The principal rivers of this region are the Trinidad and the Caymito or Chorrera. The Trinidad enters the Chagres about twenty-four miles from its mouth, after a course of about sixty miles. It rises near the south coast, not far from the town of Chorrera, and is navigable for a considerable distance. Traversing the isthmus in a diagonal line from southwest to northeast, the agricultural produce of the more inhabited districts is conveyed by this river to Chagres. The Caymito or Chorrera is formed by several petty streams which descend from the eastern declivity of the table-land of Veragua, and though its course is short, it is navigable to the town of Chorrera. There is a harbor at its mouth, but the anchorage is bad and exposed.

West of this region is the table-land (mesa) of Veragua. Its eastern ascent is formed by projecting mountains of great elevation, rising abruptly, and frequently exhibiting an almost perpendicular face of bare rock. The surface of the table-land itself is very uneven, and several summits on it rise to a great height. The Peak de Veragua is stated to attain nearly nine thousand feet above the sea-level. In some places, however, there are plains of considerable extent. The general elevation of this table-land above the sea-level



Puerto Bello.—From an original Sketch.

is supposed to be between three and four thousand feet. It approaches the Caribbean sea within a few miles, and is separated from it by a narrow and slightly hilly tract. But on the side of the Pacific the mountains approach close to the sea, and between the gulf of Parita and the bay of Montijo project in a wide and mountainous peninsula into the Pacific. This peninsula terminates in the capes called Punta Mala and Punta Mariata. We are very little acquainted with the climate and soil of this region, but as it undoubtedly is much more populous than the lower part of the isthmus, it must be presumed that it is favorable to agriculture and to the health of the inhabitants. This last circumstance is due to the great elevation of the surface above the sea-level. The rivers which descend from this table-land are interrupted by rapids and cataracts, and bring down great quantities of earthy matter, which they deposite at their mouths. All these rivers accordingly have a bar, with a very few feet of water on it, which renders them incapable of receiving vessels of above one hundred tons burden.

The most western portion of the isthmus of Panama begins at the western declivity of the table-land of Veragua, and extends to the boundary-line of central America. This line begins on the shores of the Caribbean sea at Chica or Monkey Point, and terminates on the Pacific at Punta Boruca. This region is more than one hundred miles from east to west, and about seventy miles from north to south. The northern part is occupied by the Chiriqui Lagoon, a sheet of water ninety or one hundred miles in length from east to west, and on an average twenty miles wide. It is separated from the Caribbean sea by a series of low, swampy, and wooded islands, between which there are three deep passages for vessels. The most commodious of these passages is the most eastern, near a tongue of land projecting from the continent. It is called Chiriqui Mouth, and may be navigated by the largest vessels. Farther west is the entrance, called Boca del Toro (Bull's Mouth), which is only eighteen feet deep, and narrow, but of easy access. The most western, called Boca del Dragon (Dragon's Mouth) is also narrow, but

very deep. The middle portion of the lagoon is occupied by low woody islands, but at each extremity a considerable space is free from islands, and affords excellent anchorage, as the lagoon is deep, and the swell of the Caribbean sea is broken by the intervening islands. The country contiguous to the southern shores of the lagoon, for a distance of about twenty miles, is low and swampy, the soil being covered with a thick layer of alluvium produced by the annual inundations during the rainy season. At the back of this low tract, which is generally wooded, the country rises, and though it contains plains of some extent, it continues to rise gradually for forty or fifty miles from the lagoon, where it is bordered by a continuous ridge of high ground. This chain, which is called the Cabecares mountains, may be between four and five thousand feet above the sea-level, but it is of very inconsiderable width, being only about five hundred yards across in its upper part, which extends in nearly a straight line without any peaked summits. The southern slope of this ridge is much more rapid, occupying only about ten miles in width, and terminating on the Pacific in tolerably level tracts, which are many feet above the level of the sea. The whole country north of the Cabecares mountains is one continuous forest of lofty trees, but along the Pacific there are several woodless tracts. It is only in the last-mentioned districts that the whites have formed a few establishments, the extensive country north of the Cabecares mountains being in possession of the native tribes, especially the Valientes. This may be attributed to the climate, which, on the coast of the Pacific, ressembles that of Panama, being subject to regular changes of the seasons, and therefore healthy. But the low country about the lagoon of Chiriqui is drenched with rain nearly all the year round: the more elevated tract, however, between it, and the Cabecares mountains has more regular weather, and is considered tolerably healthy. The numerous rivers which run from the northern slope of the mountains into the Chiriqui Lagoon are impeded by many rapids and cataracts until they reach the low country, where their course is gentle, and where

they may be navigated by large boats ; but they have bars across their mouths, with little water on them.

The coast along the Caribbean sea, from the bay of Candelaria, into which the river Atrato falls, to the bay of Mandingo, does not present a single harbor for large vessels. It is lined by a continuous series of small keys, or rocky islands, lying from half a mile to a mile from the continent. The inner passage thus formed is full of coral rocks and reefs, but the water is so clear that they are easily seen and avoided in the daytime. Otherwise a vessel finds safe anchorage there, except during the prevalence of the northwestern winds (from December to April), as the swell of the sea is broken by the islands. The first harbor which occurs on this coast is that of Puerto Bello, or Velo, which is about two miles long, and, on an average, one thousand yards wide. It is of considerable depth, and, being surrounded by high hills and mountains, affords excellent and safe anchorage for vessels. Though it was once a place of great trade, it is now rarely visited, on account of its excessive unhealthiness. The town, which is built on the southern shores of the harbor, consists of one long street, with a few short streets branching off where the ground will admit of them. It is surrounded by mountains covered with dense forests : it contained, by a late census, not more than 1,122 inhabitants, negroes and mulattoes. About twenty miles further west is the bay of Limones, or Puerto de Naos, which has an entrance five miles wide, free from danger. It is several miles deep, and several projecting points on its western side afford secure and commodious anchorage within them, especially the innermost, which is at present considered as the harbor. The climate is comparatively healthy, but it is not visited, the surrounding country being uninhabited. A few miles further west is the harbor of Chagres, a little sandy bay, which is only open to westerly winds, and is formed by the mouth of the river of the same name. A ledge of rocks runs across its mouth, with not more than fifteen feet of water in the deepest place, and in many rising even to the surface. Under the most favorable circumstances no ves-

sel drawing more than twelve feet can enter the harbor. Further westward there is no harbor, except those afforded by the Chiriqui Lagoon.

The harbors on the shores of the Pacific are all within the gulf of Panama. There appears to be no port west of Punta Mala. The opening of the gulf of Panama is between Punta Francisco Salano on the continent of South America and Punta Mala, where it is about one hundred and fifty miles wide, which breadth it preserves for about ten miles northward, when it begins to contract. In the northern and narrower portion of the bay there is a group of islands, called Archipelago de las Perlas, on account of the pearls which were formerly procured in the adjacent sea in great abundance, and still are taken to a considerable amount. The largest of these islands, called Isla del Rey, rises to a considerable elevation. Most of the rivers which fall into this bay admit vessels of considerable burden. They have, indeed, bars across their mouths, on which there is rarely more than two feet of water at low tides ; but as the tides in this bay rise eighteen feet, the bars may be passed at high-water, and inside of them the harbors are deep. The rivers which are sometimes visited by vessels are the river Pacora, about eighteen miles east of the town of Panama, and the Rio Grande, which enters the sea about two miles west of that town.

Panama, the principal trading-place on this bay, stands on a tongue of land shaped nearly like a spear-head, extending a considerable distance out to sea, and gradually swelling toward the middle. The principal streets extends across the peninsula from sea to sea. The houses are of stone, generally two or three stories high, substantially built, and the larger houses have courts or *patios*. The public edifices are a beautiful cathedral, four convents, a nunnery of Santa Clara, and a college. As the sloping shores contiguous to the ground on which the town stands are dry at low-water to a considerable distance, the anchorage is about six or seven miles distant, where it is protected by a number of islands, the largest of which is called Perico, a name which is also applied to

the harbor. These islands are high and well cultivated, and supplies of ordinary kind, including excellent water, may be obtained from most of them. A few years since it was computed the town had nearly eleven thousand inhabitants. The harbor of Panama is usually visited by about thirty vessels, mostly from Guayaquil, Lambayeque, and Callao. They import sugar for the consumption of the country, and bullion and cacao for re-exportation. These goods are transported either on mules or by the natives on their shoulders from Panama to Cruces, on the Chagres river, where they are embarked in boats, and go down the river to Chagres.

The plans of communication proposed have been numerous, and, as may be supposed, as often prompted by the interest of particular parties as by any well-considered judgment of its being altogether the best or the easiest effected. As an instance last-mentioned, the Mexican papers contained a long article showing the advantage of effecting the communication by the way of Tehuantepec, rather than by that of Panama or Nicaragua. It then expatiates on the difficulties attendant on a passage across the isthmus, and concludes that the way by Tehuantepec seems never to have been thought of before 1842, when it was suggested by D. José Garay. The country has been surveyed at great expense, and the result is a belief that Tehuantepec will offer facilities beyond those of either of the other two places. Both on the north and on the south side are two ports which are formed by the mouths of two rivers, capable of being connected, and will admit of large vessels, while the waters flowing from a height will easily supply the canals.

The scheme is no doubt a very good scheme for Mexican interests. From the gulf of Tehuantepec, in the north Pacific, the Chimilipa would be ascended as high as practicable, which would be connected by a canal with the Rio del Passo, a tributary to the Huasacualco, which falls into the bay of Campeachy, in the province, and about one hundred miles northeast of the town of Vera Cruz. The Hon. P. C. Scarlett, notwithstanding the flourish of the Mexican paper as to the originality of

the scheme, notices it in his "Travels in South America in 1838," and observes: "It is utterly out of the question to make it, under any circumstances, navigable for large vessels. A boat canal of communication, aided by rivers, would undoubtedly render the internal prosperity of a country where the distance from sea to sea is one hundred and fifteen geographical miles, infinitely greater than it is at present; but the realization of this project is more important to the state of Mexico than to the general interests of the commercial world." The canal would be required to be twenty miles long; the streams are winding, with occasional rapids; the harbor of the Huasacualco will at no time admit of vessels drawing ten feet of water, and Ventosa, the harbor of Tehuantepec, is only an open roadstead.

BOOK TITLES.

IN Butler's *Remains* it is remarked, that "there is a kind of physiognomy in the titles of books, no less than in the faces of men, by which a skilful observer will as well know what to expect from the one as the other."

Generally speaking, this is correct. But the optician who should happen to purchase a book entitled *A New Invention, or a Paire of Cristall Spectacles, by helpe whereof may be read so small a print, that what twenty sheets of paper will hardly containe shall be discovered in one* (1644), would find, to his surprise, that it has nothing to do with his business, but relates to the civil war. So also might mistakes very readily occur with regard to Horne Tooke's celebrated *Diversions of Purley*, which a village book-club actually ordered at the time of its publication, under the impression that it was a book of amusing games, very likely to be serviceable in putting over the long winter nights, when in reality it is one of the most abstruse treatises which exist on a subject altogether beyond clownish wits—etymology. There is a scarce and curious tract entitled *Merryland Described, containing a*

Topographical, Geographical, and Natural History of that Country (1741): a person with a taste for geography might suppose that it related to our well-known state of that name; but in reality it consists entirely of facetious matter. A mistake of this kind actually did occur at the time of the first publication of the *Essay on Irish Bulls*, when, we have been assured—though no Irishman can ever be induced to admit the fact—no fewer than a dozen copies were ordered forthwith by the Farming Society of Dublin! In like manner, we can imagine a juvenile naturalist being disappointed in finding nothing relative to botany in *A Treatise of Hebrew Roots*. It is said that a French writer, mistaking the meaning of the title of *Winter's Tale*, translated it by the words *Conte de Monsieur Winter*, or *Mr. Winter's Tale*—a mistake extremely natural, we must admit, to one unacquainted with our national idiom. It may be added, that a medical man's curiosity might perhaps be gratified by Oberndorff's *Anatomy of the True Physician and Counterfeit Mountebanke, disclosing certain Strataegems whereby London Empirics Oppugne, and oftines expunge, their poor Patients' Purses* (1602); but he would find himself stepping somewhat out of his course to peruse Hutton's *Anatomy of Folly* (1619), Nash's *Anatomy of Absurdity* (1589), *The Hospitall of Incurable Fools* (1600), &c.

A love of quaint titles has been shown by our literary men from the earliest times of publishing, but generally in a more conspicuous manner two centuries ago than at present. Not even royal wits could then dispense with this attraction; witness King James' *Counterblast to Tobacco*, which, by the way, is a far more sensible production than is generally supposed, or than its whimsical title would imply. Shakspeare himself was not superior to this whimsicality, and we accordingly find it shining in the titles of most of his comedies, as *Measure for Measure*, *All's Well that Ends Well*, and *As You Like it*. Apropos of King James' pamphlet, we may advert to a poem by his contemporary, Sylvester, entitled, *Tobacco Battered, and the Pipes Shattered about their Ears, who Idly Use so Base and Barbarous a Weed*.

It would seem that some of these odd old titles have suggested the writing of certain remarkable modern works. Thus Barnaby Rich's *Souldier's Wish for Britain's Welfare, a Dialogue between Captain Skill and Captain Pill* (1604), may have suggested Leigh Hunt's *Captain Sword and Captain Pen*. A little work published in 1679, entitled *Unfortunate Heroes, or Adventures of Ovid, Horace, Virgil, Agrippa, Cæsar, &c.*, reminds us of the chapter on literary men in Thomas Carlyle's recent work, *Hero Worship*.

Some titles are agreeably short, and others wonderfully long. A few years since, a work was issued with the laconic title of *It*, and for days previous to its publication, the walls of London were placarded with the words, "Order It," "Buy It," "Read It." The old naturalist Lovell published a book at Oxford in 1661, entitled *Panzologicomineralogia*, which is nearly as long a word as Rabelais' proposed title for a book, namely *Antipericatametaparchengedamphicribrationes*.

Titles are occasionally remarkable for their modest pretensions; for example, *Did You ever see such Stuff? or, So-much-the-better, being a Story without Head or Tail, Wit or Humour* (1760); *A Satire for the King's Birthday, by no Poet-Laureate* (1779); Barnaby Rich's *Faults, and Nothing but Faults*. On the other hand, the titles of some books implore us to read them, and crave indulgent criticism, while others taunt and threaten us if we will not read them. In illustration, we may cite, *Oh! Read over Dr John Bridge's Martin Mar-Prelate, for it is a Worthy Work, Printed over-sea in Europe, within two Furlongs of a bousing Priest, a rare Work against the Puritans* (1588); Roy's *Read me, and Be not Wrath*; Tourneur's *Laugh and Lie Down, or the World's Folly* (1605); *If you know not Me, you know Nobody*; and Rowland's *Look to it, or I'll Stab ye*.

According to Stowe's *Chronicle*, the title of *Domesday Book* arose from the circumstance of the original having been carefully preserved in a sacred place at Westminster, called *Domus Dei*, or House of God.

Books have been frequently likened to store-rooms and other buildings; hence

the titles of *Magazine of Zoology; Repository of Arts; Treasury of Knowledge; The Jewel-house of Art and Nature; Painter's Palace of Pleasure* (1565); *Primanday's Academy of Manners* (1586); *Parkinson's Theatre of Plants* (1640); *Boys-tean Theatre of the World* (1574). The comparison of a book to a looking-glass or mirror is also very common and natural. Thus we have a black-letter book called, *A Chrystal Glass for Christian Women, Exhibiting the Godlie Life and Death of Katherine Stubs of Burton-upon-Trent, in Staffordshire; Snawsell's Looking-Glass for Married Folks, wherein they may plainly see their Deformities* (1631); *Spooner's Looking-Glass for Tobacco Smoakers* (1703); *The Mirror of the Worlde* (1481); *The Mirror for Mujistrates* (1559); and several periodicals have lived and died with the name of *Mirror*.

Some titles are remarkable for their satirical character. Thus, a work relative to a large class of the literary world was entitled *The Downfall of temporising Poets, unlicensed Printers, upstart Booksellers, trotting Mercuries, and bawling Hawkers* (1641). Printers are brought into strange company in another book, entitled *A History of Filchum Cantum, or a Merry Dialogue between Apollo, Foolish Harry, Silly Billy, a Griffin, a Printer, a Spider Killer, a Jack-Ass, and the Sonorous Guns of Ludgate* (1749). The Latin poetasters seem to have their merits called somewhat in question by the title of John Peter's curious and very scarce work, *A New Way to make Latin Verses, whereby any one of ordinary capacity that only knows the A, B, C, and can count nine, though he understands not one word of Latin, or what a verse means, may be plainly taught to make thousands of Hexameter and Pentameter Verses, which shall be true Latin, true Verse, and Good Sense* (1679).

The ancient and still frequently mooted question about the mental equality of men and women, has elicited many works with quizzical titles. Thus, in 1620, appeared *Hic Mulier, or the Man-Woman, or a Medicine to cure the Staggers in the Masculine-Feminines of our Times*. This was answered by another work with as curious a title, *Hec Vir, or the Womanish-Man to*

Hic Mulier, the Man-Woman. Some sixty years later, in 1683, a rare little book came forth, entitled *Hæc et Hic, or the Feminine Gender more worthy than the Masculine, being a Vindication of that ingenious and innocent Sex from the biting Sarcasms wherewith they are daily aspersed by the virulent Tongues and Pens of malevolent Men*.

Whether married or single, it is impossible not to feel interested in such titles as the following: *A Caution to Married Couples, about a Man in Nightingale Lane, who beat and abused his Wife, and Murthered a Tub-man* (1677); *The Art of Governing a Wife, with Rules for Bachelors* (1746); *Braithwait's Bouldster Lecture, or Art thee Asleep, Husband?* (1640); *A Certain Relation of the Hog-Faced Gentlewoman, Mrs Tannakin Skinker, who can never recover her shape till she be married* (1640); *A Discourse concerning having many children* (1695); *A Relation of several Children and others that prophecy and preach in their Sleep* (1689); *Chickens Feeding Capons, or a Dissertation on the Pertness of our Youth in General, especially such as are trained up at Tea-tables* (1731); *Pap with a Hatchet, or a Fig for my God-Son*.

The ancient costume of men and women called forth various singular literary attacks, as we learn from *Bulwer's Man Transformed, or the Ridiculous Beauty, Filthy Finesse, and Loathsome Loveliness of most Nations in altering their Bodies from the Mould intended by Nature* (1650); *Quippes for Upstart Newfangled Gentlewomen, or a Glass to view the Pride of vain-glorious Women, containing a Pleasant Invective against the Fantastical Foreign Toys daylie used in Women's Apparell* (1595); *England's Vanity, or the Monstrous Sin of Pride in Dress, Naked Shoulders, and a Hundred other Fooleries* (1683).

The titles of religious works are frequently somewhat droll. A little book of consolation, published in 1630, is entitled *A Handkerchief for Parents' Wet Eyes upon the Death of Children*. Dr. Sibbs published a religious work called *The Bruised Reed and Smoaking Flax* (1627), which led to the conversion of the celebrated Baxter. As humorous titles of the

same class, we may instance—*The Coal-heaver's Cousin rescued from the Bats, and a Reviving Cordial for a Sin-Despairing Soul* (Manchester, 1741); the Rev. James Murray's *Sermons to Asses* (1768), in three volumes, *Os Ossorianum, or a Bone for a Bishop to Pick* (1643); Primatt's *Cursing no Argument of Sincerity* (1746); *A Relation of the Devil's appearing to Thomas Cox, a Hackney Coachman, who lives in Cradle Alley, in Baldwin's Gardens* (1684); *Ka me, and Pl Ka thee* (1649), a dialogue against the impious arrogance of persecuting people who happen to differ from us in matters of faith.

Some titles amuse by being alliterative, as in *A Delicate Diet for Dainty Dronkards* (1576); Henry Butt's *Diel's Dry Dinner* (1599); St. Austin's *Christian Catholic Catechised, Penned for the Private Benefit of the Parish of Little Kimbell, in Buckinghamshire* (1624). Some are agreeably tautological, as in *A Most Learned Speech, in a Most Learned House of Commons, by a Most Learned Lawyer, on a Most Learned Subject* (1722); *The Most Wonderful Wonder that ever appeared to the Wonder of the British Nation, being an Account of the Capture of the Monstrous She-Bear that Nursed the Wild Boy in the Woods of Germany* (1726), a rare and curious poem; *The Egg, or Memoirs of a Right Honorable Puppy, with Anecdotes of a Right Honorable Scoundrel*. Some play upon the same termination of different words, as in John Taylor's *Verry Merry Wherry Ferry Voyage* (1622); and in *A Chemical Collection to Express the In-gress, Pro-gress, and E-gress of the Hermetic Science* (1650). Some try to please by antithesis, as in Sir J. Harrington's *New Discourse of a Stale Subject* (1596); *Green's Groat's-worth of Wit, bought with a Million of Reputation*.

Rhyming titles are occasionally met with, as in Thomas Heywood's—

*Reader, here you'll plainly see
Judgment perverted by these three—
A Priest, a Judge, a Patentee* (1641).

A little black letter volume, without any date, has the four following lines for its title:—

*I playne Pierse, which can not flatter,
A Plow-man men me call:
My speeche is foul, yet mark the matter,
How things mayhap to fall.*

In 1559 appeared a book entitled, *The Key to Unknown Knowledge, or a Shop of Five Windows,*

*Which if you do open,
To cheapen and copen,
You will be unwillling,
For many a shilling,
To part with the profit
That you shall have of it.*

Thomas Lupton, in 1587, published

*Too Good to be True
Thought so at a view;
Yet all that I told you
Is true, I uphold you:
So cease to ask why,
For I can not lie.*

Later still, in 1730, we find this rhyming title:—

*The Rival Lap-Dog, and the Tale
(As ladies' fancies never fail),
That little rival to the great,
So odd, indeed, we scarce dare say't.*

In cases where it was thought prudent to conceal the names of the printer and publisher, and the date of certain books, the title-page often exhibited some odd fictitious reference. A scarce little book entitled *The Earl of Essex's Amours with Queen Elizabeth*, was printed "at Cologne, for Will-with-the-wisp, at the sign of the Moon in the Ecliptic." William Goddard published some satires, "Imprinted at the Antipodes, and are to be bought where they are to be sold." This sort of concealment is burlesqued by Brathwait in his *Solemn Jovial Disputation on the Laws of Drinking* (1617), which is published at "Oenozthopolis, at the sign of the Red Eyes;" and also in his *Smoking Age, with the Life and Death of Tobacco, dedicated to Captain Whiffe, Captain Pipe, and Captain Snuffe* (1617), printed "at the sign of Tear-nose." A little old French work, *Le Moyen de Parvenir*, purports to be "Imprimé cette Année" (printed this year).

The mottoes on title-pages are often very curious. The following is from a book called *Gentlemen, look about you*:—

*Read this over if you're wise,
If you're not, then read it twice;
If a fool, and in the gall
Of bitterness, read not at all.*

Another from that very delightful old book, *Geffrey Whitney's Emblems* (1586):—

*Peruse with heede, then friendly judge, and blaming
rash refraine;
So maist thou reade unto thy good, and shalte requite
my paine.*

The famous and learned Robert Becord was very fond of mottoes on his works. His *Pathway to Knowledge* (1551), a treatise on geometry, displays these four lines:—

*All fresh fine wits by me are filled,
All gross dull wits with me exiled;
Though no man's wit reject will I,
Yet as they be, I will them try.*

The title-page of his *Castle of Knowledge* (1556) displays a device of several figures and a castle, on which we read—

*To knowledge is this trophy set,
All learned friends will it support,
So shall their name great honour get,
And gain great fame with good report.*

A good motto, well chosen, and thoroughly applicable, acts as a bright lamp to show the contents within. Ere now, the titles of books have furnished materials for the punster. Thus, in a newspaper announcement of the death of Oliver Goldsmith, April 4, 1774, we read, "*Deserted is the Village; the Traveller has laid him down to rest; the Good Natured Man is no more; he Stoops but to Conquer; the Vicar has performed his sad office; it is a mournful office from which the Hermit may essay to meet the dread tyrant with more than Grecian or Roman fortitude.*" Better still was the reply of the young lady, when asked if she was at all literary. "Yes," said she, "I am a *Spectator* at church, an *Idler* at school, a *Rambler* at Vauxhall, a *Connoisseur* at the milliner's, an *Adventurer* at the lottery, a *Tattler* at the tea-table, and a *Guardian* to my lap-dog."

LAST HOURS OF WASHINGTON.

LITTLE over half a century has passed away since an interesting group was assembled in the death-room, and witnessed the last hours of Washington. So keen and unsparring has been the sythe of time, that of all those who watched over the patriarch's couch, on the 13th and 14th of December, 1799, not a single personage survives.

On the morning of the 13th, the general was making some improvements in front of Mount Vernon. As was usual with

him, he carried his own compass, noted his observations, and marked out the ground. The day became rainy with sleet; and the general remained so long exposed to the inclemency of the weather, that his clothes were completely wet before his return to the house. About one o'clock, he was seized with illness and nausea; but, having changed his clothes, he sat down to his in-door occupations, there being no moment of his time for which he had not provided an appropriate employment.

At night, on joining his family circle, the general complained of slight indisposition, and, after a single cup of tea, repaired to his library, where he remained writing until between eleven and twelve o'clock. Mrs. Washington retired about the usual family hour; but, becoming alarmed at not hearing the sound of the library-door, as it closed for the night, and gave signal for rest in the well-regulated mansion, she arose again, and continued sitting up in much anxiety and suspense. At length the well-known step was heard upon the stair, and upon the general's entering his chamber, the lady kindly chided him for remaining so late, knowing himself to be unwell; to which Washington made his memorable reply: "I came as soon as my business was accomplished. You know well, that through a long life it has been my unvaried rule, never to put off till to-morrow the duties which should be performed to day."

Having first covered up the fire with care, the mighty man of labors at last sought repose; but it came not, as it had long been wont to do, to comfort and restore, after the many and earnest occupations of the well-spent day. The night was passed in feverish restlessness and pain. "Tired nature's sweet restorer, balmy sleep," was destined no more to visit his couch; yet the manly sufferer uttered no complaint—would permit no one to be disturbed in their rest on his account; and it was only at daybreak that he would consent that the surgeon might be called in, and bleeding resorted to. A vein was opened, but without affording relief. Couriers were despatched to summon Dr. Craik, the family physician, and Drs. Tick and Brown, as consulting

physicians, all of whom came with speed. The proper remedies were administered, but without producing their healing effects; while the patient, yielding to the anxious looks of all around him, waived his usual objections to medicines, and took those which were prescribed, without hesitation or remark. The medical gentlemen spared not their skill, and the resources of their art were exhausted in unwearied endeavors to preserve this "noblest work of nature." Night approached—the last night of Washington! The weather became severely cold, while the group gathered nearer the couch of the sufferer, watching with intense anxiety for the slightest dawning of hope. He spoke but little. To the respectful and affectionate inquiries of an old family servant, as she smoothed down his pillow, how he felt himself, he answered, "I am very ill." To Dr. Craik, his earliest companion in arms, his longest-tryed and bosom friend, he observed, "I am dying, sir, but am not afraid to die." To Mrs. Washington he said, "Go to my escritoire, and in the private drawer you will find two papers; bring them to me." They were brought. He continued: "These are my wills; preserve this one, and burn the other." This was immediately done. Calling to Col. Lear, he directed: "Let my remains be kept for the usual period of three days."

Here we would beg leave to remind our readers, that Washington was old-fashioned in many of his habits and manners, and in some of his opinions; nor was he the less to be admired on these accounts. The custom of keeping the dead for the scriptural period of three days is derived from remote antiquity, and arose, not from fear of premature interment, as in more modern times, but from motives of veneration toward the deceased; for the better enabling the relatives and friends to assemble from a distance to perform the funeral rites; for the pious watchings of the corpse; and for the many sad, yet endearing ceremonies by which we delight to pay our last duties to the remains of those we loved.

The patient bore his acute sufferings with manly fortitude, and perfect resignation to the divine will; while, as the night

advanced, it became evident that he was sinking, and he seemed fully aware that his "hour was come." With surprising self-possession he prepared to die. Composing his form at length, and folding his hands upon his bosom—without a sigh—without a groan—the Father of his country expired gently as though an infant died. No pang or struggle told when the noble spirit took its noiseless flight; while, so tranquil appeared the manly features in the repose of death, that some moments passed, ere those around could believe the patriarch was no more.

It may be asked, why the ministry of religion was wanting to shed its peaceful and benign lustre upon the last hour of Washington? Why was he, to whom the observances of sacred things were ever primary duties through life, without their consolations in his last moments? We answer that circumstances did not permit it. It was for a little while that the disease assumed so threatening a character as to forbid the encouragement of hope. Yet, to stay that summons which none may refuse, to give still further length of days to him whose "time-honored life" was so dear to mankind, prayer was not wanting at the Throne of grace. Close to the couch of the sufferer, resting her head upon that ancient book, with which she had been wont to hold pious communion, a portion of every day, for more than half a century, was his venerable consort absorbed in silent prayer, and from which she only arose when the mourning group prepared to bear her from the chamber of the dead. Such were the last hours of Washington.

THE CASTES AND TRIBES OF INDIA.

THE institution of castes in India is one of the most curious chapters in the social history of mankind. The distinction of ranks and the separation of professions appear to have been established before the remotest era which Hindoo tradition reaches. According to their sacred books the Brahmen proceeded from the mouth of the Creator, which is the



Castes of India—Sudras.

seat of wisdom; the Cshatriya from his arm; the Vaisya from his thigh; and the Sudra from his foot. These castes comprise the four orders of a primitive state of society. The Brahmen were priests, the Cshatriyas soldiers, the Vaisyas husbandmen, and the Sudras servants and laborers. The Hindoo religion teaches its followers that it would be impious to confound these different orders. This distinction of caste is the framework of Hindoo society, and all its inconveniences and palpable injustice have been submitted to for ages from a sense of religious duty. The punishment for crime varies in severity with the caste to which the offender belongs, and while the law is merciless toward the Sudra, its force is mitigated when persons of the three highest castes are brought within its reach. In other matters the abuse of natural rights is equally outrageous. For the interest of money on loan the Brahmen only pays two per cent., while three per cent. is exacted from the Cshatriya, four per cent. from the Vaisya, and five per cent. from the Sudra. Mill says, "As much as the Brahmen is an object of veneration, so much is the Sudra an object of contempt to the other classes of his countrymen." The condition of a Sudra, in the Hindoo system was, however, preferable to that of the helot, the slave, or the serfs of the Greek, the Roman, and the feudal systems. He was independent; his services were optional; they were not agricultural, but domestic and personal, and claimed adequate compensation. He had the power of accumulating wealth, or injunctions against his so doing would have been superfluous. He had the opportunity of rising to rank, for the Puranas record dynasties of Sudra kings, and even Manu notices their existence. He might study and teach religious knowledge, and he might perform religious acts. No doubt the Sudra was considered in some degree the property of the Brahmen, but he had rights, and privileges, and freedom, much beyond any other of the servile classes of antiquity. Mr. Mill himself, in a note elsewhere, observes that "so inconsistent with the laws of human welfare are the institutions described in the ancient Hindoo books, that they never *could* have been

observed with any accuracy; and when we consider the powerful causes which have operated so long to draw, or rather to force the Hindoos from their inconvenient institutions and customs, the only source of wonder is, that the state of society which they now exhibit should hold so great a resemblance to that which is depicted in their books." In certain cases of necessity the three higher castes were permitted to have recourse for subsistence to the employments of the class or classes below them; but the Sudra, being the lowest, was confined to the species of labor assigned to him, and in seasons of public distress the competition of the Vaisya, or third class, might come to aggravate his previous misery. But, he had a resort which the other castes were denied—emigration; and subsequently the institution of mixed or impure castes threw open their avocations to him. Of these lower castes we must here give a brief notion.

The origin of mixed or impure castes is to be ascribed to the force of circumstances which laws could not prevent. Children were born whose parents belonged to different castes, and they in consequence belonged to no caste, and could not fall into any of the established employments. The infringement of the sacred laws to which they owed their birth rendered them inferior to the degraded Sudra. Charity or plunder could alone furnish them with the means of subsistence. When the number of these outcasts became so great as to render them dangerous to society, the Brahmen, by supernatural means, as the sacred books allege, created a sovereign endowed with the power of arresting the evils of this disordered state. He classified these outcasts, and assigned to each its particular occupation. Instead of plunderers, they became artisans, practised handicrafts, worked in metals, the subdivision of classes being equal to the number of additional occupations which the exigencies of society at the time demanded. This process, whenever it took place, marks the commencement of a new social era. The division of the older society into four classes, comprehending priests, soldiers, husbandmen, and servants, was

too simple for a more advanced period. Thirty-six branches of the impure class are mentioned in the sacred books, but the number, as well as the avocations of each, is variously stated by different writers. The lowest caste of all is the offspring of a Sudra with a woman of the sacred caste. This tribe are called Chandalas. Carrying out the corpses of the dead, the execution of criminals, and other degrading employments, are performed by this caste. They are prohibited from living in towns, their very presence being regarded as a pollution; and on meeting a person of a higher caste they are compelled to turn aside lest he should consider himself contaminated by their approach; and yet, while this and other castes are submitting to these indignities and degradations, they are alive to the "pride" rather than to the "shame" of caste. Professor Wilson says: "The lowest native is no outcast; he has an acknowledged place in society; he is the member of a class; and he is invariably more retentive of the distinction than those above him."

DREAMS.

THE primary effect of sleep upon the mental powers seems to be to place them in a state of entire suspense. When sleep, therefore, is perfect, it is attended by a state of total unconsciousness. When, on the contrary, it is imperfect—when we are either, after a sufficiency of rest, verging toward waking, as generally happens in the morning, or our sleep is broken and disturbed by uneasy bodily sensations, or by the effects of an uneasy state of the mind itself—then unconsciousness is not complete. Mental action takes place, though in what must in the main be described as an irregular and imperfect way, and we become conscious of—dreaming. Dreaming, then, may be defined as the result of the imperfect operation of the mind in a state of partial sleep. It is a form of intellectation, very peculiar, and attended by very remarkable phenomena, which have in all ages attracted much attention both from the simple and the learned.

The speculations of philosophers on the subject have not as yet been satisfactory, as indeed might be expected, considering that so little is known of the laws which regulate the operations of the waking mind. Dismissing in a great measure the definitions of former writers, I shall probably carry the sense of the ordinary reader along with me, when I say that the operations of the mind in sleep bear a general resemblance to that involuntary streaming of ideas through it in our waking moments, which we are all conscious of; but with this difference, that, in sleep, there is an absence of that faculty or power, whatever it is, which enables us, awake, to see pretty clearly the actual character of things as they exist, and to understand their actual relations; which prevents us, in short, from falling into absurdities. Hence dreams are full of exaggeration and inconsistency, and suppose things in relations which we never see realized. But, while waking thought and dreaming thought are marked by this strong general distinction, it would be too much to say that they are conditions altogether unconnected. The mind in its waking moments often makes a near approach to the dreaming condition. In what are called reveries, the sanest man will occasionally have wild, absurd, and even horrible ideas presented to him, not widely different from dreams in their character. There is, however, this difference, that, while in the waking state the least exertion of his will is sufficient to banish such ideas, he is scarcely ever able to exercise any control over them in sleep, the will being then, as it were, in abeyance.

It may also be remarked, that the simplest kind of dreaming, that which occurs in our soundest state of body, and in the most ordinary circumstances, is exactly such a series of familiar ideas as our minds are usually filled by when our attention is not engaged by special subjects. The persons we have conversed with the day before, the occupations or amusements which engaged us, and the subjects of our reigning hopes, form the matter of our simplest dreams, as they do that of our waking thoughts. And often these are presented in a state as free from

any absurdity as if we were awake. Generally, however, dreaming thought is remarkable for its exemption from the control of that faculty—judgment, reflection, common sense, or causality—which usually gives us clear apprehensions of the nature and arrangements of things. Thus we will feel ourselves in the society of persons long dead, and whom we remember at the time to be dead, and yet we never think there is anything extraordinary in their now going about among the living. We find the house we inhabit to have more or less rooms than is actually the case, or to be in some other way unlike our actual dwelling, and yet we never doubt that this is the house in which we usually live. We are in our ordinary place of worship, and the clergyman performing the service is an old acquaintance dead many years, who, in life, was among the last persons we could have expected to see engaged in such duties. If we have a library, we shall find the books in great disorder; and, if looked into, the authors are such as we have no knowledge of, and the subjects are incomprehensible. A tradesman, dreaming of his shop, will find his stock in bad condition, and a dulness as well as confusion throughout the place. Money is an awkward thing to reckon; if bank-notes, we are sure to meet with such as we never heard of before. In travelling, we commonly get on very quickly, and sometimes continue to move through the air without any action of our limbs.

Seeing and conversing with people long since deceased is an ordinary occurrence, and, what is very distressing, after the death of a near relation or intimate friend, we are apt to dream night after night that he has been seriously ill, but is recovering, or at least is still alive. I have myself several times had a dream of this kind. Some person nearly connected with me, who has been dead some years, appeared not only alive, but looking well for his years, which I ascertained by calculating his age when he died, and adding the years that had passed since; thus making the strange jumble of considering him dead and alive at the same time.

Feverishness, whether arising from uneasiness in the digestive organs or other-

wise, tends to produce painful or horrible dreams. Sleeping on the back, with an overloaded stomach, usually engenders the distressing dream called nightmare, where we feel as if some great load had been placed upon our chest, or some unsightly figure of the fancy had sat down upon it. In milder cases of distress in the stomach, we see a similar figure come into the room, and go about as for our annoyance, or to inflict horrors upon us. Feverish ailments also make us encounter strange wild impossibilities, which we yet feel it to be an unavoidable duty to accomplish, such as the passing over vast gulfs, the climbing of wall-like steeps, or perhaps the reconciling of tremendous moral inconsistencies.

It has been remarked, that everything in dreams, however wild or absurd, seems to come as a matter of course, and excites no surprise. This does not always exactly happen. An elderly person known to me dreamed of being at school, yet had an awkward feeling that he was beyond the proper age. There is also a peculiar dreaming condition in which, struck as it were by the extreme improbability or absurdity of our thoughts, we reflect that it is only a dream. Dr. Beattie mentions a dream in which he found himself standing on the parapet of a bridge, when, reflecting that this was a situation not very likely for him to be in, he supposed that it might be a dream; and, to put this to the proof, threw himself headlong, when he of course awoke.

Though the most ordinary kind of dreaming comprises the things which chiefly engross our attention while awake, yet it happens not unfrequently that the subject of our dreams is hardly connected at all with the present state of things, or the present state of our thoughts; for it is to be noticed, that, though no absolutely new ideas can be presented to our mind while in that state, yet we may sometimes observe such an arrangement of them as has never occurred in our waking moments. Cases will occur where what we see is not confused; it is a distinct representation of something which it is quite possible might happen in reality; but still the idea of such a thing appears never to have been in our mind at any previous time.

For instance, a person dreamed that an elderly widow lady of his acquaintance informed him that she was married a second time, and described her husband by comparing him to a person then deceased, whom the dreamer remembered. Now, the person who had this dream never entertained the most distant idea of the lady marrying again, both from her age and other circumstances; neither was it a subject he took the smallest interest in when awake.

It is a well-known fact, that dreams may be suggested by external causes. Put, for instance, bottles of hot water to the feet of a sleeping person, he will immediately dream of walking over burning lava, or the hot sands of Africa, with all the associated circumstances proper in the case. Play upon his face with a bellows, and he will have a dream of sitting in a draught of air, or walking in a high wind. There have even been instances of sleepers whose dreams could be suggested at will by the conversation of the waking bystanders. These facts show that the mind works in sleep much in the same manner as in our waking moments, but, in the absence of the power of correct perception, is obliged to employ the imagination to account for the things presented to it. When, in the midst of an ordinary dream, some powerful disturbance takes place, as that produced by a violent knocking at the door, the mind sometimes weaves the incident into the tissue of the dream; in which case the sleeper is the less likely to awake; but in other cases the mind fails to reconcile the disturbing incident with its former thoughts, and then a difficulty arises, in which sleep is likely to be broken. There are examples on record of dreams being entirely suggested by casual disturbances. A gun, for instance, is fired under our bedroom window; we immediately have a dream representing a long chain of events which naturally lead on to the firing of a gun; we awake from the noise, and find that only an instant has elapsed since the report which suggested the dream. This has caused some writers to form a theory that dreams are invariably momentary, occurring only at the instant of awaking; and to support this idea, several actual occurrences of a very

remarkable nature have been adduced. For example, when Lavalette was under condemnation, in 1815, he had a dream representing a procession of skinless horses and their riders, which seemed to him to last for several hours; and yet it was ascertained that the whole pageantry had passed through his mind in the little interval between the striking of the hour and the consequent change of the prison sentries. But dreams of this kind are in reality exceptions from the general rule. There is a sense of time in sleep as well as when we are awake, though generally somewhat less correct. In the dreams of healthy sleep, this sense operates with considerable distinctness; and it is only when the mind is in a harassed and excited state that dreams of the kind described take place.

The incoherence, inconsistency, and essential absurdity of many of our thoughts in dreaming bring that state into a resemblance to insanity, which has been remarked by more than one medical writer. Dr. Davey of the Hanwell Lunatic Asylum, England, says: "If we watch a lunatic patient, we shall perceive very much of what I would regard as a state of *active dreaming*; that is to say, a condition which would seem to realize *action* with *unconscious thought*." * * An insane person often reminds me of one asleep and dreaming with his eyes open, and in the exercise of his motive powers. * * I will add, the dreamer with one or two organs alone active, I should be disposed to consider a sleeping monomaniac." This is very striking, and appears to be true; and yet the mind often shows wonderful powers in sleep. A distinguished divine of the present day, who in his college days was devoted to mathematical studies, was once baffled for several days by a difficult problem, which he finally solved in his sleep. Condorcet often overcame similar difficulties in his dreams. Dr. Gregory conceived thoughts in sleep, many of which he afterward employed in his lectures. An eminent Scottish lawyer of the last age had studied an important case for several days: one night his wife observed him rise and go to his desk, where he wrote a long paper, after which he returned to bed. In the morning he told

her that he had had a dream, in which he conceived himself to have delivered an opinion on a case which had exceedingly perplexed him, and he would give anything to recover the train of thought which had then passed through his mind. She directed him to look in his desk, where he found the whole train of thought clearly written out. This paper proved efficacious in the subsequent conduct of the case. We must all remember, too, the fine romantic poem of Kobia Khan, composed by Coleridge in a dream. "The greatest singularity observable in dreams," says Hazlitt, "is the faculty of holding a dialogue with ourselves, as if we were really and effectually two persons. We make a remark, and then expect an answer, which we are to give to ourselves, with the same gravity of attention, and hear it with the same surprise, as if it were really spoken by another person. We are played upon by the puppets of our own moving. We are staggered in an argument by an unforeseen objection, or alarmed at a sudden piece of information of which we have no apprehension till it seems to proceed from the mouth of some one with whom we fancy ourselves conversing. We have, in fact, no idea of what the question will be that we put to ourselves till the moment of its birth." There are instances of very smart and adroit things thus occurring to the mind in sleep. "Mr. S. dreamed that he was in his parlor with a friend, and that a piece of black cloth was lying upon the table, but which his friend happened to remark was flesh color. Hereupon arose a discussion as to the color of the cloth, Mr. S. maintaining that it was black, and his friend as strenuously insisting that it was flesh-color. The dispute became warm, and Mr. S. offered to bet that it was black; his friend also offering to bet that it was flesh-color. Mr. S. concluded the bet, when his friend immediately exclaimed, 'And is not black the color of more than half the human race?' thus completely stealing a march upon Mr. S., and winning the bet. Mr. S. declares that the idea of black being entitled to the name of flesh color had never before occurred to him." An explanation on this subject, suggested by Mr. Carmichael, of Dublin,

accords with the views here taken respecting dreaming generally: "Whatever we are capable of thinking without an effort, we are susceptible of dreaming; and during our *waking reflections* we frequently imagine what kind of reply an adversary might make to an observation we had dropped; we immediately enter into the warmth of argument by coining an answer of our own in return, and when we have said all that occurs on that side of the question, a reply naturally suggests itself on the other, all the merit of which we ascribe to our antagonist; and thus the disputation goes on as if *two different minds* were engaged in the contest—the words, by a strange illusion, tingling in our ears, and the ardent looks and forcible gestures flitting before our eyes, till some real object, breaking on our attention, recalls us to the perception of the external world, and the nature of the reverie, which, till now, we thought real. In sleep there is no such intrusion, but the dream and the reverie do not differ from each other as long as they last."

With reference to the occasional acuteness of the mind in sleep, it seems not unsuitable here to remark, that there are some persons who acknowledge to an unusual felicity of conception at the moment when they are waking. Sir Walter Scott experienced this singular lucidity, which seems half allied to that of a certain class of dreams. The present writer has also been often conscious of useful ideas and happy projects occurring to him for the first time at this peculiar moment. The state is certainly not that of full consciousness; it occurs just as sleep is breaking up. A young man whom I believed to be totally unknown to me called one day, and sent in his card requesting to see me. He was admitted, and addressed me easily and fluently about a situation he was in quest of, asking in conclusion for any information I could give that was likely to be useful. Setting down what was odd in this visit to non-acquaintance with the ways of the world, I gave the youth all the information I possessed, and by-and-by he took his leave, but not till he had asked if I should like to know how he prospered in his canvass. An impression was thus left upon my mind that there was

some misunderstanding between me and my visiter, and that he was treating me all along as an acquaintance, while I conceived him (perhaps erroneously) to be a stranger. I thought little more about the incident; but during the ensuing few days it would now and then come into my mind as a somewhat odd one. Three mornings after, when I was awaking, but not fully awake, the idea occurred to me that the young man was probably the son of a widow lady with whom I was slightly acquainted, and whom I now remembered he resembled a little. And on inquiry, this proved to be the case. The wonder here is, that the idea should have occurred to me at such a moment, as it had failed to present itself when the mind was in a clearer state during two preceding days. I had never, to my knowledge, seen the young man since he grew up; but he may have come under my notice at the recent funeral of one of his relations, which I attended, though I have no recollection of seeing him there, and certainly if I did, never formed the faintest surmise of who he was.

This anecdote seems suitable as a preparation for that class of dreams which Dr. Abercrombie calls "the revival of old associations respecting things which had entirely passed out of the mind, and which seemed to have been forgotten;" about which he at the same time acknowledged that "some of the facts connected with them scarcely appear referrible to any principle with which we are at present acquainted." The learned writer gives the following, as having occurred to a particular friend of his, and to be relied on in its most minute particulars: "The gentleman was at the time connected with one of the principal banks in Glasgow, and was at his place at the tellers' table, where money is paid, when a person entered demanding payment of a sum of six pounds. There were several people waiting, who were, in turn, entitled to be attended to before him, but he was extremely impatient, and rather noisy; and being, besides, a remarkable stammerer, he became so annoying, that another gentleman requested my friend to pay him his money and get rid of him. He did so, accordingly, but with an expression of impatience

at being obliged to attend to him before his turn, and thought no more of the transaction. At the end of the year, which was eight or nine months after, the books of the bank could not be made to balance, the deficiency being exactly six pounds. Several days and nights had been spent in endeavoring to discover the error, but without success; when, at last, my friend returned home, much fatigued, and went to bed. He dreamed of being at his place in the bank, and the whole transaction with the stammerer, as now detailed, passed before him in all its particulars. He awoke under a full impression that the dream was to lead him to the discovery of what he was so anxiously in search of; and, on examination, soon discovered that the sum paid to this person in the manner now mentioned, had been neglected to be inserted in the book of interests, and that it exactly accounted for the error in the balance."

The most remarkable anecdote connected with this part of our subject is one which has been presented under fictitious circumstances in the tale of "The Antiquary," and which the distinguished author has since related in the notes to that novel: "Mr. R. of Bowland, a gentleman of landed property in the vale of Gala, was prosecuted for a very considerable sum, the accumulated arrears of teind (or tithe), for which he was said to be indebted to a noble family, the titulars (lay improprators of the tithes). Mr. R. was strongly impressed with the belief that his father had, by a form of process peculiar to the law of Scotland, purchased these teinds from the titular, and therefore that the present prosecution was groundless. But, after an industrious search among his father's papers, an investigation of the public records, and a careful inquiry among all persons who had transacted law-business for his father, no evidence could be recovered to support his defence. The period was now near at hand when he conceived the loss of his lawsuit to be inevitable, and he had formed his determination to ride to Edinburgh next day, and make the best bargain he could in the way of compromise. He went to bed with this resolution, and with all the circumstances of the case floating upon his

mind, had a dream to the following purpose. His father, who had been many years dead, appeared to him, he thought, and asked him why he was disturbed in his mind. In dreams men are not surprised at such apparitions. Mr. R. thought that he informed his father of the cause of his distress, adding that the payment of a considerable sum of money was the more unpleasant to him, because he had a strong consciousness that it was not due, though he was unable to recover any evidence in support of his belief. 'You are right, my son,' replied the paternal shade; 'I did acquire right to these teinds, for payment of which you are now prosecuted. The papers relating to the transaction are in the hands of Mr. —, a writer (or attorney) who is now retired from professional business, and resides at Inveresk, near Edinburgh. He was a person whom I employed on that occasion for a particular reason, but who never, on any other occasion, transacted business on my account. It is very possible,' pursued the vision, 'that Mr. — may have forgotten a matter which is now of a very old date; but you may call it to his recollection by this token, that, when I came to pay his account, there was difficulty in getting change for a Portugal piece of gold, and that we were forced to drink out the balance at a tavern.'

"Mr. R. awaked in the morning, with all the words of the vision imprinted on his mind, and thought it worth while to ride across the country to Inveresk, instead of going straight to Edinburgh. When he came there, he waited on the gentleman mentioned in the dream, a very old man. Without saying anything of the vision, he inquired whether he remembered having conducted such a matter for his deceased father. The old gentleman could not at first bring the circumstance to his recollection, but, on mention of the Portugal piece of gold, the whole returned upon his memory; he made an immediate search for the papers, and recovered them, so that Mr. R. carried to Edinburgh the documents necessary to gain the cause which he was on the verge of losing."

"There is every reason," says Dr. Abercrombie, "to believe that this very interesting case is referable to the principle

lately mentioned; that the gentleman had heard the circumstances from his father, but had entirely forgotten them, until the frequent and intense application of his mind to the subject with which they were connected at length gave rise to a train of association which recalled them in the dream. To the same principle are referable the two following anecdotes, which I have received as entirely authentic; the first of them from the individual to whom it occurred. A gentleman of the law in Edinburgh had mislaid an important paper connected with the conveyance of a property which was to be settled on a particular day. Most anxious search had been made for it for many days, but the evening of the day previous to that on which the parties were to meet for the final settlement had arrived, without the paper being discovered. The son of the gentleman then went to bed under much anxiety and disappointment, and dreamed that at the time when the missing paper was delivered to his father, his table was covered with papers connected with the affairs of a particular client. He awoke under the impression, went immediately to a box appropriated to the papers of that client, and there found the paper they had been in search of, which had been tied up by mistake in a parcel to which it was in no way related. Another individual connected with a public office had mislaid a paper of such importance, that he was threatened with the loss of his situation if he did not produce it. After a long but unsuccessful search, under intense anxiety, he also dreamed of discovering the paper in a particular place, and found it there accordingly." In seeking to account for these instances, we must bear in mind that often occurrences fail to make any impression upon us, and do not become objects of conscious memory, although the memory of persons who were in our company at the time proves that we had full opportunities of observing and receiving impressions from them. When an effort is made to remind us of such circumstances, we are apt to deny their occurrence, having not the slightest recollection of them. But in such cases it would appear that an impression has been made, although no record of it has been kept; and accordingly some particu-

lar association, may recall it. We have only to suppose conditions particularly favorable for the revival of such lost impressions as occurring at certain times during sleep, to account for the class of dreams under consideration. They seem, however, to prove that the mind sometimes enjoys an unusual clearness in sleep—that there is, in short, a peculiar lucidity occasionally experienced while we are in that state, which generally appears as a suspension of the mental powers.

We now approach the class of dreams which the superstitious are apt to set down as supernatural, but of which, of course, we can only conclude that we are ignorant of the natural principle concerned. Some dreams of this kind are mentioned by old writers. For example, Marcus Antoninus learned in his dreams several remedies for spitting of blood. Galen, having an inflammation of the diaphragm, was directed by a dream to open a vein between the fourth finger and thumb—an operation which restored him to health. "It is related of Sir Christopher Wren, that, when at Paris in 1671, being disordered with 'a pain in his reins,' he sent for a physician, who prescribed blood-letting; but he deferred submitting to it, and dreamed that very night that he was in a place where palm-trees grew, and that a woman in a romantic habit offered dates to him. The next day he sent for dates, which cured him." It is possible that in these instances the remedies suggested may have been mere revivals of knowledge formerly acquired, but forgotten in the interval. But such a surmise is inapplicable to the following case related by Dr. Abercrombie: "A gentleman in Edinburgh was affected with aneurism of the popliteal artery, for which he was under the care of two eminent surgeons, and the day was fixed for the operation. About two days before the time appointed for it, the wife of the patient dreamed that a change had taken place in the disease, in consequence of which the operation would not be required. On examining the tumor in the morning, the gentleman was astonished to find that the pulsation had entirely ceased; and, in short, this turned out to be a spontaneous cure. To persons not professional, it

may be right to mention, that the cure of popliteal aneurism without an operation is a very uncommon occurrence, not happening in one out of numerous instances, and never to be looked upon as probable in any individual case." One can not but be struck with the resemblance of this case to the alleged instances of clairvoyance among the practisers of animal magnetism. It is but proper, however, to advert to the explanation suggested by Dr. Abercrombie, unsatisfactory as it is. "It is likely," says he, "that the lady had heard of the possibility of such a termination [to her husband's illness], and that her anxiety had very naturally embodied it in a dream: the fulfilment of it at the very time when the event took place is certainly," he admits, "a very remarkable coincidence."

The following are from another source no less accredited: "A young lady on the eve of marriage, dreamed one night that she and her lover were walking along a pleasant path side by side. Wide-spreading trees waved their lofty branches above their heads; her lover turned to her with a smile, and asked if he should show her the home which he had provided. She longed to see it, and they pursued their way; they came to a tangled thicket, through which they found a difficulty in passing. At last they suddenly came to an opening; a grave lay open before them; the yew, the cypress, and other dark evergreens, were seen on every side; her lover pointed to the grave, and said, 'There is our home.' She woke in violent agitation. The dream made a dreadful impression on her, and in a few days after, her lover's death was announced to her. She fell into a state of deep dejection, from which her sisters made every effort to rouse her; she attended them in their walks, but was ever pensive and sad. One day, while they were making some purchases in a shop, she loitered listlessly at the door. A woman carrying a basket filled with bunches of sprigs tied up together, advanced toward her, and asked her to purchase some. 'I do not want them,' she replied, without raising her heavy melancholy eyes from the ground. 'Ah! miss, if you don't want them to dress out your rooms, you might like to

have them to strew over the grave of some one that you love.' These words touched the right cord, and she raised her sad eyes to the basket; there she saw bunches of the very same evergreens which her dream had exhibited round the grave of her lover. 'Let me have the whole basket,' she said, 'at any price you please.' Her sisters (from whom I had these particulars) found her pale and faint, with the basket which she had just purchased by her side. She planted the branches round the grave of her lover; some took root, and are now waving their green boughs over the faithful heart that lies buried there.

"Not less remarkable was the dream of Captain F——, a man of exemplary piety, and the strictest veracity. He was in the East India company's service, and having served one-and-twenty years, was about to return to his native country on leave of absence for three years. Some nights before his departure from Calcutta he had a dream that his father died. It was so vivid, and so minutely circumstantial, that it made a very deep impression on him, and he entered all the particulars and the date into his pocket-book. In about six months after, on his arrival in London, he found letters from Ireland, where his family resided, waiting for him. They announced the death of his father, which had occurred on the very night of his dream. This was so singular, that when he joined his sister a few days after, he desired her to enter into no particulars relative to his father's death till she should hear him. 'Sarah,' said he, 'I believe that my father did not die in his own room—his bed was in the parlor.' 'It was, it was, indeed,' replied she; 'he had it brought down a short time after he was taken ill, to save him the fatigue of going up and down stairs.' 'I will show you the spot where it was placed,' said Captain F——; he immediately pointed out the situation of the bed, exactly where it had been. He showed where the coffin had been laid; there was nothing connected with the melancholy event which he could not detail as minutely as those who had actually been present. Strange as all this may appear, it is nevertheless perfectly true. I have frequently heard it

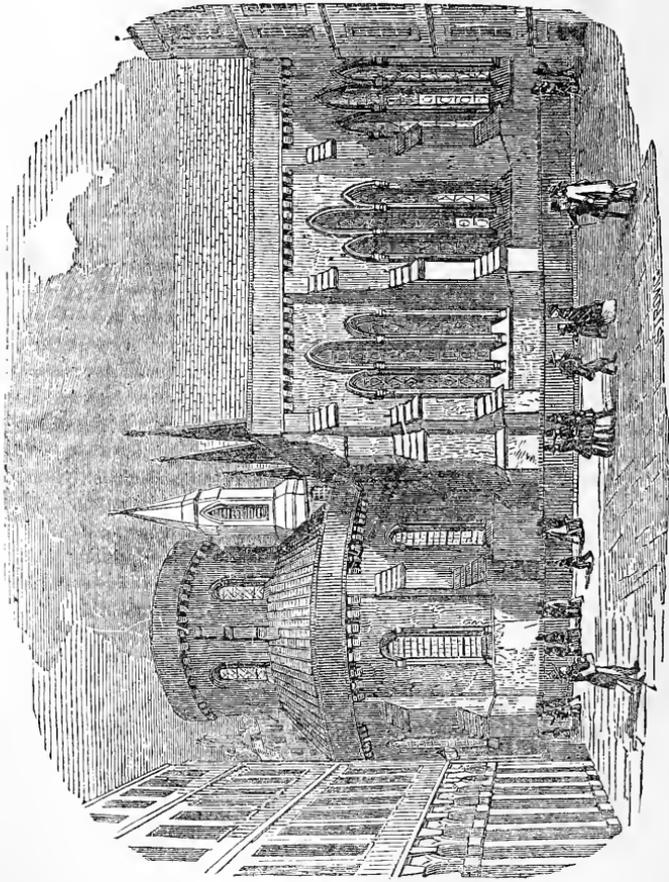
from Captain F—— himself, and from his wife and sister."

The first question which occurs respecting such dreams is, can the recital be depended upon? On this point we should think universal doubt were preposterous, considering that so many such circumstances have been detailed by respectable persons. The next question with many minds will be, are they natural events? Here we should suppose no enlightened person could hesitate for a moment to answer in the affirmative. As natural events, then, how are they to be accounted for? The only reply is, that the principle, if it be one, is unknown to us.

The subject of dreaming is unfortunate in its being so much a matter of vulgar wonderment, for intelligent inquirers are thereby repelled from it. When regarded apart from all absurd marvelling, it is evidently a very curious department of psychology, and one which deserves careful investigation. By a proper collection of facts on this subject, I have no doubt that an important advance might be made in the science of mind.

THE TEMPLE CHURCH.

IF one had never heard of the existence of such a society as the Templars—a band of men who sought to be as conspicuous for their piety as for their military skill and courage, and who made it the business of their lives to reconcile the two pursuits—it would be still difficult to look on the exterior of the structure, which has been recently restored, without some such idea occurring to the mind. In the massive Round, with its buttresses and narrow windows, we are inevitably reminded of the strong circular keep or stronghold of the castles of the middle ages; while the junction of the oblong portion, built in the purest and most beautiful of the early English ecclesiastical styles, at the same time tells plainly enough that no mere warriors erected the whole. And the interest likely to be aroused by such associations is only the more deepened when we inquire into the history of



[The exterior of the Temple Church, from the South.]

the order; when we read of Hugh de Payens with only eight companions devoting themselves as "poor fellow-soldiers of Jesus Christ," to the defence of the pilgrims on the high road to Jerusalem, recently forced from the Saracens by the early Crusaders, and learn that from this humble origin sprung the mighty fellowship, which extended its ramifications through every country of Christian Europe, which comprised a large portion of the noblest in blood, and most influential in wealth and power, of European chivalry; when we read also of the poverty—Hugh de Payens and another knight riding on one horse for instance—the humility and self-sacrifices to which they at first voluntarily submitted themselves, of their heroism in active warfare as well as in passive endurance, of their decline and fall as they grew prosperous and corrupt, and then of the sudden restoration of the old spirit in the purifying flames of the horrible death to which many of the most illustrious members were subjected at the period of the extinction of the order, by the rapacious monarchs of Europe thirsting for their enormous wealth; when we read of these things, we might naturally suppose that it would be difficult to find any other circumstances that could materially enhance in our eyes the chief of the structures built by these men in that country. And had the Temple church been in the state the Templars had left it, no doubt the feeling would have been a correct one; but we know that, with the exception of the bare outline of the walls, pillars, and windows, no building could be less like the church of the Knights Templars than the Temple church; and the great charm and value of the recent works in this now most beautiful of English buildings, is that they are all strictly works of restoration. In looking at the decorations, so novel to the eye, and in such a place so opposed to our ordinary ideas of fitness, this fact must be constantly borne in mind. That it is a fact we shall have various opportunities of noticing in the progress of our paper.

To the lovers of Gothic architecture, the Temple offers an additional feature of interest and instruction, being looked upon by architects as the most interesting exam-

ple extant of the transition from the plain massive Norman to the light and elegant early English. Thus we have before us the Round with its semicircular banded windows, Norman, but Norman in the last stage of the change to something else—already grown slender and elongated; and we have the oblong with its pointed windows, the very perfection of what is called the lancet style. But to return to matters of more general interest: the period of the erection of the edifice is from some little time prior to 1185, when the Round was dedicated, in honor of the Virgin Mary, by Heraclius, patriarch of Jerusalem, up to 1240, when the oblong was consecrated on Ascension-day. Heraclius was in England on business of a very critical nature at the time of the dedication. In a battle on the banks of the Jordan, in 1179, the great body of Knights Templars had been nearly cut to pieces by Saladin, and the grand-master taken prisoner, to perish in prison by his own firmness or obstinacy, in resisting all overtures for exchange or ransom. The Christian armies, however, so far redeemed themselves from the temporary disgrace of this defeat, as to be able to obtain a truce for four years, while they sent Heraclius and the masters of the Temple, and the kindred society of the Hospitalers, through Europe to seek fresh aid. They in particular hoped much from Henry II. of England; so much, indeed, that when the king and his chief nobility offered to raise fifty thousand marks for the purpose of paying the expenses of a levy of troops, and to agree that all persons who pleased might engage in the cause, the patriarch seems to have been at once deeply disappointed and indignant. "We seek a man, and not money," was his reply; "well near every Christian region sendeth unto us money, but no land sendeth to us a prince:" and departing in this state of dissatisfaction, Henry, who had reason to dread the power of the church, remembering the affair of Beckett, followed him to the seaside, in order to appease his anger. "But," continues Fabyan, "the more the king thought to satisfy him with his fair speech, the more the patriarch was discontented, insomuch that, at the last, he said unto him, 'Hitherto thou

had reigned gloriously, but hereafter thou shalt be forsaken of Him whom thou at this time forsakest. Think on Him, what he hath given to thee, and what thou hast yielded to Him again; how first thou wert false unto the king of France, and after slew that holy man Thomas of Canterbury, and, lastly, thou forsakest the protection of Christian faith.' The king was moved with these words, and said unto the patriarch, 'Though all the men of my land were one body, and spake with one mouth, they durst not speak to me such words.' 'No wonder,' said the patriarch, 'for they love thine, and not thee: that is to mean, they love thy goods temporal, and fear thee for loss of promotion, but they love not thy soul.' And when he had so said, he offered his hand to the king, saying, 'Do by me right as thou didst by that blessed man Thomas of Canterbury, for I had liever to be slain of thee than of the Saracens, for thou art worse than any Saracen.' But Henry, however inly exasperated, was determined not to edify his subjects by another kingly scourging, so answered patiently, 'I may not wend out of my land, for my own sons will arise against me when I am absent.' Somewhat irreverently the patriarch closed the conference by remarking, 'No wonder, for of the devil they come, and to the devil they shall go;' and so hurried away." Such were the circumstances connected with the dedication of the Temple in 1185.

In the exterior we are reminded of an interesting chapel formerly attached to its south side; the chapel of St. Anne, where the solemn ceremony of introducing new members into the order took place. The rules of the Templars, which were very strict, were from the hand of St. Bernard, who at an early period of their career treated them with marked consideration. The new member having satisfactorily answered in private to the questions put to him, affirming that he was free from all obligations, such as betrothal, marriage vows, or consecration in connexion with any other order, debt, disease, or weakly constitution, was ushered into the chapel, where he found present the entire body of knights. With folded hands and bended knees, he then said to the master:

"Sir, I am come, before God and before you and the brethren, and pray and beseech you, for the sake of God and our dear Lady, to admit me into your society, and the good deeds of the order, as one who will be all his life long the servant and slave of the order." In answer he was warned, that he was desirous of a great matter; that he saw nothing but the shell, the fine horses and rich caparisons, the luxurious fare, and splendid clothing; but that he knew not the rigor which lay within. He was told it was a hard matter for him, his own master, to become another's servant; to watch when he wished to sleep, and find his most ordinary actions similarly controlled. The candidate, however, answering firmly to all the questions that followed, and binding himself to be obedient to the master of the house, as well as to the master of the order generally, to observe the usual customs, to live chastely, and help with all the powers God had given him to conquer the Holy Land, and to befriend all oppressed Christians, was received into the coveted brotherhood, and while he was assured of bread and water, clothing, and "labor and toil enow," the Templar's habit was put on his limbs, and he too was a Knight Templar. The building in which these interesting scenes occurred appears to have consisted of two stories, each with a separate entrance from the church, each with a groined and vaulted roof, and each divided near the centre by a massive and no doubt very elegant archway. A portion of the building fell in 1825, and during the repairs, commenced about that time, of the Round, the whole was swept away. Such, we are glad to say, is not the spirit in which the late extensive reparations have been carried on. With a few words on this subject, by way of preliminary to the splendid scene that awaits us in the interior, we conclude the present paper. From the time of the puritans down to the very act we have last alluded to, the removal of the chapel of St. Anne, the Temple church seems to have been undergoing one steady process of degradation or mutilation in all that respects its original beauty or completeness; and it would be difficult to say which have done the

most injury, the early church reformers who damaged it on principle, or the kind benefactors of the seventeenth and eighteenth centuries, who repaired and beautified it, making a very labor of love of the display of their bad taste. It were not without interest to follow the successive steps of the restoration to see how the recovery of one beauty led to that of another, and the subsequent discovery of the remains of the original decoration, led to the revival of such decorations in the sumptuous roof, and windows, and pavement, that now meet the eye.

MEN OF THE WORLD.

THERE is a great difference between the power of giving good advice and the ability to act upon it. Theoretical wisdom is perhaps rarely associated with practical wisdom; and we often find that men of no talent whatever contrive to pass through life with credit and propriety, under the guidance of a kind of instinct. These are the persons who seem to stumble by mere good luck upon the philosopher's stone. In the commerce of life, everything they touch seems to turn into gold.

We are apt to place the greatest confidence in the advice of the successful, and none at all in that of the unprosperous, as if fortune never favored fools nor neglected the wise. A man may have more intellect than does him good, for it tempts him to meditate and to compare, when he should act with rapidity and decision; and by trusting too much to his own sagacity, and too little to fortune, he often loses many a golden opportunity, that is like a prize in the lottery to his less brilliant competitors. It is not the men of thought, but the men of action, who are best fitted to push their way upward in the world. The Hamlets or philosophical speculators are out of their element in the crowd. They are wise enough as reflecting observers, but the moment they descend from their solitary elevation, and mingle with the thick throng of their fellow-creatures, there is a sad discrepancy

between their dignity as teachers and their conduct as actors; their wisdom in busy life evaporates in words; they talk like sages, but they act like fools. There is an essential difference between those qualities that are necessary for success in the world, and those that are required in the closet. Bacon was the wisest of human beings in his quiet study, but when he entered the wide and noisy theatre of life, he sometimes conducted himself in a way of which he could have admirably pointed out the impropriety in a moral essay. He knew as well as any man that honesty is the best policy, but he did not always act as if he thought so. The fine intellect of Addison could trace with subtlety and truth all the proprieties of social and of public life, but he was himself deplorably inefficient both as a companion and as a statesman. A more delicate and accurate observer of human life than the poet Cowper is not often met with, though he was absolutely incapable of turning his knowledge and good sense to a practical account, and when he came to act for himself, was as helpless and dependant as a child. The excellent author of the *Wealth of Nations* could not manage the economy of his own house.

People who have sought the advice of successful men of the world, have often experienced a feeling of surprise and disappointment when listening to their commonplace maxims and weak and barren observations. There is very frequently the same discrepancy, though in the opposite extreme, between the words and the actions of prosperous men of the world that I have noticed in the case of unsuccessful men of wisdom. The former talk like fools, but they act like men of sense; the reverse is the case with the latter. The thinkers may safely direct the movements of other men, but they do not seem peculiarly fitted to direct their own.

They who bask in the sunshine of prosperity are generally inclined to be so ungrateful to fortune as to attribute all their success to their own exertions, and to season their pity for their less successful friends with some degree of contempt. In the great majority of cases, nothing can be more ridiculous and unjust. In

the list of the prosperous, there are very few indeed who owe their advancement to talent and sagacity alone. The majority must attribute their rise to a combination of industry, prudence, and good fortune; and there are many who are still more indebted to the lucky accidents of life than to their own character or conduct.

Perhaps not only the higher intellectual gifts, but even the finer moral emotions, are an encumbrance to the fortune-hunter. A gentle disposition and extreme frankness and generosity have been the ruin, in a worldly sense, of many a noble spirit. There is a degree of cautiousness and mistrust, and a certain insensibility and sternness, that seem essential to the man who has to bustle through the world and secure his own interests. He can not turn aside and indulge in generous sympathies, without neglecting in some measure his own affairs. It is, like a pedestrian's progress through a crowded street; he can not pause for a moment, or look to the right or left, without increasing his own obstructions. When time and business press hard upon him, the cry of affliction on the roadside is unheeded and forgotten. He acquires a habit of indifference to all but the one thing needful—his own success.

I shall not here speak of those by-ways to success in life which require only a large share of hypocrisy and meanness; nor of those insinuating manners and frivolous accomplishments which are so often better rewarded than worth or genius; nor of the arts by which a brazen-faced adventurer sometimes throws a modest and meritorious rival into the shade. Nor shall I proceed to show how great a drawback is a noble sincerity in the commerce of the world. The memorable scene between Gil Blas and the archbishop of Toledo is daily and nightly re-acted on the great stage of life. I can not enter upon minute particulars, or touch upon all the numerous branches of my subject, without exceeding the limits I have proposed to myself in the present essay.

Perhaps a knowledge of the world, in the ordinary acceptation of the phrase, may mean nothing more than a knowledge of conventionalisms, or a familiarity with

the forms and ceremonials of society. This, of course, is of easy acquisition when the mind is once bent upon the task. The practice of the small proprieties of life to a congenial spirit soon ceases to be a study; it rapidly becomes a mere habit, or an untroubled and unerring instinct. This is always the case when there is no sedentary labor by the midnight lamp to produce an ungainly stoop in the shoulders, and a conscious defect of grace and pliancy in the limbs; and where there is no abstract thought or poetic vision to dissipate the attention, and blind us to the trivial realities that are passing immediately around us. Some degree of vanity and a perfect self-possession are absolutely essential; but high intellect is only an obstruction. There are some who seem born for the boudoir and the ball-room, while others are as little fitted for fashionable society as a fish is for the open air and the dry land. They who are more familiar with books than with men, cannot look calm and pleased when their souls are inwardly perplexed. The almost venial hypocrisy of politeness is the more criminal and disgusting in their judgment, on account of its difficulty to themselves, and the provoking ease with which it appears to be adopted by others. The loquacity of the forward, the effeminate affectation of the foppish, and the sententiousness of shallow gravity, excite a feeling of contempt and weariness that they have neither the skill nor the inclination to conceal.

A recluse philosopher is unable to return a simple salutation without betraying his awkwardness and uneasiness to the quick eye of the man of the world. He exhibits a ludicrous mixture of humility and pride. He is indignant at the assurance of others, and is mortified at his own timidity. He is vexed that he should suffer those whom he feels to be his inferiors to enjoy a temporary superiority. He is troubled that they should be able to trouble him, and ashamed that they should make him ashamed. Such a man, when he enters into society, brings all his pride, but leaves his vanity behind him. Pride allows our wounds to remain exposed, and makes them doubly irritable; but vanity, as Sancho says of sleep,

seems to cover a man all over as with a cloak. A contemplative spirit can not concentrate its attention on minute and uninteresting ceremonials, and a sense of unfitness for society makes the most ordinary of its duties a painful task. There are some authors who would rather write a quarto volume in praise of woman, than hand a fashionable lady to her chair.

The foolish and formal conversation of polite life is naturally uninteresting to the retired scholar; but it would, perhaps be less objectionable if he thought he could take a share in it with any degree of credit. He can not despise his fellow-creatures, nor be wholly indifferent to their good opinion. Whatever he may think of their manners and conversation, his uneasiness evinces that he does not feel altogether above or independent of them. No man likes to seem unfit for the company he is in. At Rome, every man would be a Roman. * * *

The axioms most familiar to men of the world are passed from one tongue to another without much reflection. They are merely *parroted*. Some critics have thought that the advice which Polonius, in the tragedy of Hamlet, gives his son on his going abroad, exhibits a degree of wisdom wholly inconsistent with the general character of that weak and foolish old man. But in this case, as in most others of a similar nature, we find, on closer consideration, that what may seem at the first glance an error or oversight of Shakspeare's, is only another illustration of his accurate knowledge of human life. The precepts which the old man desires to fix in the mind of Laertes are just such as he might have heard a hundred thousand times in his long passage through the world. They are not brought out from the depths of his own soul; they have only fastened themselves on his memory, and are much nearer to his tongue than to his heart. No one is surprised at the innumerable wise saws and proverbial phrases that issue from the lips of the most silly and ignorant old women in all ranks of life, in town and country, in cottages and in courts. In the conversation of the weakest-minded persons we often find, as in that of Polonius, both "matter and impertinency mixed." His advice is

not that of a philosopher, but of a courtier and man of the world. He echoes the common wisdom of his associates:—

"Give every man thine ear, but few thy voice;
Take each man's censure, but reserve thy judgment."

He is indebted to his court education for this mean and heartless maxim. To listen eagerly to the communications of others, and to conceal his own thoughts, is the first lesson that a courtier learns. Let us quote another specimen of his paternal admonitions—

"Neither a borrower nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry."

Polonius might have picked up this marvellous scrap of prudence in some petty tradesman's shop; not, however, in a pawnbroker's, for the sign of which it would form a very forbidding motto. There are a few precepts in the parting advice of Polonius of a somewhat higher character; but they are only such as float about the world, and are repeated on occasion by all well-intentioned people. They are not of that high and original cast which Shakspeare would have put into the mouth of Hamlet, or any other thoughtful and noble-hearted personage.

It seems paradoxical to affirm that men who are out of the world know more of the philosophy of its movements than those who are in it; but it is nevertheless perfectly true, and easily accounted for. The busy man is so rapidly whirled about in the vast machine, that he has not leisure to observe its motion. An observer stationed on a hill that overlooks a battle can see more distinctly the operations of either army than the combatants themselves. They who have attained success by mere good fortune, are particularly ill-fitted to direct and counsel others who are struggling through the labyrinths of life. A shrewd observer who has touched the rocks, is a better pilot than he who has passed through a difficult channel in ignorance of its dangers.

The extent of a person's knowledge of mankind is not to be calculated by the number of his years. The old, indeed, are always wise in their own estimation, and eagerly volunteer advice, which is not in all cases as eagerly received. The

stale preparatory sentence of "When you have come to my years," &c., is occasionally a prologue to the wearisome farce of second childhood. A Latin proverb says that "experience teacheth." It sometimes does so, but not always. Experience can not confer natural sagacity, and without that, it is nearly useless. It is said to be an axiom in natural history, that a cat will never tread again the road on which it has been beaten; but this has been disproved in a thousand experiments. It is the same with mankind. A weak-minded man, let his years be few or numerous, will no sooner be extricated from a silly scrape, than he will fall again into the same difficulty in the very same way. Nothing is more common than for old women (of either sex) to shake with a solemn gravity their thin gray hairs, as if they covered a repository of gathered wisdom, when perchance some clear and lively head upon younger shoulders has fifty times the knowledge with less than half the pretension. We are not always wise in proportion to our opportunities of acquiring wisdom, but according to the shrewdness and activity of our observation. Nor is a man's fortune in all cases an unequivocal criterion of the character of his intellect or his knowledge in the world. Men in business acquire a habit of guarding themselves very carefully against the arts of those with whom they are brought in contact in their commercial transactions; but they are, perhaps, better versed in goods and securities than in the human heart. They wisely trust a great deal more to law papers than to "the human face divine," or any of those indications of character which are so unerringly perused by a profound observer. A great dramatic poet can lift the curtain of the human heart; but mere men of business must act always in the dark, and, taking it for granted that every individual, whatever his ostensible character, may be a secret villain, they will have no transactions with their fellow-creatures until they have made "assurance doubly sure," and secured themselves from the possibility of roguery and imposition. They carry this habit of caution and mistrustfulness to such a melancholy extreme, that they will hardly lend a guinea to a father or a

brother without a regular receipt. They judge of all mankind by a few wretched exceptions. Lawyers have a similar tendency to form partial and unfavorable opinions of their fellow-creatures, because they come in contact with the worst specimens of humanity, and see more of the dark side of life than other men. Of all classes of men, perhaps the members of the medical profession have the best opportunity of forming a fair and accurate judgment of mankind in general, and it is gratifying to know that none have a higher opinion of human nature.

It is observable that men are very much disposed to "make themselves the measure of mankind;" or in other words, when they paint their fellow-creatures, to dip their brush in the colors of their own heart.

"All seems infected that the infected spy,
As all seems yellow to the jaundiced eye."

On the other hand, a frank and noble spirit observes the world by the light of its own nature; and indeed all who have studied mankind without prejudice or partiality, and with a wide and liberal observation, have felt that man is not altogether unworthy of being formed after the image of his Maker.

Though I have alluded to the tendency of some particular professions to indurate the heart and limit or warp the judgment, I should be sorry, indeed, if the remarks that I have ventured upon this subject should be regarded as an avowal of hostility toward any class whatever of my fellow-creatures. I should be guilty of a gross absurdity and injustice, if I did not readily admit that intellect and virtue are not confined to one class or excluded from another. Men are, generally speaking, very much the creature of circumstance; but there is no condition of life in which the soul has not sometimes asserted her independence of all adventitious distinctions; and there is no trade or profession in which we do not meet with men who are an honor to human nature.

The worthiest people are the most injured by slander; as we usually find that to be the best fruit which the birds have been pecking at.

MOLES.

THE mole, like the rook, has its advocates and its opponents—one party regarding it as benefiting the agriculturist by its mining operations, another party accusing it as the author of extensive mischief. The benefits and the injuries produced by this little animal may be at once appreciated when we come to investigate its habits, instincts, and general economy. We need not say that the mole is a miner, living an almost exclusively subterranean life, ever pursuing its prey through the soil, and working out long galleries in the chase. In accordance with its destined habits is the whole of its structural development. No one examining the external conformation and internal structure of the mole could err in his inferences. We may observe that the body is cylindrical and compact; the snout prolonged and pointed; the limbs very short; the anterior pair present a thick, contracted arm, terminating in broad solid paws, with five fingers scarcely divided, and armed with strong flat nails. The tournure of these *scrapers*, for such they are, gives them an obliquely outward position, and facilitates their use as scooping instruments, by which the soil is not only dug up, but thrown backward at each stroke, and that with great energy. The hinder limbs are small, and the feet feeble in comparison with the anterior *scrapers*; while the body tapers to them from the chest and shoulders, so the hinder quarters offer no impediment to the animal's progress through its narrow galleries. The fur, moreover, is such as best befits a subterranean dweller—it is extremely close, fine, short, and smooth, and resembles the nap of black velvet. There is no external couch to the organs of hearing, the sense of which is acute in the extreme; a simple auditory opening, capable of being closed or dilated at pleasure, leads to the internal apparatus, which is effectually defended from the intrusion of particles of earth and sand. At a cursory glance the mole appears to be destitute of eyes; they are, however, not wanting, though very small, and buried in the fur. A limited power of vision is sufficient for this dweller in the dark; the

mole, however, can see better than might be imagined. By a peculiar and muscular contrivance it is capable of bringing forward, or of drawing in, the eye—and this, when withdrawn, is enveloped in and defended by the close fur; so that, as is the case with the ear, no particles of earth can injure it. We have said that the sense of hearing is exquisite; and to it the mole trusts for warning on the approach of danger:—

“Pray you tread softly, that the blind mole may
Not hear a foot fall.”—SHAKSPEARE.

But the sense of smell is equally delicate; and by this it is guided in its search for food. It bores its long sharp nose in the earth as it traverses its galleries, and immediately detects worms and the larvæ of insects, which constitute its chief food. Nor is the feeling of this part at a low ratio: it is, on the contrary, very acute and susceptible, and aids the sense of smell in the procuring of food. The pointed snout is, indeed, a finger-like organ of prehension, as well as a boring instrument. The general skin of the body is strong and tough, and not easily torn or lacerated.

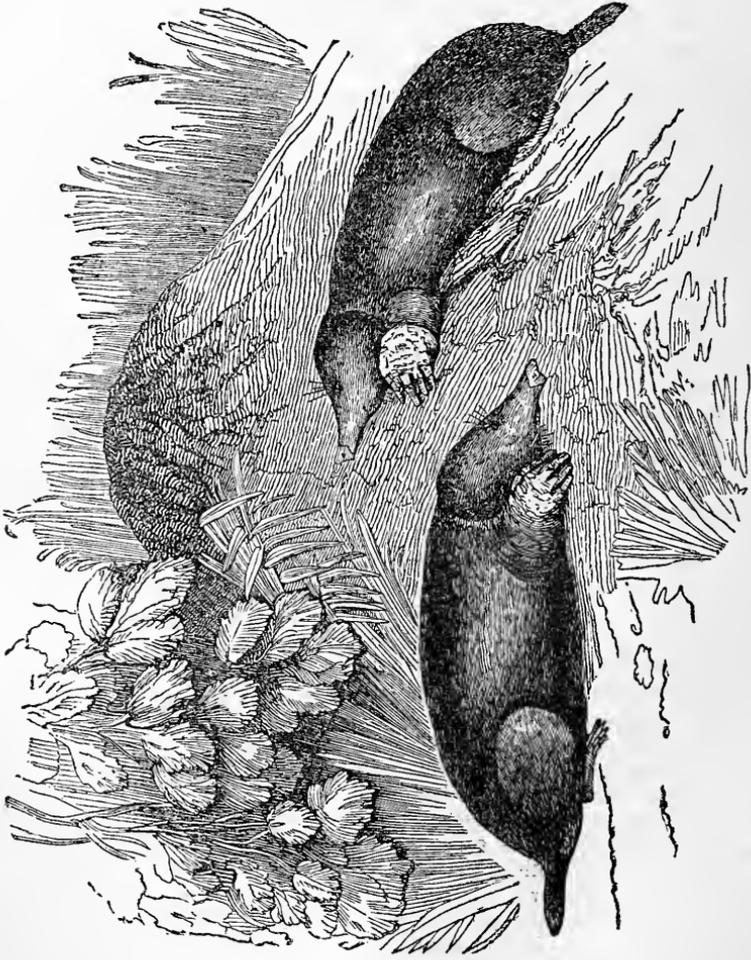
When we examine the osseous and muscular development of the mole, we find a perfect correspondence with its external characters and the perfection of its senses. Let us proceed to an investigation of its habits and modes of life.

“Well said, old mole;—canst work in the earth
So fast?—A worthy pioneer.”—SHAKSPEARE.

It is to M. Henri le Court, who, when the French revolution broke forth with all the excesses an infuriated populace can be imagined to commit, retired into the country, and there, remote from scenes of devastation and bloodshed, devoted himself to the study of this animal, that we are indebted for the most interesting facts in its history.

The discoveries which were made by this observer were published in 1803, by M. Cadel de Vaux, and in a compressed form by St. Hiliare, in his “Cours d’Histoire Naturelle.”

It would appear that the subterranean labors of the mole are exerted in the accomplishment of very different objects. Each mole may be said to have its own district or manor, its hunting-ground, and



Moles—*Talpa Europea*.

its lodges; and this ground is traversed by high-road tunnels, through which it travels from one part to another, all branching off from a central fortress—its ordinary residence, which is, however, not only distinct, but often remote from the chamber in which the nest is made and the young reared. We will begin by describing the fortress, or ordinary domicile: This fortress is constructed under a hillock of considerable size (not one of those which we ordinarily see, and which, thrown up every night, indicate its hunting excursions). This hillock is raised in some secure place, where a high bank, the roots of a tree, or the base of a wall, afford protection. The earth forming this mound is well compacted together, and made solid by the labors of the architect; and within this firm-set mound is a complex arrangement of galleries and passages of communication. First, a circular gallery occupies the upper portion of the mound, and this communicates by means of five descending passages with another, and with a gallery at the base of the mound, and enclosing a larger area. These passages are nearly at equal distances. Within the area of this lower gallery is a chamber, not immediately communicating with it, but with the upper gallery, by three abruptly descending tunnels, so that to get into the basal gallery the mole has first to ascend to the top gallery, and from that descend into the lower gallery. This chamber is the dormitory of the mole. From the basal gallery opens a high-road tunnel, which is carried out in a direct line to the extent of the manor over which the individual presides, and from the bottom of the central chamber a passage descends, and then sweeping upward joins this main road at a little distance from the hillock; so that the mole can enter the high-road either from its dormitory or from the basal gallery. Besides the high-road eight or nine other tunnels are carried out from the basal gallery; they are of greater or less extent, and wind round more or less irregularly, opening into the high-road at various distances from the hillock: these irregular tunnels the mole is continually extending in quest of prey; throwing up the soil above the turf, through holes which it makes for the purpose, and

which form the ordinary mole-hills which we often see crowded thickly together. The high or main road exceeds in diameter the body of the mole, and is solid and well trodden, with smooth sides; its depth varies, according to the quality of the soil, instinct directing the little excavator in his work. Ordinarily it is five or six inches below the surface, but when carried under a streamlet or pathway it is often a foot and a half beneath. It sometimes happens that the mole will drive two or more additional high-roads in order to the extension of its operations. They often meet in these roads, which will not admit of two passing at the same time; one therefore must retreat, but when two males thus come into collision they frequently attack each other, the weaker falling a victim in the combat. The alleys opening from the sides of the high-road are generally inclined downward with a gradual slope, and then at the termination of these the mole excavates branch alleys, upheaving mole-hills as it works onward in pursuit of prey. This, however, is not invariably the case, but rather where prey is abundant in rich soils: where the soil is barren the mole is constantly driving fresh alleys; these in winter are carried deep down to where the worms have pierced their way beyond the line to which the frost penetrates; for, be it observed, the mole does not hibernate, but is as active during winter as in spring or summer, though the results of his operations are less manifest. In soft rich soils, where the worms are among the roots of the turf, the mole, as may be often noticed, drives very superficial runs in the pursuit of them; these runs are to be seen where a thin layer of richly manured soil overlies a stratum of gravel: in fact the depth of these alleys is always determined by the quality of the soil and consequent situation of the worms. With respect to the nest of the female, it is generally constructed at a distance from the fortress, where, at some convenient part, three or four passages intersect each other: this point of convergence is enlarged and rendered commodious, and fitted to receive a bed made of dry herbage, fibrous roots, &c. The chamber is generally beneath a large hillock, but not always; and the

surrounding soil is usually such as to afford abundant food to the female with little trouble on her part. The mole breeds in the spring, mostly in April, and brings forth four or five young at a birth. These are supposed to remain under the mother's care till about half grown, when they commence an independent existence.

Of all animals the mole is one that endures fasting the least; a short fast proves fatal to it, hence it is necessarily ever laboring in quest of food. It would appear that all its animal appetites are in excess; its hunger is voracity amounting to rage, under the influence of which it fastens on its prey with intense eagerness. Earthworms are its favorite food, and these it skins with great address, squeezing out the earthy contents of the body before swallowing it. It is not, however, exclusively upon earthworms and the larvæ of insects that the mole feeds; during the months of June and July it is in the habit of leaving its runs under the turf, and of wandering during the night (and occasionally even during the day) on the surface in quest of prey, such as birds, mice, frogs, lizards, snails, &c.; but it refuses to touch the toad, in consequence no doubt of the acrid exudation from that reptile's skin. During these nocturnal excursions it often falls a prey to the owl; and we have seen it in the daytime caught and killed by dogs. It might be supposed from the figure of the mole that its motions were very slow and deliberate; it trips along, however, at a fair pace, and traverses its underground runs and galleries with great rapidity. Of this the experiments made by Le Court afford decisive proof. Watching the opportunity while a mole was feeding, at the extreme limits of its territory, he placed along the course of the high-road to its fortress a number of little flag-staffs, each being a straw, and the flag a bit of paper; the ends of the straws were pushed down into the tunnel. When all was ready he blew a horn inserted into one of the openings of the feeding alleys, frightening with the horrid blast the animal then busily engaged in the important task of satisfying its hunger. Off started the mole for its fortress, and down went flag after flag in rapid succession, as the frightened crea-

ture impelled by terror rushed along the tunnel to its asylum. So swift was its pace, that the spectators compared it to that of a horse at a moderate trot.

The voracity of the mole and its perpetually recurring repasts upon animal food, render water not only a welcome refreshment, but necessary to its existence. A run, sometimes used by many individuals, always leads to a ditch, stream, or pond, if such be within a moderate distance. If these natural supplies be not at hand, the mole sinks little wells, in the shape of perpendicular shafts, which become filled with the rain, and retain the water; and they have sometimes been found brimfull. Scarcity of water, or a drought, as well as a scarcity of worms, often obliges the mole to shift its quarters, and locate upon other grounds. In its migration it will cross brooks or rivers, swimming admirably; and when spring or autumn floods inundate the fields, it easily saves itself by these means. It is moreover affirmed that in this peril the male and female brave the waters together, and expose themselves to the utmost danger in order to save their young, in which office of parental devotion they mutually assist and protect each other.

It is a remarkable circumstance that the males of this animal are far more numerous than the females, and in the early part of the spring the former often engage in most desperate conflicts, the victor not unfrequently leaving the vanquished dead upon the spot. The attachment of the male to his mate is very powerful; and instances are not uncommon of the male lying dead beside the female, the latter having been killed in a trap. It must be recollected that a short fast proves fatal to these animals—and it is not improbable that, impelled by the force of instinctive attachment, which overcame that of hunger, the male rejected or forbore to seek food, and thus pined to death.

With the voracity of the mole is joined a fierce and combative disposition. If several moles be kept in a box of earth, and not supplied with an abundance of food, they attack each other, and the weaker falls a prey to the stronger: when the mole seizes, it holds like a bulldog, with a tenacious gripe, and is not easily

disengaged. Mr. Jackson says that, "when a boy, his hand was so severely and firmly laid hold of by one, that he was obliged to use his teeth in order to loosen its hold." M. St. Hilaire describes the manner in which the mole approaches and seizes a bird: it exerts several stratagems to get within reach of its victim, employing the utmost address and caution; but when this is accomplished, it suddenly changes its plan, and makes an instantaneous and impetuous attack, fastens on the hapless bird, tears open the abdomen, thrusts its snout among the viscera, and revels in its sanguinary repast. After satiating its ravenous appetite, the mole sinks into a profound repose: in the winter it slumbers in its fortress; but in the summer, beneath some ordinary mole-hill in one of its alleys. This sleep endures for about four hours, or perhaps longer in the middle of the day, when it awakes with a renovated appetite. Its busiest time is in the evening, during the night, and early in the morning. We have, however, ourselves seen it busy above-ground in the earlier part of the day; on one occasion we saw several in a damp meadow near the canal running from Calais to St. Omer, and a dog belonging to one of the passengers on board the boat killed two or three.

From what we have said of the habits of the mole, some idea may be formed as to whether it injures or benefits the agriculturist and horticulturist. It is certainly not herbivorous; for though fibrous roots and other vegetables have been occasionally found in its stomach, it is evident that they were only accidentally swallowed with the worms it had dislodged from among the roots of the grass, or with the larvæ which it had extricated by gnawing the vegetable matters into which they had bored. As regards its nest, which is made of dried grasses, fibrous roots, moss, and the like, little injury can result from the animal constructing it of these materials. It is true that St. Hilaire and Le Court counted two hundred and four young wheat-blades in one nest, but this is evidently not an ordinary occurrence. It is alleged that the fortresses which the mole constructs for its autumn and winter residence, when left in the summer (the mole usually forming a new one for its next

winter retreat), afford protection to the field-mouse, of which the ravages are often so severe; but the field-mouse would make a burrow for itself, did it not find one constructed for its purpose, and would neither leave the spot nor become diminished in numbers if not a mole-hill were in the country; besides, the field-mouse frequently falls a prey to the mole. This objection, therefore, against the mole is destitute of solidity, though it has often been urged. The injury, therefore, which the mole produces must be, first, from thinning the soil of earthworms; and secondly, from making galleries, and thus interfering with the roots of vegetables, thereby causing their destruction. The first argument has perhaps some weight. The utility of the earthworm is unquestionable. It loosens the soil by its boring operations, thereby rendering it more porous and susceptible of the infiltration of water, so essential to the nutriment of plants. It moreover raises as well as lightens the surface of the soil, inasmuch that stones and other objects which cumber the ground are even in a few months buried beneath an accumulation of mould, the rejectamentum of the nutritive materials of myriads of these creatures, the effect of whose agency is to level and smooth the surface of the soil and fit it for herbage. Thus may they be called pasture-makers, or top-dressers of pasture land. Still, granting all this, it is questionable whether in rich soils the quantity of worms destroyed, however great, would materially reduce their countless numbers. With respect to the second point, moles certainly do mischief in some cases to the farmer, by excavating their runs and galleries, and that especially in fields of grain, after the seed is sown, and when the blades are rising; they do more mischief, however, in gardens; but there they occur very rarely. There are, however, cases in which the mining operations of the mole appear to be decidedly beneficial. In extensive sheep-walks, the subsoil which they throw up forms a good top-dressing to the short grass, the roots of which they do not appear to injure, and it has been asserted that sheep-walks from which these animals have been extirpated have become materially altered in the

character of their "feed," and that the proprietors of the sheep have been obliged to introduce them again. It may be concluded, then, that the evils which the mole occasions by its works have been greatly magnified; while, perhaps, on the other hand, too much benefit has been attributed, by its advocates, to the results of its habits and economy.

The mole does not exist in the extreme north of Scotland, in Zetland, or the Orkney islands, nor has it been seen in any part of Ireland.

Varieties of this animal often occur: we have examined specimens of a mouse-color, of a white, cream white, and pale yellowish orange.

The name by which the mole is known in England are Mouldwarp, Mouldiwarp, and, in Dorsetshire and Devonshire, *Want*. "Wand" is its old Danish name; and "Vond" its present name in Norway. The Welsh term it Gwadd, and Twrch daear. It is the Maulwerf of the Germans; La Taupe of the French; Topo of the Spanish; Toupeiro of the Portuguese; and Talpa of the Italians.

ON PRETERNATURAL RAINS.

THOUGH the world talks of the skies "raining cats and dogs," yet this is evidently regarded merely as a pleasantry, not likely to be disturbed by the fulfilment of the phenomenon. But if we were told that the skies had "rained fishes," and were to regard that as equally a joke, it might be found that incredulity proceeded in this case a little too far. The recorded instances bearing on this point are too numerous, and too well authenticated to be disbelieved or slighted.

The phrase "raining fishes" is merely indicative of the popular notion entertained respecting the phenomenon in India, where it occurs very frequently; the facts themselves may be recorded without the necessity for assent to so startling an idea as the precipitation of fishes from the clouds. All that is meant to be conveyed by the expression is, that fishes are found

to fall on dry land, under peculiar states of the weather.

Newspapers and periodicals published in India frequently contain notices of these falls of fish; and one gentleman, writing on the subject, says: "I was as incredulous as my neighbors, until I once found a small fish, which had apparently been alive when it fell in the brass funnel of my pluviometer at Benares, which stood on an insulated stone pillar, raised five feet above the ground in my garden." Another gentleman, writing in September, 1839, and in relation to a spot about twenty miles south of Calcutta, states: "About two o'clock, P.M., of the 20th inst. we had a very smart shower of rain, and with it descended a quantity of *live fish*, about three inches in length, and all of one kind only. They fell in a straight line on the road from my house to the tank, which is about forty or fifty yards distant. Those which fell on the hard ground were as a matter of course killed from the fall; but those which fell where there was grass sustained no injury; and I picked up a large quantity of them 'alive and kicking,' and let them go into my tank. . . . The most strange thing that ever struck me, in connexion with this event, was, that the fish did not fall helter-skelter, everywhere, or 'here and there;' but they fell in a straight line, not more than a cubit in breadth." The explanation which this last gentleman deems most probable, is one to which we shall allude further on.

Another example is said to have taken place near Allahabad. About noon, on a particular day in the month of May, the wind being from the west, and a few distant clouds visible, a blast of high wind came on, accompanied with so much dust as to change the tint of the atmosphere to a reddish hue. The blast appeared to extend in breadth four hundred yards, and was so violent that many large trees were blown down. When the storm had passed over, the ground south of the village where the observation was made, was found to be covered with fish, not less than three or four thousand in number. The fish were all about a span in length, and of a species well known in India. When found they were all dead and dry.

A lady residing at Moradabad, in a let-

ter to a friend in England, in 1829, gives an account of a number of fish that had fallen in a shower at that place; many of these were observed springing about upon the grass in front of the house, immediately after the storm. The letter (which was read before the Linnæan society) was accompanied by a drawing of one of the fish, taken from life at the moment: it was a small species of *cyprinus*, two inches and a quarter long, green above, silvery white below, with broad, lateral, bright red lines.

In our own land, as well as in England, there are not wanting instances bearing on this point; and it is probable that these accounts have been extensively disbelieved, as much on account of their rarity as of their apparent marvellousness. The following narration, while it indicates what was in all probability a fact, includes an hypothesis which does not necessarily belong to it, and which may have interfered with the reception of the narration; it is from "Hasted's History of Kent." "About Easter, 1666, in the parish of Stanstead, which is a considerable distance from the sea, or any branch of it, and a place where there are no fish-ponds, and rather a scarcity of water, a pasture-field was scattered all over with small fish, in quantity about a bushel, supposed to have been rained down from a cloud, there having been at the time a great tempest of thunder, rain, and wind. The fish were about the size of a man's little finger. Some were like small whittings, others like sprats; and some smaller, like smelts. Several of these fish were sold publicly at Maidstone and Dartford." The hypothesis here is evidently that the fish had been "rained down from a cloud;" one which certainly taxes the powers of belief.

In the year 1830 the following appeared in a local Scotch newspaper: "On the 9th of March, 1830, the inhabitants of the island of Ula, in Argyleshire, after a day of very hard rain, were surprised to find numbers of small herrings strewed over the fields, perfectly fresh, and some of them exhibiting signs of life."

Now all these accounts become in explicable if we presuppose the occurrence of a violent storm of wind; and it is observable that nearly all the accounts agree

in stating that high and strong wind accompanied or preceded the phenomenon noticed. A very violent wind, driving obliquely over the surface of a river, may be able to carry along with it the smaller fish swimming near the surface (and they are all *small* which are said to fall "with rain"), leaving the heavier ones behind, and depositing the lighter ones on dry land, as soon as the force of the blast becomes proportionably less than the weight of the fish. A writer on this subject says: "The raining of fishes has been a prodigy much talked of in France, where the streets of a town at some distance from Paris, after a terrible hurricane in the night, which tore up trees, blew down houses, &c., were found in a manner covered with fishes of various sizes. Nobody here made any doubt of these having fallen from the clouds; nor did the absurdity of fish of five or six inches long being generated in the air at all startle the people, or shake their belief in the miracle, till they found upon inquiry, that a very well-stocked fish-pond, which stood on an eminence in the neighborhood, had been blown dry by the hurricane, and only the great fish left at the bottom of it, all the smaller fry having been tossed into the streets."

It is probable that this last example would be found illustrative of a large proportion of the cases recorded; since it is not necessary to the truth of the accounts that the fish should have fallen near a pond or stream. A high wind may at the same time be so fierce and so long continued as to carry the fish or any other bodies wafted with it to a great distance. A curious circumstance has been recorded by Mr. Fairholme, who wrote on this subject, which, though not relating immediately to fish, will show how articles may be suspended for a time in the air by the action of the wind: "I remember on one occasion, in the midst of the most perfect tranquillity, and in a very sheltered garden in the south of Scotland, seeing a quantity of clothes, which had been spread to dry on a smooth bowling-green, suddenly thrown into the utmost confusion, and some of the articles carried up into the air so high as to be nearly lost to view. They were watched by myself

and others for upward of half an hour, and were found next day at a distance of three miles."

This example will serve to illustrate not so much the effect of a direct and rushing wind, as another wind to which these results have also been referred, viz. a whirlwind. These extraordinary phenomena, occasioned probably by sudden irregularities in the temperature and electrical condition of the air, manifest themselves in a violent spiral aerial current, whirling upward with great rapidity, and carrying up within their vortex any small or light bodies which may be within their circuit. If this should occur at sea, an immense volume of water is carried up at the same time, forming what is called a water-spout; and it is unquestionable that if water can be thus drawn up, small fishes may be similarly affected. If the spiral current of air, whether including water within it or not, remain stationary above the spot where it was formed, then whatever was drawn up with it will after a time be precipitated nearly to the same point as that from which it was taken; but if the whirlwind or water-spout itself moves onward, then the contained matters will be carried with it, until the force of the blast dies away, and the substances are precipitated to the ground simply by their own gravity. Whirlwinds of this kind are very common in India; and it seems consistent with all the details hitherto recorded, that when fishes, either alive or dead, are seen to fall to the ground, they have been wafted from some sea, lake, river, or pond, by one of these two agencies—either a powerful wind, which by sheer force drove the fish out of their watery element; or by a whirlwind, which drew the water and the fish upward in its vortex by a species of suction, and then wafted them to a considerable distance before precipitation.

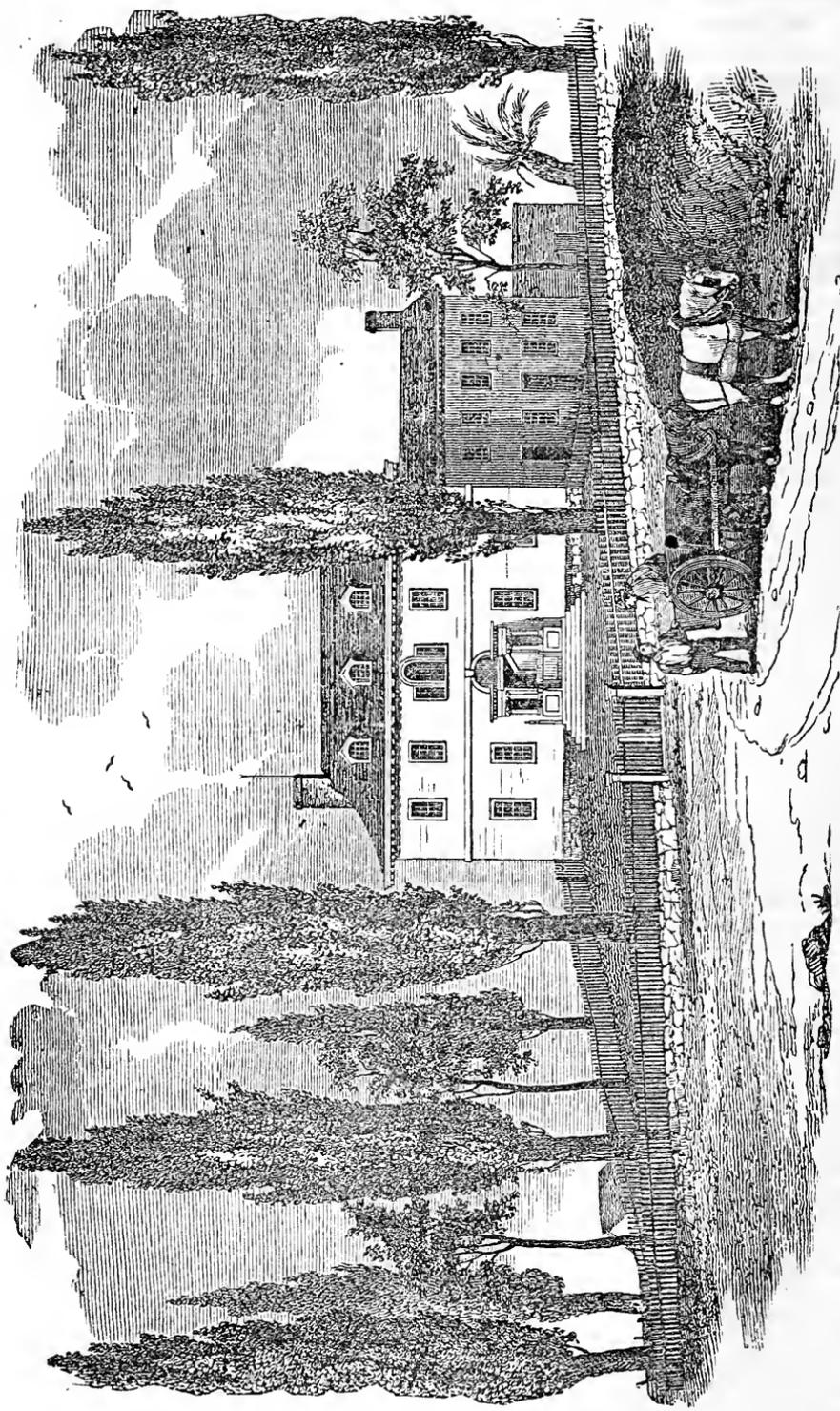
The lovers of the marvellous are wont to talk of the raining of frogs, the raining of stones, the raining of blood, and many other astounding matters of a similar kind; but, as may be well supposed, the details admit of interpretation very different from the popular one. Swammerdam relates the following circumstance as having occurred at the Hague in 1670:

One morning the whole town was in an uproar on finding their lakes and ditches full of a red liquid, which was with the common consent of the vulgar believed to be blood. The lakes were known to be full of water the night before; and it was therefore deemed a logical inference that there must have been a shower of blood during the night. A physician, however, went down to one of the ditches, and took home thence a quantity of this blood-colored liquid: he examined it by the microscope, and found that the water was water still, and had not at all changed its color; but that it swarmed with a prodigious number of small red animals, all alive, and very nimble in their motions, whose color and number gave a red tinge to the whole body of the water they lived in, when viewed from a distance. The certainty, however, that this was the case did not persuade the Hollanders to renounce the marvel: they came to the conclusion that the sudden appearance of such a number of animals was as great a prodigy as the raining of blood would have been; and for generations afterward it was regarded as a portent and foretelling of the scene of war and devastation brought about in Holland by Louis XIV."

The appearance of the insects in such numbers is accounted for thus (for as no one appears to have asserted that he saw blood-colored liquid fall from the clouds, we are spared the necessity of any further explanation): these little animals are the *pulices arborescentes* of Swammerdam, or the water-fleas with branched horns. These creatures are of a reddish-yellow or flame color. They live about the sides of ditches, under weeds, and among the mud, and are therefore not generally very visible. At about the end of May and the beginning of June, however, these little animals leave their recesses, to float loose about the water, and by that means become visible by the color they impart to the water.

High winds, little red insects, and meteorolites, will probably exhaust the list, and explain the causes, of what are termed "preternatural rains."

Experience is the mother of science.
Learning refines and elevates the mind.



WASHINGTON'S HEAD QUARTERS AT MORRISTOWN, N. J.

WASHINGTON'S HEADQUARTERS, MORRISTOWN, N. J.

OUR frontispiece is a representation of the mansion of the Hon. JUDGE FORD, of Morristown, New Jersey, which was occupied by General Washington during the winter of 1777, as his headquarters, whither he had retired after the memorable battle of Princeton. The events which had transpired immediately preceding the period when Washington chose Morristown for his winter quarters, were as extraordinary as they were vitally important to the cause of America. By great exertions and imminent peril he had succeeded in crossing the Delaware just at the commencement of a severe winter, with an army poorly clad, greatly inferior in numbers and discipline to the enemy, and their term of service just expired. The hardships of war, the despondency of hope deferred, and other depressing causes, wrought in a great majority of them a determination to quit the army and retire to their homes. The commander-in-chief saw that the fate of the country depended on them, and with persuasions and largesses he prevailed on them to remain in service six weeks longer.

Sir William Howe, observing this bold movement of the little army of Americans, resolved to punish them for their audacity, and sent Cornwallis, who was about embarking for England, to drive them from New Jersey. Washington made immediate preparations for his reception, for he well knew that this struggle would be a decisive one. He knew that fearful odds were against him, but he trusted to the superior strength of that principle which actuates men when fighting for their families and firesides. He was then stationed at Trenton, and learning that the enemy's battalions were marching toward that place, he prepared for an attack. Detachments harassed them on the road, and they did not arrive till four o'clock in the afternoon, when a conflict ensued which lasted till dusk. Cornwallis determined to renew the attack in the morning, but when the day dawned, the Americans had disappeared. By a circuitous route, Washington had marched

to Princeton, where three regiments were stationed, with orders to reinforce Cornwallis, and before sunrise on the morning of the 3d of January, 1777, he commenced an attack upon them, which led to a decisive victory. The British had more than 100 killed, and 300 taken prisoners. The American loss was small in numbers, but great in the death of the brave General Mercer and Colonels Haslett and Potter.

After this battle, Washington marched to Pluckemin, where his troops, who had not slept for thirty-six hours, found rest. After a halt of a day or two, he marched to Morristown, where he took up his winter quarters.

WEATHER PROGNOSTICATION.

BOTH ancients and moderns have been much addicted to looking into futurity as to the weather. Providence, however, seems to confine our knowledge of this kind within narrow bounds. An author (Dr. Johnson) who makes no pretensions to meteorological science, has boldly affirmed, that on the morning of one day we can not tell for certain what will be the weather of next morning. One may guess, and guess rightly at times; still it is but bad guesswork.

Many years' diligent observation, and the perusal of all the treatises he could find on the subject, have led the writer to be of opinion, that the appearance of the heavens is the only thing to be depended upon as prognosticating change of weather; and the utmost certain observation to be obtained in this way extends but to a few hours previous. It often happens, indeed, that the transition from one state of the atmosphere to another is so sudden, that no notice whatever is given beforehand.

The phases of the moon are a favorite subject for the weather-wise. Our almanacs contain regular tables, inferring to every quadrature a different kind of weather; whereas the truth is, a whole lunation may pass without any change of the least importance. From close examination, these tables may be pronounced to be

useless for any practical purpose. That they are always wrong, is indeed impossible; for even the most random conjecture will often prove right. This is the great source of delusion to the common people, and even to those who should know better, that if they now and then see a very distinct change with a new or full moon, they conclude such may always be depended upon.

It has been proved, indeed, that the position or phases of the moon have some influence on the weather; and Toaldo, an eminent Italian astronomer, has given a table of this kind, deduced from about forty years' observations; but his calculations amount to mere probabilities, and often remote ones, so that the information he presents is not of any great value. Another difficulty occurs in speaking of a change—that the weather is sometimes in such an anomalous state, that we can hardly say whether a change has taken place or not.

The aspect of the heavens is, however, worthy of our most careful observation, as here we have something like certainty in the warning it gives us. The clouds have been accurately classified in three great divisions: 1. The *cumulus*, having a swelling roundish appearance, somewhat like wool; 2. The *stratus*, which is quite flat, and sometimes divided into oblong divisions with sharp edges; 3. The *nimbus*, or rain cloud. There are also diminutives of the first two. The *cirrho-cumulus*, which appears like a chain of small woolly-looking clouds, and the *cirrho-stratus*, which extends like long streaks.

Every one knows that a gradual accumulation of dark clouds is commonly a pretty sure indication of rain. But though one would think the *nimbus* is more like the *cumulus* than the *stratus*, the latter more certainly denotes the approach of rain, though at some hours' distance. For instance in the evening, *stratus* of a dark color extending lengthwise, somewhat like fishes with very little motion, are pretty sure harbingers of rain. On the other hand, *cumuli*, though rather dense and opaque, if sailing along quickly with the wind, have very little moisture, and, at the most, emit now and then a trifling shower. The case is different, however,

if they move against the wind, for then they very soon assume the appearance and properties of the *nimbus*.

A haziness in which the sun, if in the daytime, or the moon and stars at night, get gradually dimmer, and at length disappear, in summer and harvest denotes rain; the air is then usually calm, and the rain lasts about five or six hours. The heaviest rains of the whole year probably fall in the latter part of summer and harvest. The wind is then commonly easterly, and the clouds, as far as we can observe, are low and misty, flying with the wind; but the real *nimbus* is probably in a higher region of the air, and moving slowly from the south. Mists in the spring seldom lead to much moisture; but in the autumn, and latter part of the season, they are often followed by a tract of very wet weather. Country people, too, distinguish between white and black mists, the former being indications of dry, and the latter of wet weather. This may be easily explained by the former having no clouds above them, and the latter being shaded by dense masses of vapor. The barometer assists in pointing out a difference between clouds which otherwise is not readily discernible. Thus, with a high barometer, the heavens may be covered with dark clouds of the *cumulus* species, yet not threatening rain; but with a low barometer, the smallest cloud, in passing, has its sprinkling of wet.

Of thunder-storms, however violent, we have often but very short previous knowledge. The air is commonly still; the clouds move slowly from the south, and are exceedingly dense and dark. Sometimes their motion is confused, as if running against one another. Thunder is usually, though not always, accompanied with very heavy rain; and the weather, if hot before, becomes much cooler. In the autumn evenings we have sometimes a great deal of lightning, without thunder. In this case it appears under a great many fantastic shapes, but seems to have little effect on the weather.

The *aurora borealis* prevails chiefly in the latter part of the season. When its coruscations are very bright, it indicates a stormy, moist, and unsettled state of the atmosphere. Lunar halos, if distinct,

seem to announce a strong wind rising. Prognostics of change of weather from plants and animals are not of great value, though they fill up pages in treating of this subject. It is true enough that both plants and animals are sensitive to these changes; but the notice they give is very short, while the appearances of the heavens are still more accurate, and within everybody's observation. For instance, the low flying of the swallow is supposed to announce rain; but it is not easy to define their low flying, they take so many altitudes. Ducks and other aquatic birds are usually noisy and active in wet weather; but to take warning from their quacking is unnecessary, as we have more certain notice otherwise.

There have been calculations, also, how often dryness or wetness in one season affects those following; but the experience of many successive years only shows an uncertain degree of probability that such may be the case. The prevalence of particular winds certainly leads more or less to similar tracts of weather. Westerly winds prevail almost two thirds of the year, and easterly one third. From March to the end of June, east winds occur oftenest, and west winds during the rest of the year. The direct west wind is usually dry, with rather a cold temperature; but, veering to the south, it inclines more or less to moisture. The north wind is always cold, and usually, but not always, dry. Coming after a tract of very wet weather, it generally clears the air.

A great deal has been said about prognostication from the barometer. Important as this instrument is in many respects, the experience acquired by long observation leads to the conclusion, that its indications are rather of the present than of the future state of the weather. No doubt, if we look over a well-kept register, we find tracts of fair and wet weather corresponding with a high and low state of the barometer. Still, when the mercury is low in the tube, can we foresee when it is to rise, or if high, when it is to fall? The barometer, indeed, in all kinds of weather, is continually rising and falling; but it is a decisive rise or fall that announces a real change, and even then we can not foresee how long that change

is to continue. The most certain sign of a complete change from wet to dry weather is when the rise is quick, and to a great height; but even then the wind and the appearance of the atmosphere give this notice also. The mercury rising during heavy rain is also strongly indicative of a return of fair weather. It is well known, too, it does not fall so much with heavy rain as with high winds. When high, its motions are slow and gradual; and when low, rapid, and its fluctuations more remarkable. In winter, its ranges are both higher and lower than in summer, and in tropical regions it keeps still nearer to the medium. At sea, the barometer has been found useful; for its sinking quickly gives notice, though but a short time before, of a coming gale, and in that case even half an hour is of value to the mariner.

An instance of the absurdities to be found in treatises on this subject, may be given by a quotation from a tolerably respectable work. "Persons who have occasion to travel, are recommended to look at the mercury in the tube some hours before they set out; if rain threatens, it will be concave; if otherwise, convex or protuberant!" This no doubt shows the present state of the weather, but as to the future, the writer will give his own experience. One fine clear evening he observed the barometer rising quickly, and so late as eleven o'clock the convexity was most distinct. About seven next morning, however, upon looking out, he found it had been raining heavy for some time; still the barometer was correct, at least as to the present, for the mercury had fallen sensibly, and the surface was quite concave. This state of matters, too, is not unusual. In a late precarious harvest, therefore, a farmer would be to blame if, upon the authority of a rising barometer and bright sky, he should leave off clearing his fields at seven or eight in the evening, depending upon next morning being favorable; whereas the weather may change by three or four in the morning, and here would be a loss of seven or eight valuable hours, to the great detriment of his crop.

If we err at times in the anticipation of good, the same thing happens occasionally

as to the threatening of bad weather. The season of 1816 had been cold, wet, and unproductive in England. The harvest was only getting general about the end of September. About the beginning of October, the weather previously being very moist, the crop already cut, was lying out in the worst condition. On the 10th of October everything had a most dismal appearance. It had rained till mid-day; the afternoon and evening, though fair, were still and dark, and the air seemed loaded with moisture; the weath-ercocks, too, were occupied by numbers of crows; in short, everything indicated a continuance of bad weather. That very afternoon, however was the commencement of a fine seasonable tract, by means of which a large part of the crop, indifferent indeed, as to produce, was secured in good order.

If the barometer gives us but short insight into the future, its indications at the exact time as to storms or earthquakes at a distance, are sometimes very remarkable. The effects of these, as far off as two thousand miles, have been distinctly observed. The great earthquake at Lisbon, November, 1755, affected the barometer in a striking manner. On the 13th of January, 1843, there was a storm in the English and Irish channel, denoted at Edinburgh by a fall of the barometer to $27\frac{3}{4}$ inches, lower than it had been for some years before. That afternoon, at Edinburgh, hardly a breath of wind was perceptible, while at this very time such a storm raged in the English and Irish channel, that 180 vessels were wrecked, and nearly 500 lives lost.

An illustration of the nature of the barometer may be given by a case of very frequent occurrence. One morning the mercury was observed to sink very much, toward mid-day the clouds appeared heavy, and the general talk was, that all this denoted much rain. This threatening ended, however, in a slight shower or two. But the whole affair was very soon explained. That morning it had rained heavily thirty or forty miles to the westward, and the clouds we saw coming from that quarter had nearly exhausted their moisture before they reached us.

That there is such a thing as the cycle

of the seasons—that is, a return of years at regular periods with the same kind of weather—is an opinion which has been broached by writers on the subject, but is really very little authorized by any accounts we have on record. The nearest approach to an illustration of this theory, was the circumstance of three very bad seasons recurring at nearly the same intervals. The cold and wet season, in England, in 1766, was followed by those of 1782, 1799, and 1816, the distance of each being 16 or 17 years. But, allowing these years to have resembled each other pretty closely, the order of the intervening ones, more or less favorable in the above periods, was not at all similar. Thus 1799, very wet and cold, was followed by 1800, remarkably dry; but 1816, very like 1799, was followed by 1817, also wet and cold, though much less so than 1816. It is to be kept in view, also, that we have no accounts of such a cycle before 1766, though no doubt meteorological registers before that period are quite defective. The year 1740 is known to have been very cold, but hardly one between it and 1766. Since 1816, it is certain we have had nothing of the kind. In the spring of 1833, the talk was, that 17 years had elapsed since 1816, and that we must look for a bad season; but it so happened that 1833-34-35-36 were all good seasons. There was a falling of in 1837, and 1838-39-40-41 certainly proved more or less unfavorable; still, reckoning by the price of grain, 1838, the worst of them, was not nearly so bad as 1799 or 1816.

In short, though all seasons have necessarily a general resemblance, each has its own peculiar features, like the human countenance in individuals. For instance, in the course of the last fifty years, no winter has been, it may be remembered, so severe as that at the commencement of 1795. For more than two months, from Christmas, 1794, to March, 1795, the snow lay many feet deep round Edinburgh. There was no coach travelling for some weeks, and it required the labor of a great number of men to cut a road to the nearest collieries. There has been there occasionally deep snow in different years since; but on the occasion of January,

1814, which was next in severity to 1795, the snow, about one foot deep, hardly lay one month.

On the other hand, the summer of 1826, was warm beyond example in any person's remembrance. The harvest, too, was unprecedentedly early. Near Dudlingstone, a large field was completely reaped by the 16th July, that is, about a fortnight sooner than what is reckoned an early harvest. The Decembers of 1842 and 1843 seem to have had no precedent as to mildness for more than forty years. The mean temperature of both these months, taken at nine A.M., was very nearly 48 degrees, which is quite equal to that of a very mild April. The mean heat of September, 1843, too, was about 60 degrees, of equally rare occurrence; but the difference between that and the ordinary mean is not so striking as that of the two Decembers.

From the observation of many years, we can ascertain the average temperature, moisture, and also the prevailing winds, of each month; and this is of importance, as giving us the general character of the climate, and its peculiarities. But this calculation gives little information as to the winds or weather of any particular month.

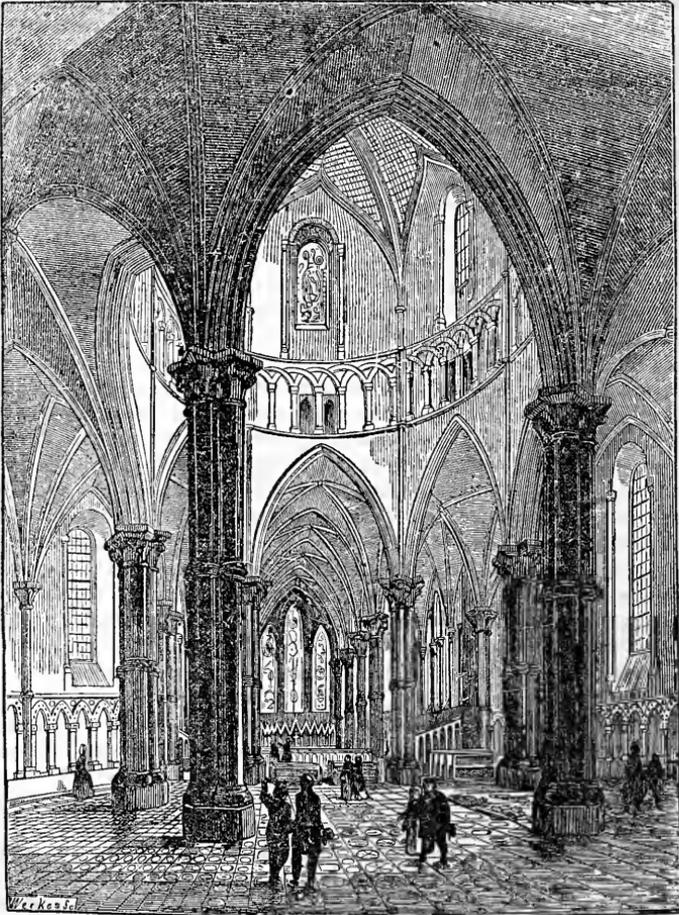
In the business of life, we must be on our guard against dependance upon probabilities. And the farmer and the mariner, whose avocations are so much connected with the winds and weather, require to keep this in view, and not to allow their vigilance to be relaxed by flattering appearances. In the words of Paley, "The seasons are a mixture of regularity and chance. They are regular enough to authorize expectation, while their irregularity induces, on the part of the cultivator of the soil, a necessity for activity, vigilance, and precaution."

THE TEMPLE CHURCH.

NO. II.

A VERY deeply recessed and sumptuously enriched Norman gateway leads from the low sunken porch at the termination of the western extremity of the

building into the Round, and at once places before us the view represented in the annexed plate. Among the variety of objects that press upon the attention it is difficult to fix upon any one. There are the painted windows at the farthest end, appearing like some sudden discovery of one of the richest works of the olden time that we have so often read of; and the painted roof, scarcely less splendid, and from its novelty still more interesting: nearer still are three beautiful arches, which rather connect than divide the two portions of the structure—the very arches so mercilessly closed up and disfigured; while around us is the beautiful aisle with its groined roof, supported at intervals by stately dark marble pillars, that rise conspicuously from the arcade of pointed arches decorating the lower part of the wall; and, lastly, in the centre, divided from the aisle by the circle of tall clustered marble columns that support its lofty roof, is the tower, or central portion of the Round, with its series of archways opening into the gallery, or triforium; its clerestory, or range of windows, one of them painted; and above, the roof, where the compartments formed by the bold groining are studded over with delicate blue ornaments on a kind of drab-like ground; the centre standing out from all the rest by its richer and more varied display of colors, surrounding a massive gilded boss. The painted window mentioned, with its deep rubies, and purples, and bronzes, represents Christ enthroned; and the general design of the decoration of the dome is borrowed from an existing ancient Sicilian church. Among the features of interest in this part of the structure are the heads which decorate the arcade in the aisle, sixty-four in number, and which were probably intended to represent on one half-circle—that to the left—a state of purgatory, and on the other of relief from it, by the mediation of the church. But as none of the heads are original, and some of them not even copies of the original designs, it is not easy to prove the truth of this hypothesis. But we perceive, first, that in other parts of the structure—the entrance archways to the aisles of the oblong—the opposing character of the two corbel faces in each arch bears



The Temple Church, from the entrance door way.

evident reference to an idea of this kind ; and, secondly, the half-circle that was most carefully restored—the left or northern—presents but comparatively few exceptions to the painful character expressed by all the heads on that side, and which has been marked throughout by the nicest discrimination of the different kinds of manifestation of pain applicable to so many different classes of individuals. The philosopher looks as though he would pluck out the heart of even this mystery : the satirist or misanthrope as though he had as much contempt for purgatory as all other things, even while he felt its power ; on the other hand, where the individuals represented are less intellectual, and more sensual, the appropriate expressions are no less strikingly developed : here, beauty is distorted into a thing it would tremble but to see ; here one can hardly avoid feeling the claws and teeth of the animal tearing the ear : while there is one head, combining a mingled sensation of physical and mental horror which surpasses description—it is ghastly—fearful!—it is as if all the worst passions of man's nature had been gathered together in one point and then smitten with some intolerable agony. But perhaps the most interesting of the whole is the last of this circle, a female's face—probably a mother, who forgets even the anguish of her own sufferings in the passionate, yet quiet, because hopeless misery of reflecting on those she has left behind. Mixed with the heads we have referred to are a great variety of grotesques, and the whole are highly deserving of attention. According to Mr. Addison, the author of the recent "History of the Knights Templars," an arcade and cornice similarly decorated with heads have been found in the ruins of the Temple churches at Nice, and in their famous fortress near Mount Carmel, known as the "Pilgrim's Castle." We must not omit to add that the original heads, after being carelessly, because artistically copied, were used in the builder's yard to slip beneath cart-wheels occasionally ! And that is but about eighteen years ago.

The pavement of the Temple church has attracted much attention, and deservedly. On removing the rubbish beneath

the late pavement, patches of the former decorated one were found ; and, accordingly, the Benchers, in pursuance of the rule that has constantly guided them, determined to restore the old encaustic tile. And as they had the old quarry at Purbeck reopened purposely for the supply of the right material for the new pillars which it was found necessary to have in the Round, so did they seek and obtain permission to have the flooring of the chapter-house at Westminster abbey taken up, to learn the exact nature of the decorations used at the period in question, and then made arrangements to have the tiles manufactured accordingly in Staffordshire. The prevailing color is yellow or amber, forming the decorative parts, upon a dark red ground. The decorations combine a great variety of heraldic and pictorial subjects, as animals with their tails linked together, cocks and foxes, figures playing upon musical instruments ; but the chief ornaments are the symbols of the two societies of the Temple, the Lamb and the Pegasus ; the former founded on the device of St. John, and the latter, it is supposed, from the interesting circumstance before mentioned concerning the founder of the order, and the poverty which for a time prevailed among the Templars.

But, of all the objects of interest in the Round, the recumbent figures of the Crusaders, on the floor, most eminently deserve and justify examination. These but two years ago looked generally more like rude masses of worthless stone, than anything else, the surface being extensively decayed—noses, fingers, swords, legs, and feet, every here and there missing—all delicacy of workmanship, such as expression in the faces, or minute points of costume in the garb, apparently lost. It was found, indeed, that they were too far gone for restoration. A trial, however, was permitted to be made on one of them—the exceedingly graceful figure that is nearest to the central walk of the second pair on the right hand—and the sculptor, Mr. Richardson, set to work. The paint and whitewash, in places a quarter of an inch thick, were first removed by means of a finely-pointed tool (washes of a sufficiently powerful kind it was feared would be injurious to so decayed a surface), and

the surface made clean ; a chymical liquid was then forced into the stone to harden it, and, next, the restoring process begun. This consisted of two parts—filling up all the hollows (which were so numerous as to make the effigy appear like a honey-comb) with a composition exactly imitating the stone, and becoming immediately almost as hard ; and secondly, of supplying the missing limbs and members by the authority of those which remained, worked in the same material, and joined by the composition. Except in very urgent cases, the original surface, however decayed, was left untouched, and no restorations were made without absolute evidence that they *were* restorations ; and yet the result is the very beautiful and noble effigies which once more grace the floor of the Temple church in their pristine state ; one only exception being made as to the colored decorations in painting and gilding, which it was discovered by Mr. Richardson, in cleaning them, they had formerly borne, particularly those which had not been wrought in Purbeck marble. The effigy of William Marshal, the younger, seems to have been most rich in this respect ; traces were found on it of a crimson surcoat, gilded armor, and of glass enamelling about the cushion.

While upon this subject we may observe that other interesting discoveries of a similar kind were made during the recent restoration. Some of the corbel heads before referred to in the intervening archways of the aisles had *glass beads* for eyes ; and only a week before the re-opening of the church, a beautiful little seraph-like head was discovered at the corner of one of these archways (between the Round and the southern aisle), which had been most delicately colored : from the traces remaining, it could be discerned that the eyes had been blue, the lips tinged with vermilion, and the cheek with a flesh-color, and that the graceful flowing hair had been gilt. How all this reminds one of the custom of the Greeks, even in the purest eras of art among them ; and of the extraordinary length to which they carried this species of decoration in works which to our eyes seem so beautiful in their naked simplicity, that they could only be impaired by such ad-

ditions. With them we find metal, precious stones, or imitations of precious stones, used for the eyes of their busts and statues, as well as glass ; we find them also inlaying the lips. Different-colored marbles were used in the same work, and compositions of metal formed to harmonize in hue with the feeling intended to be expressed by the sculptor. One of the most interesting examples of the latter is that mentioned by Plutarch, a statue of Jocasta, wife of Laius, king of Thebes, by the sculptor Silanion, in which the queen was represented dying. By an ingenious mixture of the metals of which it was formed, and, it is said, chiefly by the addition of silver, a pallid tone was produced, which greatly increased the intensity of the expression in the features. By similar means, no doubt, was produced the bronze statue of Cupid by Praxiteles, so much admired by Callistratus for its elegance of position, the arrangement of the hair, its smile, the fire in the eyes, and the vivid blush in the countenance ; and the iron statue of Athamas, at Delphi, mentioned by Pliny, which represented the king, sitting, after the murder of his son : this work it appears, was not entirely of iron, for the artist Aristonidas, wishing to express the effect of confusion and remorse in the countenance of the king, used a mixture of iron and bronze, which should imitate in some measure the blush of shame.

Seeing then that we have such high authorities for the colored decoration of statues, and that these heads in the Temple church *were* colored, it may almost be doubted whether the restoring process should have stopped short of this point : that is, supposing there were sufficient materials to have restored it rightly. To return : the effigies, nine in number, lie four on each side of the central walk, in a double line, the ninth being farther off on the right against the wall, in the aisle, and corresponding in position with the simply but elegantly carved stone coffin-lid in the opposite aisle. As far as it has been found possible to identify the effigies, five out of the nine are assigned as follows : Of the first pair on the right, the farthest figure is that of the great protector Pembroke, whose statesman-like pol-

icy freed England from the foreigners whom the revolted barons had introduced in self-defence against John, and restored at the same time to the throne of the young Henry the allegiance of hearts that had been long alienated from it; the other and nearer figure by his side is one of Pembroke's sons, William Marshal, the younger, who overthrew Llewellyn of Wales, and was one of John's hated opponents, a supporter of the great charter, although John's own son-in-law, having married his daughter. Henry III. followed his funeral to the grave here, and was so affected that he could not restrain his grief from being visible to all the bystanders. Of the second pair, the foremost is unknown, the other is the effigy of Gilbert Marshal, another of the protector's sons, who died at a tournament which he had instituted, through a fall from a runaway horse. The figure still farther to the right, De Roos's, an exquisitely beautiful piece of sculpture, refers also to one of the great men of the charter. On the left, one only of the figures has been recognised, the foremost of the two nearest the western door, which is Geoffrey de Magnaville's, a grandson of the Norman follower of William, who so distinguished himself at the battle of Hastings, and whose history was of no ordinary kind. During the civil war in the reign of Stephen, Magnaville, having deserted the cause of the latter, held the Tower for Maud, and was attacked there by the citizens, without success; but being taken prisoner at St. Albans, in 1143, was compelled to give it up with his other possessions. From that time De Magnaville seems to have grown tired of rapine and plunder on another's account (for much of the civil war at that time seems to have been but little else than rapine and plunder), and to have determined to act entirely upon his own, respecting no party—treating the church no better than the laity. One of his exploits was robbing Romsey abbey of its consecrated vessels, among other valuables. He was killed by an arrow, which pierced his brain, as he was besieging the royal castle at Burwell, the archer's aim having been probably invited by his removing his helmet on account of the heat of the day. Of course

he had been excommunicated for such deeds as that before mentioned, and in consequence no one dared to bury him in consecrated ground. The Templars, however, with whom no doubt he was connected as a kind of lay-brother and benefactor, wrapped his dead body in their habit, placed it in a leaden coffin, and then suspended it from one of the trees in their garden here. Some years after, absolution was obtained, and the body buried in the porch before the entrance doorway, and there two bodies were recently found, one of them no doubt his. Of the unknown figures, one very probably is the effigy of William Plantagenet, fifth son of Henry III., who was buried in the Temple church. Those of the nine figures which have the legs crossed are, we need hardly mention, persons who had joined in the Crusades, or were under vows to do so. The whole forms the most valuable series of examples of military costume that we possess, from the days of Stephen to those of Henry III.

MINUTE

WONDERS OF NATURE AND ART.

LEWENHOECK, the great microscopic observer, calculates that a thousand millions of animalculæ, which are discovered in common water, are not altogether so large as a grain of sand. In the milt of a single codfish there are more animals than there are upon the whole earth; for a grain of sand is bigger than four millions of them. The white matter that sticks to the teeth also abounds with animalculæ of various figures, to which vinegar is fatal, and it is known that vinegar contains animalculæ in the shape of eels. A mite was anciently thought the limit of littleness; but we are not now surprised to be told of animals twenty-seven millions of times smaller than a mite. Monsisa de l'Isle has given the computation of the velocity of a little creature scarce visible by its smallness, which he found to run three inches in half a second: supposing now its feet to be the fifteenth part of a line, it must make five hundred steps in the space

of three inches, that is, it must shift its legs five hundred times in a second, or in the ordinary pulsation of an artery.

The proboscis of a butterfly, which winds round in a spiral form, like the spring of a watch, serves both for mouth and tongue, by entering into the hollows of flowers, and extracting their dews and juices. The seeds of strawberries rise out of the pulp of the fruit, and appear themselves like strawberries when viewed by the microscope. The farina of the sun-flower seems composed of flat, circular, minute bodies, sharp-pointed round the edges; the middle of them appears transparent, and exhibits some resemblance to the flower it proceeds from. The powder of the tulip is exactly shaped like the seeds of cucumbers and melons. The farina of the poppy appears like pearl-barley. That of the lily is a great deal like the tulip. The hairs of the head are long tubular fibres through which the blood circulates. The sting of a bee is a horny sheath or scabbard, that includes two bearded darts: the sting of a wasp has eight beards on the side of each dart, somewhat like the beards of fish-hooks. The eyes of gnats are pearled, or composed of many rows of little semicircular protuberances ranged with the utmost exactness. The wandering or hunting spider, who spins no web, has two tufts of feathers fixed to its fore paws of exquisite beauty and coloring. A grain of sand will cover two hundred scales of the skin, and also cover twenty thousand places where perspiration may issue forth. Mr. Baker has justly observed with respect to the Deity, that with Him "an atom is a world, and a world but as an atom."

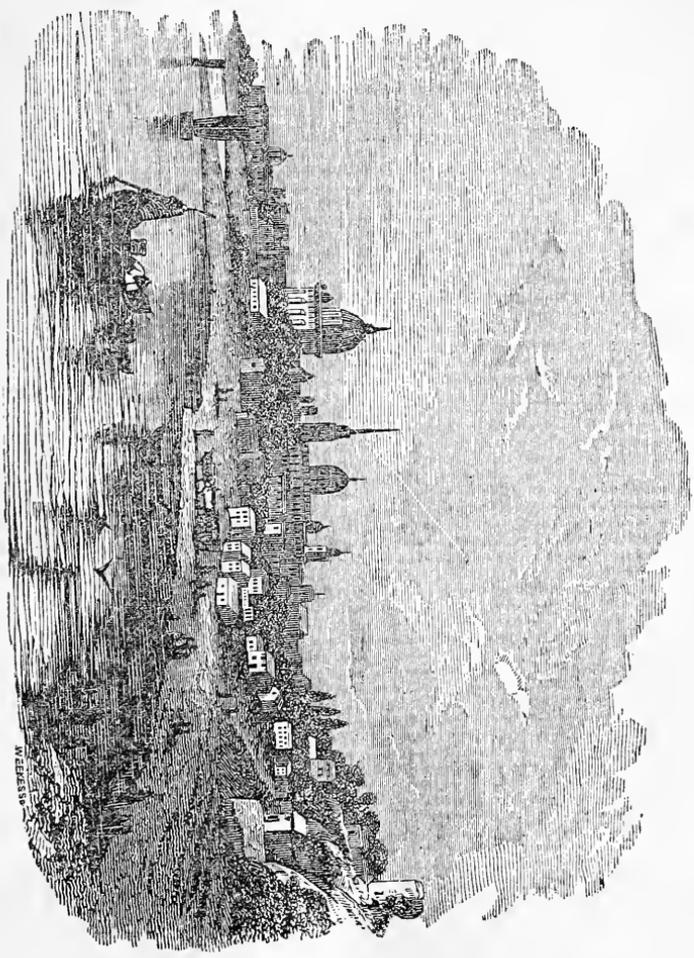
Mr. Power says he saw a golden chain at Tradescant's museum, of three hundred links, not more than an inch in length, fastened to and pulled away by a flea. And I myself (says Baker, in his Essay on the Microscope) have seen very lately, and have examined with my microscope, a chaise (made by one Mr. Boverček, a watchmaker) having four wheels, with all the proper apparatus belonging to them, turning readily on their axles; together with a man sitting in the chaise, all formed of ivory, and drawn along by

a flea without any seeming difficulty. I weighed it with the greatest care I was able, and found the chaise, man, and flea, were barely equal to a single grain. I weighed also, at the same time and place, a brass chain made by the same hand, about two inches long, containing two hundred links, with a hook at one end, and a padlock and key at the other, and found it less than the third part of a grain. I likewise have seen a quadrille table, with a drawer in it, an eating table, a side-board table, a looking-glass, twelve chairs with skeleton backs, two dozen plates, six dishes, a dozen knives, and as many forks, twelve spoons, two salts, a frame and castors, together with a gentleman, lady, and footman, all contained in a *cherry stone*, and not filling much more than half of it. At the present day are to be purchased cherry stones highly polished, with ivory screws, which contain each one hundred and twenty perfect silver spoons, an ingenious bauble worthy the patronage of the juvenile part of the community. We are told that one Oswald Merlinger made a cup of a pepper-corn, which held twelve hundred other little cups, all turned in ivory, each of them being gilt on the edges, and standing upon a foot; and that so far from being crowded, or wanting room, the pepper-corn would have held four hundred more. One pennyworth of crude iron can by art be manufactured into watch-springs, so as to produce some thousand pounds.

BUENOS AYRES.

THE distracted state of Buenos Ayres, the capital of the republic of La Plata, and the peculiar position in which commercial interests there are consequently placed, render the condition of that city a subject of peculiar interest. The city lies on the south bank of the upper part of the wide estuary of the La Plata river, about 100 miles from the place where it enters the sea. Though the estuary is deep in the middle, the beach is so shallow, that persons, as well as goods, are landed in rudely constructed carts, drawn by oxen.

BUENOS AYRES.



The city stands on a high bank, about two miles along the river, and between it and the water's edge is a space planted with some trees. Eastward of the pier stands the fort, or castle, the walls of which are mounted with cannon: here are public offices, and the residence of the president of the republic. No other town in South America has so many institutions for the promotion of science, and several newspapers are published here. The climate is healthy, as its name (Buenos Ayres—good air) implies; an appellation which was bestowed on it by its founder, Mendoza. The commerce of the place has greatly declined since the blockade by Don Pedro.

The governor, D. Juan Manuel de Rosas, was elected first in 1829; he then retired for some time, and was recalled to office in 1835; at the end of the same year, Oribe was also constitutionally raised by his fellow-citizens to the post of president of the republic of Uruguay. In 1836, Rivera, the former president, attempted a revolution, the results of which left him little more than the captain of a band of marauders in the open country, compelled sometimes to take refuge in the contiguous Brazilian province of Rio Grande, until 1838. Then came the famous quarrel between France and Rosas, with the blockade of the river Plata. On the peremptory refusal of Oribe to join in active warfare against Rosas, and his perseverance in preserving a strict and equitable neutrality, the French commanders contracted alliance and made common cause, by sea and land, with Rivera. Against such overpowering odds, Oribe abdicated in 1838; Rivera then took possession of the vacated throne, was duly installed president, and as such saluted with salvos of broadsides from the fleet of France, his patron and protector. He embarked at once in open hostilities against Rosas and Buenos Ayres. Thus was the war the seeking of Rivera, not Rosas. Its memorable events prove the latter to be a man of extraordinary courage. With his own troops far away in the interior, discouraged by reverses, dispirited by the overwhelming number of foes, and wearied with the difficulties ever increasing to be encountered and surmounted in the midst

of commercial stagnation and fiscal penury from the blockade; yet, with all this wreck and ruin surrounded, stood this remarkable man—in a city beleaguered, without land defences, and ungarished with troops, with not even, personally, the *cortège* of a guard—in fierce and fearless defiance, unconquered and unyielding still. One by one his foes disappeared; and at this juncture—while the victorious army of Rosas and Oribe was preparing to close the campaign and the contest with the passage of the Uruguay and the capture of Monte Video, and immediately following on the conjoint indiscretion of the notes of the British and French ministers to Rosas, dated the 16th December, 1842, intimating the decision of their respective governments, that the “sanguinary warfare at present carried on between the governments of Buenos Ayres and Monte Video must cease”—Commodore Purvis made his first appearance on the scene of action, an event pregnant with various chameleon changes in the character of British agency.

Few public men have been more traduced than the governor; and one of the atrocities extended to a diabolical attempt to murder the general and his daughter, by means of an infernal machine, at the very moment when Rivera was soliciting the mediation of the British minister, and he was endeavoring to promote negotiations for peace.

The trade of Buenos Ayres is at present confined to the people of her own provinces, whose number does not exceed 700,000. The provinces are thirteen in number, and comprise an area of 726,000 square miles. Each state is separated from its neighbor, by extensive tracts of desert, or at least of uncultivated land. On the north, the republic is bounded by the state of Bolivia; on the west, by Chili; on the east, by Paraguay, the Banda Oriental, and the Atlantic ocean; and on the south, by the Indians of Patagonia. Each of the thirteen provinces is to a certain extent independent, but the provincial government of Buenos Ayres is invested with powers for national purposes and for carrying on the business of the Union with foreign states. The legislative assembly of this province consists of forty-

four deputies, one half of whom are renewed annually by popular election.

The first thing which strikes the eye of a stranger in Buenos Ayres is the regularity of the streets, which are laid out on a plan prescribed for all the cities of Spanish America by the council of the Indies. The streets intersect each other at right angles every 150 yards, and rise with rather a steep ascent from the river. The white stuccoed houses look cheerful, and the people have an independent contented air, which contrasts very favorably with the beggary and slave population of Rio de Janeiro. The Spaniards built a fort on the site of Buenos Ayres in 1535, but the warlike natives drove out the small garrison, and remained in undisturbed possession of that part of the country for nearly half a century; when, in 1580, the present city was founded, which for two centuries languished under the demoralizing colonial system of the mother-country. In 1778, the prohibitory and restrictive system of trade was relaxed, and the declaration of independence, although followed by many struggles, has laid the foundation of future prosperity. In 1778, the population of Buenos Ayres was 24,205, and that of the country jurisdiction immediately surrounding it, 12,925. At the close of 1825, the population of the two was estimated at 165,000, having doubled in the preceding twenty years; and in 1837, Sir Woodbine Parish was of opinion that it was not less than 200,000. The colored population, in 1825, amounted to nearly a fourth part of the population; but they have ceased to increase. The slave-trade was prohibited in 1813, and all traces of the negro race having existed will in a little time scarcely be apparent. The number of emigrants every year from Europe is very considerable; and in 1832, the number of foreigners who had fixed themselves in the city and province amounted to from 15,000 to 20,000; of whom two thirds were British and French, in almost equal proportions; and the remainder consisted of Italians, Germans, and natives of the United States, especially from New York.

The churches of Buenos Ayres were nearly all erected by the Jesuits, and some of them are large buildings, but several

are unfinished externally. There is an English church capable of containing a thousand persons, the ground for which was given by the government. There is also a Scotch presbyterian chapel; and an Irish priest is allowed to do duty for the Irish portion of the community in one of the national churches. The public buildings are not deserving of particular notice. The piazza, or grand square, is behind the castle, and is of considerable extent. It is divided into two parts by a long low edifice, which serves as a kind of bazar, and has a corridor along the whole length of each side, which serves as a shelter to the market-people. The space between this bazar and the fort serves as a market for provisions and fruits, which are spread on the ground, no stalls being used. The cabildo, or town-house, an edifice of considerable size, occupies one side of the square, and is used as a court of justice, as well as by the municipal authorities. Near the centre of the great square a pyramid has been erected in commemoration of the revolution which terminated in the independence of the country.

NATURAL PHENOMENA.

NO. I.

WE are surrounded by and constantly see a succession of important and striking changes which seem to demand our attention; but, from the influence of habit, we are accustomed to consider them as merely necessary phenomena, and neglect to inquire into the nature and operation of the causes by which they are produced. A few moments' reflection, however, must remove all the indifference and self-sufficiency that may be, without consideration, indulged, and excite a deep interest in the discovery of the causes by which they are produced, and the effects which result from them. At one period there was a class of persons who could always give a reason for their ignorance and want of interest in physical phenomena, by the assertion that all things were wisely arranged, and their attention was not required.

An excess of religious zeal, or rather, a misapprehension of divine truth, thus led them into error; for they appear to have had no conception that God had created them intelligent creatures, that they might exercise the reason he had given, and glorify him by the exhibition and application of their intellectual powers. That day has happily passed, and men, feeling the responsibility of exercising their intellectual as well as moral qualities, no longer neglect to strengthen their judgments and improve their minds by a study of God's works.

It is not necessary that we should attempt to convince the reader, now that the value of scientific knowledge is so generally admitted, that it is really advantageous to the possessor, but we may recall to his memory in what some of those advantages consist.

A knowledge of the origin of natural appearances, is in itself a high gratification. What can be more pleasing to a person of well-constituted mind, than an ability to understand and explain the various physical appearances by which he is surrounded? The interest of all he beholds in nature is advanced a thousand-fold by an acquaintance with the cause. Without this information, he must judge of every result of nature's machinery by the contracted and distorted image produced in his mind by the unassisted senses, and be influenced by all the unworthy feelings, whether of pleasure or fear, by which every man is, in an uneducated state, distinguished. The rainbow is to him a splendid arch of light, remarkable for the brilliancy of its colors, and he is astonished that an appearance so vividly painted on the sky, should be in a few moments defaced. When the lightnings play in the heavens, and the deep-toned thunder rolls aloft as if it would crack the mighty vault, he recalls to his mind the disastrous effects which have resulted from thunder-storms, and trembles under the apprehension that a similar fate may attend him, or that he may be the unwilling witness of a conflagration similar to that of which he has read or of which he has heard by report. Thus, the uneducated man deprives himself of all the pleasures which are to be derived from a knowledge of the origin of

natural appearances, and is influenced by his senses, which are to all men frequent causes of deception, and always need the correction we are able to apply by the proper and diligent use of the inductive philosophy.

The study of natural appearances induces a habit of thought and investigation peculiarly advantageous to the student. The advantages gained are numerous, but we can refer to only a few of them: an independence of thought is not the least of these, for a man who is accustomed to think for himself, and draw his opinions from facts, whether they are the results of his own investigations, or have been discovered by others, can not so far err as to fall into great or gross misconceptions of things or appearances. He is at the same time saved the disgrace and slavery of bending to authorities, and insists upon his right of individual judgment.

Another, but inferior advantage, is a satisfactory and pleasing occupation of time with a prospect of usefulness. We are far from associating ourselves with that class of persons who maintain that all our endeavors should be confined to the promotion of our personal happiness, and yet we believe it should be a strong motive to activity. But a rightly-constituted mind will not find happiness in that which is not in itself strictly virtuous, and calculated to increase the pleasure or advantage of others.

An acquaintance with natural appearances is also calculated to improve our conceptions of the Divine Being, and to impress strongly upon our minds the extent of his wisdom, mercy, and love. When we examine the conditions of physical existence, we are not only convinced that all the arrangements in nature are admirably adapted to accomplish the desired effect, but also that they are better suited for that purpose than any other could have been. Not only are all the operations of nature perfect, and so constituted as to give evidence of Divine skill, but they are also strongly illustrative of the qualities of the Divine mind, wisdom, and love. The certainty of this gives confidence to man, even when he becomes the witness of the most appalling phenomena; and though he may mourn over the results which are occasionally produced, yet he is conscious that the

most terrible exhibitions of power and of apparent anger, are, in fact, merciful dispensations calculated to produce the greater amount of good.

In attempting to place before our readers a general description of natural appearances, we shall first direct their attention to those on the earth; secondly, to those on the sea; then to those in the heavens; and, lastly, to those which are observed in, or are connected with, the atmosphere.

NATURAL APPEARANCES ON THE DRY LAND. MOUNTAINS AND VALLEYS.

In an examination of the earth, one of the first of the things that strike our attention is the inequality of its surface. It is not a level, but is diversified with hills and valleys, mountains and plains. The importance of this arrangement is immediately determined, for were the surface otherwise formed, it would be quite unsuited for the residence of man. The waters need some basins for their accumulation, the low lands require some rivers for their irrigation, and to supply the rivers there must be a constant accumulation of the atmospheric waters, which is done by mountains. Thus it is easy to perceive that the present arrangement of the earth's surface is well adapted to promote the comfort of man, and is indeed necessary for his condition as an intelligent and industrious creature.

The parts of the earth's surface which are raised above the general level are distinguished by the names of mountains, hills, and upland plains, the two former being merely comparative, and not admitting a very accurate definition. A mountain is an elevation of the surface of the earth greater than a hill; but that which in one situation would be called a mountain, would, when brought into comparison with other elevations, only deserve the name of a hill; yet the distinction is sufficient for the purposes of conversation, and in the communication of ideas by writing. An upland plain is a plain at a great elevation above the sea, which may be either approached suddenly by ascending a steep, or from a distance by a gradual and almost insensible inclination. When a series of mountains or hills are connected together, they are called a chain: thus we speak of

the chain of the Andes. But when a number of these chains are united, the entire group is called a system: as, for instance, the system of the Alps. Mountains which rise from the plains, at an angle not exceeding 45° , are said to have a gradual slope, and above that to be steep. We do not, however, commonly find that mountains have the same slope on every side, but are steeper in one direction than in others.

We come now to the inquiry, from what causes have the inequalities of the earth's surface arisen? To which we reply, from diluvian action and from subterranean forces.

The surface of the earth has, at various times, received great changes from the action of water. It is, indeed, always a powerful agent; and even in our day we may trace its effects upon the banks of existing rivers and the shores of the ocean. But there have been periods when large accumulations of water have swept over the surface, and by the momentum scooped out channels and formed paths, which, modified by quiet agencies, existing for a long period of years, are the depressions now called diluvian valleys. These valleys may be generally distinguished by the careful investigator, not only by their smoothly-turned sides, but also by the rocks on either hand, for they are not disturbed and broken, but lie in their horizontal position, and are so presented in section on the two sides, that lines drawn from the one to the other would be the continuation of the strata. The existence of these depressions have, of course, produced apparently corresponding elevations. Many of the extensive and fertile valleys of this country have been produced by diluvian action, and by tracing them we are able to determine the direction in which the vast floods by which they were formed were then flowing. By the majority of persons it is imagined that the universal catastrophe spoken of in the first book of Moses, and called "the deluge," was the cause of these valleys, and it may have been so; but we have abundant evidence in the crust of the earth to convince us that in the early ages of the planet we inhabit, water was frequently acting upon it with great violence; so that we are led

to believe, that, although it is extremely probable that the deluge formed our diluvian valleys, we have no positive means of identifying them with that period.

But we now come to a consideration of the effects produced by subterranean forces, which have been agents in the formation of all the most lofty mountains and elevations on the surface of the globe. It is the general opinion among geologists that the interior of the earth has a much higher temperature than the surface; and, in fact, that at a comparatively small depth the rocks are in a liquid state. This opinion might have been suggested by the existence of volcanoes, and the violence of volcanic action in our own day, but is especially proved by the great increase of the temperature, as determined by experiment, with the increase of depth to which our thermometers sunk. If this supposition be true, it will be easy to account for all the violent volcanic effects produced at the present time, and for the disturbed state of the ancient rocks.

From a casual examination of the surface of the earth, no one would for a moment imagine that it was a broken and disjointed mass of rock, varying in constitution and arrangement, and presenting an appearance of strange disorder. An examination of the mountain-chains has, however, convinced scientific men that they have been raised by the activity of subterranean forces, that the even and horizontal surface has been broken through, and that by the ejection of volcanic masses, or the irresistible force of confined vapors, rocks have been tilted, and mountain-chains have been formed. Nor is this a mere matter of conjecture: it is founded upon the most certain principles; and so accurately can the effects be traced to their causes, that it is even possible to fix a comparative age to every mountain on the surface of the globe, and distinguish the age of every chain in each system. When, therefore, we look upon a mountain and its attendant valleys, we have before us the result of a catastrophe which occurred thousands of years ago, and the evidence of a force which has now ceased to exist, except in the puny efforts which now produce volcanoes and earthquakes, of which we must proceed to speak.

VOLCANOES AND EARTHQUAKES.

THERE are, in various parts of the earth, mountains which either constantly or occasionally throw from their summits or sides melted rocks, with flame, and these are called volcanoes. The phenomena which attend these eruptions are various, and yet have a general similarity. Instances are on record in which they have overwhelmed large and populous districts, and involved in one general ruin both animals and inanimate existence.

Much interesting information has been collected concerning volcanoes, but we can not more than allude to some important and distinctive features. The greater number of volcanic mountains have a conical form, and the mouth or crater has a cup or funnel-shape. "When the internal fires were kindled—by what sort of fuel they are still maintained—at what depths below the surface of the earth they are placed—whether they have a mutual connexion—and how long they may continue to burn—are questions which do not admit an easy decision." Some volcanic mountains are very lofty, and these seldom eject lava from their summits, but from some lateral crater. The reason of this is evident, for the volcanic fire can more readily force its way through the solid rocks than raise the column of liquid minerals to the summit of the mountain.

One of the first questions that would be proposed by a person who was made acquainted with the existence of volcanoes, their effects, and situations, would probably be, "Is there any means of determining when an eruption will happen?" This leads us to remark that volcanoes may be divided into three classes: first, those which are in a state of constant activity, and never produce any extensive or destructive effects; secondly, those which are in a condition of occasional eruption, and although attended with phenomena calculated to produce the most terrific impression upon the spectator, seldom extend their influence over more than the immediate locality in which they occur; and thirdly, those which have periods of long quietude, but when active, produce effects of the most destructive character, destroying all traces of animal and vegetable life, overwhelming cities and villages, and en-

tirely changing the appearance of districts for miles around the centre of activity.

To describe the appearances which precede, attend, and follow, a volcanic eruption, is no ordinary task, and one which neither imagination nor actual observation can enable a writer adequately to perform. We may imagine an observer to express himself thus:—

“The day has passed—a hot, sultry, and oppressive day, in which exertion has been a toil, not a pleasure. The most moderate employment, even that of reading, has been almost insupportable. Every one has felt an unconquerable desire to rid himself of the exhaustion and oppression of spirit by indulging in sleep—that kind but partial reliever of all ills. Evening is approaching, and the air is still as oppressive as at midday, and the feeling of suffocation is painful beyond description. The people are now aroused to a conviction that one of nature’s paroxysms is at hand. A slight shock of an earthquake has been felt, attended with a loud rumbling sound under ground, like the noise of artillery. Men, women, and children, are all flying from the city, to escape being buried under the ruins of falling houses, scarcely daring to look back upon their forsaken and lost homes. Bright flashes of light are now rising from the crater of the volcano, and with a sudden burst huge masses of rock are thrown up in the air. But the lava has found vent, and the fear of the repeated shocks of earthquake are in some measure allayed. The appearance of nature is awful enough, but the human suffering by which we are surrounded is still more so. In a few moments cities have been depopulated and destroyed, and a rich country made a barren waste—many thousand acres having sunk—the site of rich vineyards and corn-fields being converted into a putrid lake. The horrors of a volcanic eruption, with its attendant earthquakes, can not be conceived.”

SPRINGS.

THERE are various places in which water issues from beneath the surface of the earth, or, to use another method of expression, in which there are springs. These are of various classes. There are those

which flow perpetually, and are called perennial; others which flow only at particular periods, and these are denominated periodical. There is also a third class, called intermitting springs, because they flow and stop without any apparent cause.

The perpetual springs are perhaps most numerous, and they are chiefly produced by the flow of water to a lower level, and may be traced to atmospheric causes: thus, for instance, rain falling upon the surface of a mountain, percolates through a certain number of beds, but arrives at one which resists its passage, such as clay. The direction of the water is then changed, and the stream following the dip of the strata, finds a passage to the surface again at the bottom of the mountain. or at some elevation less than that on which it fell. Many of the periodical springs may be accounted for on this supposition, flowing chiefly at the time of the rainy seasons, while others are occasioned by the overflowing of the natural cisterns or reservoirs in the interior of the mountain where the atmospheric waters are accumulated. There are many springs of this kind in Switzerland. Intermitting springs are chiefly confined to volcanic countries, such as Iceland, and are probably influenced by the confined vapors in the interior of the earth:

“There are also reciprocating springs, whose waters rise and fall, or flow and ebb, at regular intervals. The spring of Fonsanche, in Languedoc, flows every day for above seven hours, and then stops for nearly five: rising each day fifty minutes later than on the preceding day. The Bullerborn, a fresh-water spring in Westphalia, rises with a great noise. There is another at Colmars, in Provence, which stops every five minutes; this spring was affected by the great earthquake which destroyed Lisbon in 1755, and changed into a perennial fountain, but in 1763 it began again to stop at intervals. One of the most remarkable fountains of ancient times was one of which Herodotus and Diodorus Siculus have transmitted an account. It was called the fountain of the Sun, and was situated near the temple of Jupiter Ammon. At the dawn of day this fountain was warm; as the day advanced, it became progressively cool; at noon, it

was at the extremity of cold, at which times the Ammonians made use of it to water their gardens and shrubberies. At the setting of the sun it became again warm, and continued to increase as the evening proceeded until midnight, when it reached the extremity of heat; as the morning advanced it became progressively cold. There was also a fountain equally curious in the forest of Dodona. It is said to have had the power of lighting a torch: at noon it was dry; at midnight full; from which time it decreased till the succeeding noon."

The water of springs is seldom quite pure, and many are largely impregnated with mineral matters, such as lime and saline particles. So abundant is this in many instances, that the water may be used for taking casts, as at Buxton, in Derbyshire, and the celebrated baths of St. Filippo. But there are some springs whose waters contain a large amount of gas, such as the carbonic acid and sulphuretted hydrogen, the latter being always distinguished by its extremely fetid odor.

Springs also vary greatly in their temperature, some of them having their waters nearly at the boiling point, and others almost at that of freezing. In Iceland, many of the springs have a temperature much too high to be borne by the hand. The hot springs of La Trinchera, a few miles from Valencia, have a temperature of 195° Fahrenheit, and eggs may be boiled in them in about four minutes. The springs of Urijino, in Japan, have a temperature of 212°. The cause of this high temperature, as observed in some springs, may arise from a chymical action, such as the decomposition of a mineral substance, or from proximity to the focus of an active volcano. But this is a subject still open to investigation.

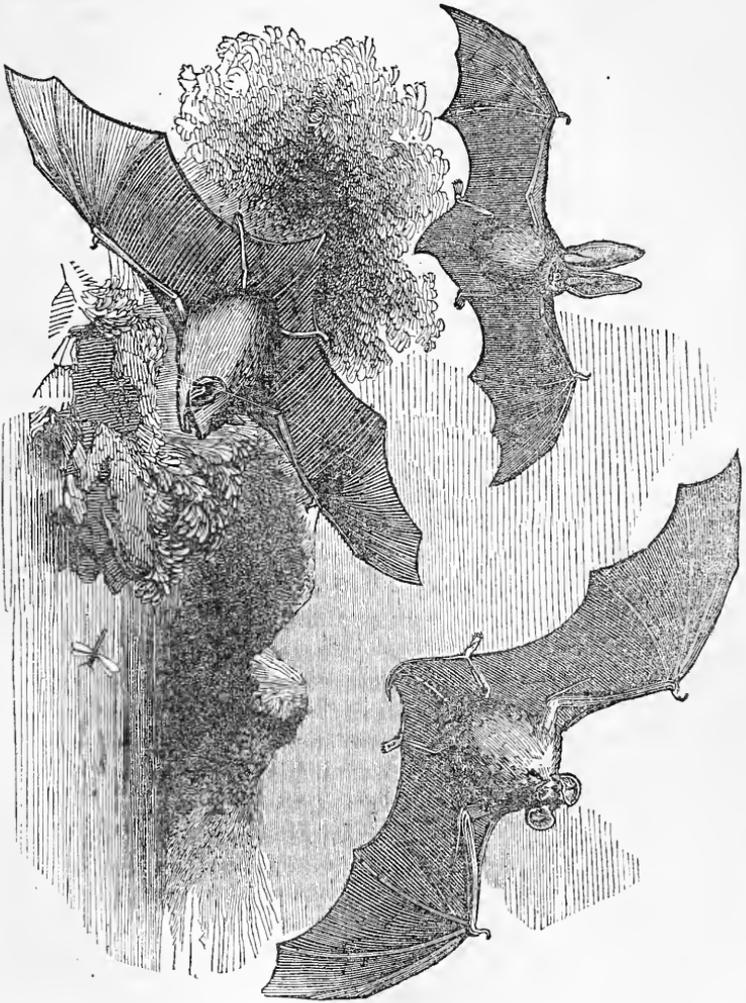
We might here proceed to speak of rivers and lakes which, intersecting the dry land, or studding the surface of the earth, might be considered among the appearances and phenomena already mentioned; but it will, perhaps, be better to consider them in connexion with the sea, with which they may be more intimately associated.

[To be continued.]

BATS.

IT may surprise some of our readers to be informed that sixteen or seventeen distinct species of bats are natives of the British islands. Of these, however, several are extremely rare, and restricted to certain localities; but some, as the pipistrelle, or common bat, and the long-eared bat (*Vespertilio auritus*), are everywhere abundant; nor is the great bat (*V. noctula*) of unfrequent occurrence.

Of all the mammalia the bats alone emulate in their aerial endowments the feathered tenants of the sky; they are essentially flying insectivora. In the air they pass the active periods of their existence, and revel in the exercise of their faculties. Their organs of flight, admirably adapted for their destined purpose, do not consist, as in the bird, of stiff feathers based upon the bones of the fore-arm, but of a membranous expansion stretched over and between the limbs, and to which the bones of the limbs, especially those of the elongated fingers, serve the same purpose as the strips of whalebone in an umbrella. This apparatus can be folded up, and the limbs employed in progression on the ground; on a level surface, however, the bat shuffles awkwardly but quickly along. In the hollows of decayed trees, in the crevices of mouldering masonry, or in rough chinks and fissures, it can crawl and climb about with tolerable rapidity, as also about the wirework of a cage. It is a smooth and level surface that most embarrasses the bat, but even then it can easily take wind. In the air the bat is all alertness—it is here that these singular creatures pursue their prey—uttering their short sharp cry as they wheel in circling flights, or perform their abrupt and zigzag evolutions. "Bats," says White, "drink on the wing like swallows, by sipping the surface as they play over pools and streams. They love to frequent waters, not only for the sake of drinking, but also on account of the insects, which are found over them in the greatest plenty." Often during a warm summer evening have we seen numbers, perhaps several scores, of the common bat (*V. pipistrellus*) flitting over pools, in chase of gnats and similar insects, or



a. Common Bat, (*Vespertilio pipistrellus*); b. Great Bat, (*V. noctula*); c. Long-eared Bat, (*V. auritus*.)

gambolling with each other in a mazy dance, ever and anon uttering sharp shrill cries of exultation and delight; an interesting spectacle to such as love to "trace the woods, and lawns, and living stream at eve."

The bat is a twilight and nocturnal rambler: it passes the day in its retreat suspended head downward, clinging to any roughness or projection by the claws of its hinder feet. In this position it hibernates in a state of lethargy, numbers congregating together. Church-steeple, hollow trees, old barns, caverns, and similar retreats, are its lurking-places; and vast numbers are often found crowded together and forming a compact mass. Pennant states that on one occasion 185 were taken from under the eaves of Queen's college, Cambridge, and on the next night 63 more, all in a torpid condition. They were all of one species, viz., the noctule, or great bat (*V. noctula*), measuring fourteen or fifteen inches in the extent of the wings. The great horseshoe bat haunts the deepest recesses of caverns, where no rays of light can enter. It is found in the caverns at Clifton, and in Kent's hole, near Torquay, a dark and gloomy cavern, where the lesser horseshoe bat also takes up its abode.

It has been suspected that some British bats may possibly migrate, and pass the winter, like the swallow, in some genial region where their insect prey is abundant. For this supposition there is not the slightest foundation: all bats hibernate; but the period at which they become torpid in their retreats, and revive to visit again "the glimpses of the moon," differs in the different species. The pipistrelle, or common British bat, is the soonest roused from its lethargic trance. It usually appears in March, and does not retire until the winter has decidedly set in, and its insect food has disappeared. Yet during the winter it will often rouse up and flit about, and that too during the middle of the day.

The various species differ more or less distinctly from each other in the style and character of their flight. The pipistrelle flits quickly, making abrupt and zigzag turns, and often skims near the ground; the noctule, which was first noticed as an

English bat by White, sweeps high in the air on powerful wings, whence he termed it *antivolans*. The flight of the long-eared bat is rapid, and it makes large circles, or courses to and fro like the swallow. In the aerial evolutions of the bats, the tail and membrane extending between the two hind limbs act as a rudder, enabling the animals to turn more or less abruptly: it would seem moreover that the tail is to a certain extent a prehensile organ. Mr. Bell, who first noticed the circumstance, observes, that a small portion of the tail in most bats is exerted beyond the margin of the interfemoral membrane, and in ascending or descending any rough perpendicular surface this little caudal finger hooks upon such projections as occur, so as to add to the creature's security. When a bat traverses the wires of a cage, this action of the tail is particularly conspicuous.

White observes that it is a common notion that bats will descend chimneys "and gnaw men's bacon," and adds that the story is by no means improbable, as a tame bat did not refuse raw flesh, though insects seemed to be most acceptable. The common bat often enters larders, and has been seen clinging to a joint of meat in the act of making a hearty meal upon it. Of this circumstance we are assured by Mr. Bell.

That bats can be tamed is a remarkable fact; but various species differ in the degrees of their docility. Mr. White's bat, a pipistrelle, was so tame, that it would take flies out of a person's hand. "If you gave it anything to eat, it brought its wings round before the mouth, hovering, and hiding its head in the manner of birds of prey when they feed. The adroitness it showed in shearing off the wings of the flies, which were always rejected, was worthy of observation and pleased me much."

With regard to the senses possessed by these interesting animals, those of smell and hearing are, as might be expected from the development of their respective organs, wonderfully acute. Connected with the refinement of these senses, we often find, as in the horseshoe bat, the nose furnished with a membranous foliation of most delicate structure and com-

plex in its arrangement ; or, as in the long-eared bat, the external membranous ears largely expanded, having furrows and an inner reduplication, and capable of being folded down. The sight also is quick, and the position of the eyes, which are small, but bright, is favorable for the chase and accurate seizure of insects during rapid flight.

There is a singular property with which the bat is endowed, too remarkable and curious to be passed altogether unnoticed. The wings of these creatures consist, as we have seen, of a delicate and nearly naked membrane of vast amplitude considering the size of the body ; but besides this, the nose is in some furnished with a membranous foliation, and in others the external membranous ears are enormously developed. Now these membranous tissues have their sensibility so high, that something like a new sense thereby accrues, as if in aid of that of sight. The modified impressions which the air in quiescence, or in motion, however slight, communicates ; the tremulous jar of its currents, its temperature, the indescribable condition of such portions of air as are in contact with different bodies, are all apparently appreciated by the bat. If the eyes of a bat be covered up, nay, if it be even cruelly deprived of sight, it will pursue its course about a room with a thousand obstacles in its way, avoiding them all, neither dashing against a wall, nor flying foul of the smallest thing, but threading its way with the utmost precision and quickness, and passing adroitly through apertures, or the interspaces of threads placed purposely across the apartment. This endowment, which almost exceeds belief, has been abundantly demonstrated by the experiments of Spallanzani and others : it is the sense of touch refined to the highest and most exquisite degree of perfection. Thus are the bats aerial in feeling as in habits.

ON STRENGTH OF CHARACTER.

If I can speak experimentally to any moral benefit in growing older, says Dr.

Aikin, it is, that increasing years augment the strength and firmness of the character. This is a part of the natural progress of the human system, and is probably as much owing to physical as to moral causes. The diminution of mobility and irritability in the animal frame, must fortify it against external impressions, and give it a greater stability in its action and reaction. So far, however, as this is a corporeal process, it can not be anticipated ; and the young must be exhorted to wait patiently for this advantage, till it comes to them by due course of time, to compensate for the many privations they must undergo. But if an inquiry into the purely moral causes of the opposite defects can suggest moral means of obviating them in some measure at any period, it will certainly be worth the pains ; for a due degree of firmness and consistency is absolutely essential in forming a respectable character. Let us, then, enter upon such an investigation.

On retracing my own feelings, I find that the first and principal cause of juvenile weakness is *false shame*. The shame of being singular—the shame of lying under restraints from which others are free—the shame of appearing ungenteel—are all acutely felt by young persons in general, and require strong principle or much native firmness of temper to surmount. Most of the defections from parties and sects in which persons have been educated, originate from this sensation, which is perhaps more seductive to the young, than even interest to the old. It first makes them hesitate to avow themselves, and desirous of passing undistinguished in mixed companies ; it next leads them to petty deceptions and compliances ; and finishes with making entire converts of them, frequently with an affectation of extraordinary contempt of those whom they have forsaken, in order to prevent all suspicion of their having been of the number. The best guard against this conduct is a strong impression of its meanness. If young men were brought to discern that cowardice and servility were the chief agents in this progress, their native generosity of spirit would powerfully oppose such a degradation of character. Still more might be gained by

accustoming them to set a value upon the circumstances of standing apart from the mass of mankind, and to esteem as honorable every distinction produced by the exercise of freedom in thinking and acting. I am aware that there is a danger to be avoided on this side, too, and that the pride of singularity is equally ridiculous and disgusting in a young man. But this, I believe, is not the leading error of the times; which is rather a propensity to submit implicitly to the decisions of fashion, and to value oneself more upon following, than opposing, the manners and opinions of the majority.

The *fear of offending* is another snare to young minds, which, though commonly originating in an amiable delicacy of character, must in some degree be overcome before a manly steadiness of conduct can be supported. Many instances have I known, in which the species of adulation called by the Latins *assentatio*, has been occasioned by a mere dread of giving offence by contradiction. But such a habit of assenting to everything that may be advanced, is in danger of subverting all our principles; and we may come to practise from artifice that complaisance which we perceive to be so agreeable, when only the consequence of modest deference. This is an evil attending the practice, otherwise so instructive, of frequenting the company of seniors and superiors; and it is only to be counteracted by a mixture of free society with equals.

Akin to this is the *fear of giving pain*. It inspires an insuperable repugnance to the delivery of disagreeable truths, or the undertaking of unpleasant offices; things which in the commerce of life are often necessary to the discharge of our duty. In particular, one whose office it is to apply *medicine to the mind*, must, as well as the physician of the body, conquer his reluctance to give temporary pain, for the sake of affording lasting benefit. Excess of politeness deviates in this weakness. It makes no distinction between saying an unpleasant thing, and saying a rude one. A course of sentimental reading is likewise apt to foster such an extreme delicacy of feeling, as makes the painful duties of the heart insupportable. The most effectual remedy in this state of mor-

bid sensibility, is an unavoidable necessity of mixing in the business of the world, and encountering all its roughness. To persons of a retired condition, the best substitute is strengthening the mind with the dictates of a masculine and high-toned philosophy.

The *desire of pleasing all mankind*, which is the counterpart of the two former principles, is a fertile source of weakness and mutability in some of the best dispositions. It is the quality commonly termed *good-nature*. Young persons are not only themselves prone to fall into excess of easy good-nature, but it is the quality that most readily captivates them in the choice of an early friend. It is impossible here to blame the disposition, although it be highly important to guard against the indulgence of it; for it leads to the very same imbecility of conduct that false shame and cowardice do. In the course of our duties we are almost as frequently called upon to undergo the censure and enmity of mankind, as to cultivate their friendship and good opinion. Cicero, in enumerating the causes which induce men to desert their duty, very properly mentions an unwillingness "*suscipere inimicitias*," to take up enmities. This is, indeed, one of the severest trials of our attachment to principle; but it is what we must be ready to sustain when occasion requires, or renounce every claim to a strong and elevated character.

When young in life, I derived much satisfaction from thinking that I had not an enemy in the world. A too great facility in giving up my own interest, when it involved a point of contention, and a habit of assenting to, or at least not opposing, the various opinions I heard, had, in fact, preserved me from direct hostilities with any mortal, and, I had reason to believe, had conciliated for me the *passive* regard of most of those with whom I was acquainted. But no sooner did different views of things, and a greater firmness of temper, incite me to an open declaration respecting points which I thought highly interesting to mankind, that I was made sensible, that my former source of satisfaction must be exchanged for self-approbation and the *esteem* of a few. The event gave me at first some surprise and more

concern; for I can truly say, that in my own breast, I found no obstacle to the point of *agreeing to differ*. It was even some time before I could construe the estranged looks of those who meant to intimate that they had renounced private friendship with me, upon mere public grounds. But enough! At present, I can sincerely assure you, that I feel more compunction for early compliances, than regret for the consequences of latter assertions of principle. And it is my decided advice to you, who are beginning the world, not to be intimidated from espousing the cause you think a right one, by the apprehension of incurring any man's displeasure. I suppose this to be done within the limits of candor, modesty, and real good temper. These being observed, you can have no enemies but those who are not worthy to be your friends.

SIR WALTER RALEIGH.

A NAME dear to Americans, for to him is due the honor of projecting and keeping up, by his persevering efforts and expensive expeditions, the idea of permanent British settlements in America. His name is thus associated with the origin of the independent states of North America, and must be revered by all who, from liberal curiosity or pious affection, study the early history of their country.

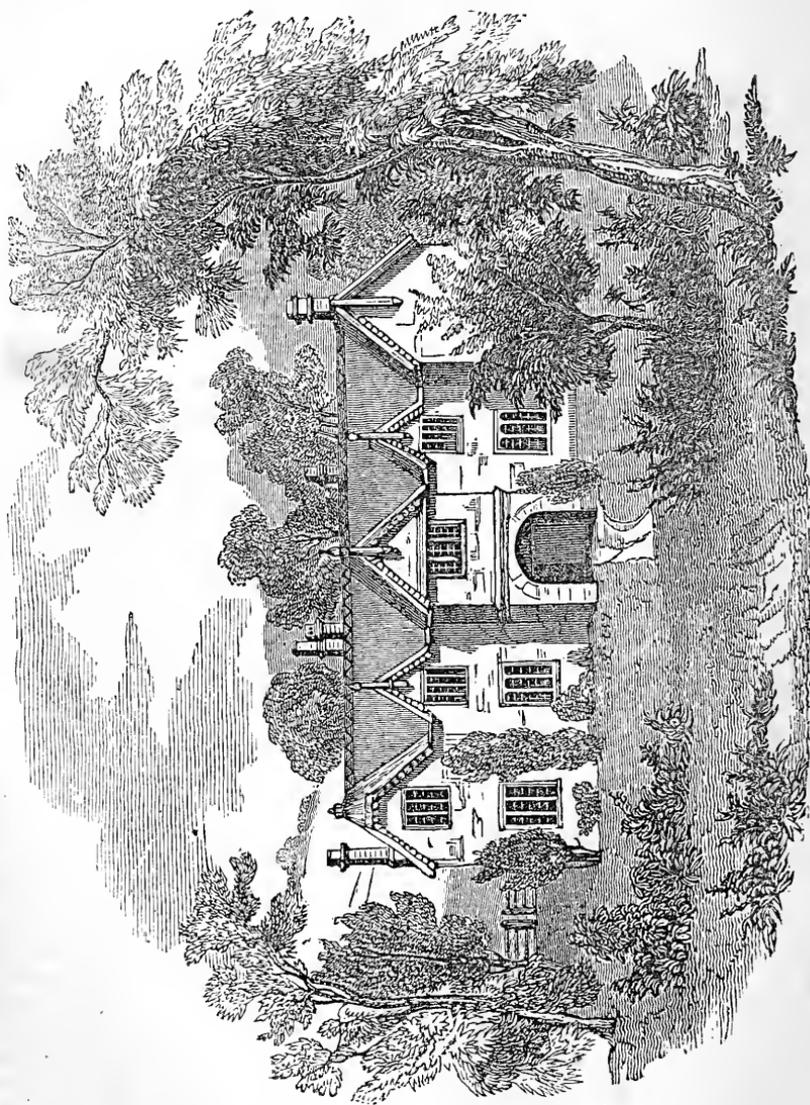
Walter Raleigh was born in 1552, at Hayes, on the coast of Devonshire: when young, he was sent to Oriel college, Oxford, where he exhibited a restless ambition, which prompted him to seek distinction rather in the stirring scenes of the world, than the cloistered solitude of a college; and this natural inclination to adventure was fostered by the study of books relating to the conquests of the Spaniards in the new world, a species of reading which was the delight of his early years, and undoubtedly gave a color to the whole tenor of his life.

His stay at Oxford therefore was short; and in 1559, he seized the opportunity of the civil wars in France, between the Huguenots and catholics, to visit that

kingdom and commence his military education; but although engaged in war, he found leisure to study the histories of the discoveries of Columbus, the conquests of Cortes, and the sanguinary triumphs of Pizarro, which books were his especial favorites. Nor were there wanting, in the army in which he served, many others whose society encouraged his early devotion to such pursuits. It is not surprising, therefore, that the ardent mind of Raleigh should have eagerly embraced an opportunity of embarking in an adventure of this nature, which offered itself while he was in Holland.

His stepbrother, Sir Humphrey Gilbert, had published, in 1576, a treatise concerning a northwest passage to the East Indies, which appears to have made no inconsiderable impression upon the government; and Sir Humphrey, having obtained a patent from the queen to colonize such parts of North America as were not possessed by any of her allies, prevailed with Raleigh to abandon his military pursuits, and try his fortune in the voyage.

The project, however, failed. Many who had eagerly embarked in it became discontented; all desired an equal share of power; discord bred coldness and desertion; and Sir Humphrey and Raleigh at last found themselves obliged to put to sea with a few friends who disdained to leave them under such adverse circumstances. "When the shipping was in a manner prepared," says Edmund Haies, who was a principal actor in the enterprise, "and men ready upon the coast to go abroad, some brake consort, and followed courses degenerating from the voyage before pretended; others failed of their promises contracted, and the greater number were dispersed, leaving the general with a few of his assured friends, with whom he adventured to sea, where, having tasted of no less misfortune, he was shortly driven to retire home with the loss of a tall ship." On its homeward passage, the small squadron of Gilbert was dispersed and disabled by a Spanish fleet, and many of the company were slain. Although unsuccessful in his first voyage, the instructions of Gilbert could not fail to be of service to Raleigh, who at this time was not much above twenty-five,



[Birthplace of Sir Walter Raleigh.]

while the admiral must have been in the maturity of his years and abilities. For some time after this, the life of Raleigh was that of a soldier: until Gilbert's patent being nearly expired, his attention was again called to his scheme for prosecuting discoveries in the new world. A second squadron was now fitted out, and the largest ship in it, which bore Raleigh's own name, was built under his own eye, and equipped at his expense. This expedition was commanded by Gilbert, and, although starting under favorable auspices, was unfortunate in its commencement, and ultimately fatal to its leader. In a short time, the Raleigh returned into the harbor, a contagious distemper having broken out on board. Gilbert pursued his voyage, and having reached the Bacallaos, originally discovered by John Cabot, and since called Newfoundland, took possession of it and the adjoining coast in the name of the reigning English queen, Elizabeth. After a partial survey of the island, and an interview with the natives, whose disposition was pacific and gentle, they steered south. But discontent, mutiny, and sickness, broke out in the fleet. The Swallow was sent home with the sick, and the Delight was soon after completely wrecked. The admiral now hoisted his flag in the Squirrel, of ten tons burden. The weather soon after became dark and lowering, and on the 9th of September, at midnight, this little vessel was swallowed up with all on board, and not a plank of her was ever seen again.

The melancholy fate of his brother did not deter Raleigh from the prosecution of his schemes. By the study of the Spanish voyages, and his conversations with some skilful mariners of that nation, whom he met in Holland and Flanders, he had learned that the Spanish ships always went into the gulf of Mexico by St. Domingo and Hispaniola, and directed their homeward course by the Havana and the gulf of Florida, where they found a continued coast on the west side, tending away north, which, however, they soon lost sight of by standing to the east, to make the coast of Spain. Upon these grounds, and for reasons deduced from analogy and a knowledge of the sphere, he concluded there must be a vast extent

of land north of the gulf of Florida, of which he resolved to attempt the discovery.

Probably, also, during his residence in France he might have become acquainted with the particulars of the voyage of Verazzano, or have seen the charts constructed by that navigator, who had explored the same coast nearly as far south as the latitude of Virginia. Having fully weighed this project, he laid a memoir before the queen and council, who approved of the undertaking; and in the beginning of 1584, her majesty granted, by letters-patent, all such countries as he should discover in property to himself and his heirs, reserving to the crown the fifth part of the gold or silver ore which might be found. The patent contained ample authority for the defence of the new countries, the transport of settlers, and the exportation of provisions and commodities for their use.

Sir Walter selected for the command of his projected voyage two experienced officers—Captain Philip Amadas and Arthur Barlow—to whom he gave minute written instructions, and who sailed with two ships, well manned and provisioned, on the 27th of April, 1584. On the 10th of May they arrived at the Canaries; after which, keeping a southwesterly course, they made the West Indies; and departing thence on the 10th of July, found themselves in shoal water, discerning their approach to the lands by the delicious fragrance with which the air was loaded, “as if,” to use the words of their letter to Raleigh, “we had been in the midst of some delicate garden, abounding with all kinds of odoriferous flowers.”

The name of the country where the English landed was called Wingandaeoa, and of the sovereign Wingina; but his kingdom was of moderate extent, and surrounded by states under independent princes, some of them in alliance and others at war with him. Having examined as much of the interior as their time would permit, they sailed homeward, accompanied by two of the natives, named Wanchese and Manteo, and arrived in England in the middle of September.

Raleigh was highly delighted with this new discovery, establishing, in so satis-

factory a manner, the results of his previous reasoning, and undertaken at his sole suggestion and expense. His royal mistress, too, was scarcely less gratified; she gave her countenance and support to the schemes for colonization, which he begun to urge at court, and issued her command, that the new country, so full of amenity and beauty, should, in allusion to her state of life, be called Virginia.

Not long after this, Raleigh received the honor of knighthood, a dignity bestowed by Elizabeth with singular frugality and discrimination, and, about the same period, the grant of a patent to license the vending of wines throughout the kingdom; a monopoly extremely lucrative in its returns, and which was probably bestowed by Elizabeth to enable him to carry on his great schemes for the improvement of navigation, and the settlement of a colony in Virginia.

Sir Walter now fitted out a new fleet for America, the command of which he gave to Sir Richard Grenville; the fleet consisted of seven vessels; part of these were fitted out at Sir Walter's expense, the remainder by his companions in the adventure; one of whom was Thomas Candish or Cavendish, afterward so eminent as a navigator, who now served under Grenville.

On the 19th of April, the mariners reached the Canaries, from which they steered to Dominica in the West Indies, and landed at Puerto Rico, where they constructed a temporary fort. On the 26th of June, after some delays at Hispaniola and Florida, they proceeded to Wohoken, in Virginia; and having sent notice of their arrival by Manteo, one of the two natives who had visited England, they were soon welcomed by their old friend Granganimeo, who displayed much satisfaction at their return. Mr. Ralph Lane, who had been invested with the dignity of chief-governor, now disembarked with 108 men, having for his deputy Philip Amadas, one of the original discoverers. Grenville does not appear to have been sufficiently impressed with the difficulties attending an infant colony in a new country, and, accordingly, after a short stay, during which was collected a valuable cargo of skins, furs, and pearls,

he returned to England, carrying into Plymouth a Spanish prize, which he had captured on the homeward voyage, of three hundred tons, and richly laden.

The first survey of their new territory delighted the English; and the governor, in a letter to Hakluyt, who appears to have been his intimate friend, informs him that "they had discovered the mainland to be the goodliest soil under the cope of heaven; abounding with sweet trees, that bring sundry rich and pleasant gums; * * and, moreover, of huge and unknown greatness: well peopled and towned, though savagely, and the climate so wholesome, that they had not one person sick since their arrival."

Lane fixed his abode on the island of Roanoke, and thence extended his researches 80 miles southward to the city of Secotan. He also pushed 130 miles north, to the country of the Chesepians, a temperate and fertile region; and northward to Chawanook, a large province, under a monarch named Menatonon. These proceedings, however, were soon interrupted by the threatening aspect of affairs at headquarters. Even before the departure of Grenville for England, an accident occurred in which the conduct of the settlers appeared rash and impolitic. A silver cup had been stolen, and a boat was despatched to Aquascogok to reclaim it. Alarmed at this visit, the savages fled into the woods, and the enraged crew demolished the city and destroyed the corn-fields. A revenge so deep for so slight an injury incensed the natives; and although they artfully concealed their resentment, from that moment all cordiality between them and the strangers was at an end.

Not long after, Menatonon and his son Skyco were seized and thrown into irons; but the monarch was soon liberated, while the youth was retained as a hostage for his fidelity. To all appearance, this precaution had the desired effect. But the king, although an untaught savage, proved himself an adept in dissimulation. Working upon the avarice and credulity of the English, he enticed them into the interior of the country by a flattering report of its extraordinary richness and amenity. He asserted that they would arrive at a region

where the robes of the sovereign and his courtiers were embroidered with pearl, and the beds and houses studded with the same precious material. Menatonon described also a remarkably rich mine, called by the natives chaumis temoatan, which was situated in the country of the Mangaoaks, and produced a mineral similar to copper, although softer and paler.

By these artful representations, Lane was persuaded to undertake an expedition by water, with two wherries and forty men. Instead, however, of the promised relays of provisions, they found the towns deserted, and the whole country laid waste. Their boats glided along silent and solitary banks; and after three days, during which they had not seen a human being, their last morsel of food was exhausted, and the governor, now aware of the treachery of Menatonon, proposed to return. His men, however, entreated him to proceed, still haunted by dreams of the inexhaustible riches of the Mangaoaks' country, and declaring that they could not starve as long as they had two mastiffs, which they might kill, and make into soup. Overcome by such arguments, Lane continued the voyage; but for two days longer no living thing appeared. At night, indeed, lights were seen moving on the banks, demonstrating that their progress was not unknown, though the observers were invisible. At last, on the third day, a loud voice from the woods suddenly called out the name of Manteo, who was now with the expedition. As the voice was followed by a song, Lane imagined it a pacific salutation; but the Indian seized his gun, and had scarcely time to warn them that they were about to be attacked, when a volley of arrows was discharged into the boats. The travellers now landed, and assaulted the savages, who fell back into the depths of the wood, and escaped with little injury, upon which it was resolved to return to the settlement. On their homeward-bound voyage, which, owing to their descending with the current, was performed with great rapidity, they had recourse to the mastiff broth, or, as the governor terms it, "dog's porridge," and arrived at Roanoke in time to defeat a formidable conspiracy.

The author of this plot was Wingina,

who, since the death of his brother Granimeo, had taken the name of Pemisapan. His associates were Skyco and Menatonon; and these two chiefs, pretending friendship, but concealing under its mask the most deadly enmity, had organized the plan of a general massacre of the colony. The design, however, was betrayed to Lane by Skyco, who had become attached to the English; and, aware of the necessity of taking immediate measures before Pemisapan could muster his forces, the governor gave instructions to seize any canoes which might offer to depart from the island. In executing this order two natives were slain, and their enraged countrymen rose in a body, and attempted to overpower the colonists, but were instantly dispersed. Not aware, however, that his secret was discovered, and affecting to consider it as an accident, Pemisapan admitted Lane and his officers to an interview, which proved fatal to him. The Virginian monarch was seated in state, surrounded by seven or eight of his principal weroanees, or high chiefs; and after a brief debate, upon a signal given, the Europeans attacked the royal circle, and put them all to death.

This alarming conspiracy had scarcely been put down, when the natives made a second attempt to get rid of the strangers, by neglecting to sow the adjacent lands, hoping, in this manner, to compel them to leave the country. At this decisive moment a fleet of twenty-three vessels came in sight, which turned out to be the squadron of Sir Francis Drake, who had fortunately determined to visit the colony of his friend Sir Walter, and carry home news of their condition, on his return from an expedition against the settlements in the Spanish main. It was now long past the time when supplies had been expected from England, and Drake generously offered every sort of provisions. Lane, however, only requested a vessel and some smaller craft to carry them home, which was immediately granted; but before they could get on board, a dreadful tempest, which continued for four days, dashed the barks intended for the colonists to pieces, and might have driven on shore the whole fleet, unless, to use the language of the old despatch, "the Lord had



[Portrait of Sir Walter Raleigh.]

held his holy hand over them." Deprived in this way of all other prospect of return, they embarked in Sir Francis' fleet, and arrived in England on the 27th of July, 1586.

Scarcely, however, had they sailed, when the folly of their precipitate conclusion, that Raleigh had forgotten or neglected them, was manifested by the arrival at Roanoke of a vessel of one hundred tons, amply stored with every supply. Deeply disappointed at finding no appearance of the colony, they sailed along the coast, and explored the interior. But all their search was in vain, and they were compelled to take their departure for Europe. This, however, was not all. Within a fortnight after they weighed anchor, Sir Richard Grenville, with three well-appointed vessels, fitted out principally by Raleigh, appeared off Virginia, where, on landing, he found, to his astonishment, everything deserted and in ruins. Having made an unsuccessful effort to procure intelligence of his countrymen, it became necessary to return home. But, unwilling to abandon so promising a discovery, he left behind him fifteen men, with provisions for two years, and, after some exploits against the Spaniards and the Azores, arrived in England.

Raleigh, however, was by no means discouraged by the unfortunate results of these expeditions, but again turned his attention to his Virginian colony, the failure of which was rather owing to the precipitate desertion of Lane than to any fault in the original plan; and he determined to make a new attempt for the settlement of a country which held out so many encouragements from its salubrious climate and fertile soil. Hariot, who accompanied Lane, had by this time published his "True Report of the New found Land of Virginia," which created much speculation, so that he experienced little difficulty in procuring 150 settlers. He appointed as governor Mr. John White, with twelve assistants, to whom he gave a charter, incorporating them by the name of the "Governor and Assistants of the City of Raleigh, in Virginia." These, in three vessels furnished principally at his own expense, sailed from Portsmouth on the 26th of April, 1587, and on the 22d of

July, anchored in Hatorask harbor. White, with forty men, proceeded in the pinnace to Roanoke to confer with the fifteen colonists left by Sir Richard Grenville; but to his dismay found the place deserted, and human bones scattered on the beach; the remains, as was afterward discovered of their countrymen, all of whom the savages had slain. A party then hastened to the fort on the north side of the island. But here the prospect was equally discouraging. No trace of a human being was to be seen; the building was razed to the ground, and the wild-deer were couching in the ruined houses, and feeding on the herbage and melons which had overgrown the floor and crept up the walls.

Our limits do not allow us to follow Sir Walter in his discovery of Guiana and voyage up the Oronoko, and in his brave exploits against the fleets of Philip of Spain, nor in the vicissitudes which he experienced at the court of Elizabeth; at one time we find him enjoying her utmost confidence, exerting his influence in the cause of benevolence; and it is reported, that Elizabeth, somewhat irritated by his applications for the unfortunate, on his telling her one day he had a favor to ask, impatiently exclaimed, "When, Sir Walter, will you cease to be a beggar?" To which he made the noted answer, "When your gracious majesty ceases to be a benefactor."

Soon after, he was committed to the Tower for presuming to marry without the queen's consent: he, however, was again restored to favor, and continued to aid the state by his services and counsel, till the death of Elizabeth, in 1602.

On the accession of James to the throne, Sir Walter was not only treated with coolness and neglect, but became the victim of a conspiracy, was tried for treason against the crown, found guilty, and condemned to death. Having been warned to prepare for execution, he sent a manly and affecting letter to his wife, from which the following is an extract:—

"When I am gone, no doubt you shall be sought to by many, for the world thinks that I was very rich. But take heed of the pretences of men, and their affections; for they last not but in honest and worthy

men, and no greater misery can befall you in this life than to become a prey, and afterward to be despised. I speak not this, God knows, to dissuade you from marriage; for it will be best for you, both in respect of the world and of God. As for me, I am no more yours, nor you mine. Death has cut us asunder, and God hath divided me from the world, and you from me. Remember your poor child for his father's sake, who chose you and loved you in his happiest time. Get those letters, if it be possible, which I writ to the lords, wherein I sued for my life. God is my witness it was for you and yours that I desired life. But it is true that I disdain myself for begging it; for know it, dear wife, that your son is the son of a true man, and one who, in his own respect, despiseth death in all his mishapen and ugly forms. I can not write much. God he knoweth how hardly I steal this time while others sleep; and it is also high time that I should separate my thoughts from the world. Beg my dead body, which, living, was denied thee, and either leave it at Sherborne, if the land continue, or in Exeter church, by my father and mother. I can say no more, time and death call me away.

"The everlasting, powerful, infinite, and omnipotent God, who is goodness itself, the true life and true light, keep thee and thine, have mercy on me, and teach me to forgive my persecutors and accusers, and send us to meet in his glorious kingdom. My dear wife, farewell! Bless my poor boy; pray for me, and let my good God hold you both in his arms! Written with the dying hand of some time thy husband, but now, alas! overthrown. Yours that was, but now not my own,

"RALEIGH."

Sir Walter, however, was reprieved at this time, but was confined in the Tower for many years after, during which his *History of the World* was composed. On regaining his liberty, in 1615, a new expedition to Guiana was projected, of which Raleigh took command, but it was unsuccessful; and on his return to England, he was again arrested, imprisoned, and, finally, executed in 1618. His conduct while on the scaffold was extremely firm. The morning being sharp, the sheriff offered

to bring him down off the scaffold to warm himself by the fire before he should say his prayers; "No, good Mr. Sheriff," said he, "let us despatch, for within this quarter of an hour my ague will come upon me, and if I be not dead before that, mine enemies will say I quake for fear." He then, to use the words of a contemporary and eyewitness, made a most divine and admirable prayer; after which, rising up, and clasping his hands together, he exclaimed, "Now I am going to God!" The scaffold was soon cleared; and having thrown off his gown and doublet, he bid the executioner show him the axe, which not being done immediately, he was urgent in his request. "I prithee," said he, "let me see it. Dost thou think I am afraid of it?" Taking it in his hand, he kissed the blade, and passing his finger slightly along the edge, observed to the sheriff, "'Tis a sharp medicine, but a sound cure for all diseases." He then walked to the corner of the scaffold, and kneeling down, requested the people to pray for him, and for a considerable time remained on his knees engaged in silent devotion; after which he rose, and carefully examined the block, laying himself down to fit it to his neck, and to choose the easiest and most decent attitude. In all this he would receive no assistance; and having satisfied himself, he rose and declared he was ready. The executioner now came forward, and kneeling, asked his forgiveness, upon which Raleigh laid his hand smilingly on his shoulder, and bade him be satisfied, for he most cheerfully forgave him, only entreating him not to strike, till he, himself, gave the signal, and then to fear nothing, and strike home. Saying this, he lay down on the block, and on being directed to place himself so that his face should look to the east, he answered, "It mattered little how the head lay, provided the heart was right." After a little while, during which it was observed, by the motion of his lips and hands, that he was occupied in prayer, he gave the signal; but whether from awkwardness or agitation, the executioner delayed; upon which, after waiting for a short time, he partially raised his head, and said aloud, "What dost thou fear? strike, man!"

The axe then descended, and at two strokes the head was severed from the body, which never shrunk or altered its position, while the extraordinary effusion of blood evinced an unusual strength and vigor of constitution, though when he suffered, Sir Walter was in his sixty-sixth year. The head, after being, as usual, held up to the view of the people on either side of the scaffold, was put into a red bag; over which his velvet night-gown was thrown, and the whole immediately carried to a mourning-coach which was in waiting, and conveyed to Lady Raleigh. This faithful and affectionate woman, who never married again, though she survived him twenty-nine years, had it embalmed and preserved in a case, which she kept with pious solicitude till her death.

The body was buried privately near the high altar of St. Margaret's church in Westminster, but no stone marks the spot.

JUNCTION OF THE ATLANTIC AND PACIFIC OCEANS.

NO. III.

THE remaining plans are all connected with the isthmus, and having dismissed the most northerly one of Mexico, we will proceed to notice them in succession as they occur.

The first is to form a junction navigable for ships from the harbor of San Juan on the Caribbean sea, through the lakes of Nicaragua and Leon (or Managua) with the port of Realejo in the Pacific. The river San Juan is the only channel by which the lake of Nicaragua discharges its waters into the Atlantic. The lake of Nicaragua is an inland sea, of a lengthened form, being about 120 miles long, and 40 broad where widest, without narrowing much at either end. Its circuit is near 400 miles. It is deep enough to be navigated by vessels of considerable size, having at some distance from the shores from 6 to 20 fathoms of water along the southern and western banks, but is shallow along the northeast shore for a mile and upward into the lake. The river is-

sues from the southeastern extremity, and near the fortress of San Carlos it is 600 feet broad, and from 6 to 7 deep. About the middle of its course the San Juan receives from the south the Rio San Carlos, and lower down the Serapiqui. About 24 or 28 miles from its mouth the river divides into two arms, of which the southern and wider is called Rio Colorado; the other enters the sea near the harbor of San Juan de Nicaragua. The depth of water in the upper part of the course of the San Juan varies from 9 to 20 feet, but in some places it is so shallow that rapids are produced. The greatest of these rapids is about 28 miles from the lake. The lower portion of the river, below its bifurcation, is very shallow: at many places, during the dry season, there are not more than 2 feet of water. The port of San Juan is not considered very unhealthy, and the harbor is deep enough for merchant vessels, and safe; but up to the present time it is nearly uninhabited. The northwestern mouth of the river, which is the only one that can be used, has a bar with only two or three, and seldom 4 feet of water upon it. Haefkins is of opinion that the cutting of a canal through the plain from the port of San Juan to the lake of Nicaragua would be less expensive than to make the river navigable. He estimates the distance in a straight line at less than 60 miles. The winding course of the river amounts to 120 miles. The difference of level between the lake and the Atlantic is 134 feet and therefore locks would be necessary. The narrowest portion of the isthmus which separates the lakes from the Pacific is between the town of Nicaragua and the port San Juan del Sul, where it is only 15 or 16 miles across; but the hills upon it rise to between 400 and 500 feet. The hills might perhaps be avoided, but the canal would of course be longer. Some persons think that it would be more advantageous to unite the lake of Managua (or Leon) by a canal with the harbor of Realejo. The country between them is nearly level, and of a firm soil, without being rocky. Besides this, the canal could terminate in the port of Realejo, one of the best harbors on the west coast of America, while that near Nicara-

gua would end in the harbor of San Juan del Sul, which is small and unsafe. But this canal would be more than twice as long as the other, and, in addition to this, the Tepitapa, which unites the lake of Nicaragua with that of Managua, must be rendered navigable. The lake Managua is 150 miles in circumference, 35 miles long, and 15 broad in its widest part. It is deep enough for vessels of considerable size; but the Rio Tepitapa, which brings down the water from the lake of Nicaragua, and is about 25 miles long, has falls, which in the dry season are from 6 to 8 feet high, and also several shoals. These obstacles seem to have been produced by the lava which, in 1722, ran from the neighboring volcano of Managua into the river, and it is supposed that they could be avoided by a canal cut through the level ground on the southern side of the Rio Tepitapa. There is even now a navigation between the town of Granada, on the banks of the lake of Nicaragua, and the port of San Juan de Nicaragua, on the Atlantic. Flat-bottomed river-barges are used for the transport of goods, and accomplish their voyages in eight or ten days.

Another variation of this plan is to cut a canal of about 15 miles from the southwestern corner of the lake of Nicaragua to the gulf of Papagayo. The Hon. P. Campbell Scarlett wrote, in 1838, that the government of Central America were about to commence this work. It has, however, not been yet begun. Indeed the removing of the impediments to the navigation of the San Juan are far more serious labors than even the canal to the Pacific, whether formed from the lake of Nicaragua or from that of Managua.

The next project is to form a communication from Chagres on the Atlantic, by the river of that name, joined by a short canal to the Rio Grande, which falls into the sea at Panama. Mr. Lloyd, in what he has written on the subject, does not speak of a canal, probably because in the then circumstances of the republic of Colombia it was an enterprise quite out of the question. His description of the country, however, shows that it may be considered next to impossible to make such a canal across the narrowest part of

the isthmus, opposite the bay of Mandingo. It appears that though there are no obstacles to the execution of such a work in the surface and soil which could not be overcome, the climate is so unhealthy, that the lives of many thousands would be sacrificed, and probably the mortality among the workmen would soon stop the progress of the work. Mr. Lloyd's plan for improving the communication was to begin at Limones, or Navy Bay, about 5 miles east of Chagres, which, though uninhabited, is an excellent harbor, and might easily be much improved. From this place he proposes a canal to be made to the banks of the river Chagres, which is only two miles and a half from the harbor; and as the intervening tract is a level, the canal could probably be made without locks. That river would then be ascended to its junction with the Trinidad river, and the latter to a place where its shores on the south bank are well suited for being converted into wharfs and landing-places, and thence finally to Panama or Chorrera by a railroad. It is possible, however, that a river and canal navigation sufficiently deep for steamboats would not be so difficult to accomplish as Mr. Lloyd supposed, at least not from the physical character of the country, though the excessive unhealthiness of the climate, especially on the Atlantic side, and the total absence of a laboring population, would render an enterprise, which in England could be completed with the greatest facility, utterly impracticable in Panama. By the use of weirs or locks on the Chagres, and by deepening the Obispo and Mandingo, which fall into it in the upper part of its course, access could be obtained by a canal through a flat country of not more than from 5 to 7 miles in length to the navigable part of the Rio Grande. The whole isthmus, a surface larger than Ireland, does not contain much above 100,000 inhabitants. We can hardly believe that in such a population a thousand laborers could be procured for a new, laborious, low-priced, and unhealthy employment. Another variation of this plan proposes a canal of 25 miles to connect the Chagres and the Trinidad with the Farfan, which falls into the head of the gulf of Panama.

Another plan is to connect Cupica bay, in the Pacific, with a river flowing into the Atlantic, by forming a canal across the interval, which is ascertained to be a perfect level. It is to ascend the river Atrato, which falls into the head of the gulf of Darien in the bay of Candelaria, or Choco, to its junction with the Naipi, which is then to be connected by a canal of from 12 to 15 miles to the bay of Cupica, through a country perfectly level, rising but 150 feet to the point of junction, running through a valley or gap of the Andes, the rivers themselves being uninterrupted by rapids or falls. The Atrato is stated to be 5 leagues wide at its mouth, and brings down a large body of water; its total length is about 150 miles, but the Naipi joins it at about 40 miles up its course. The Naipi is stated to be also a considerable stream, having 12 feet of water. The bays of Cupica and Choco are both also said to be deep and well sheltered. The Atrato is also remarkable for having been already made the means of a communication between the two seas. The curate of Novita, in 1770, taking advantage of a natural ravine called the Quebrada de Raspadura, caused the Indians to dig a small canal, navigable by canoes during the rainy season, connecting the Atrato, by means of one of its most southern affluents, the Quito, with the San Juan, which falls into the Atlantic at a distance of 260 miles from the mouth of the Atrato. This has been used for the conveyance of cocoa, and other agricultural products of the country, but is of no other use, and probably could not be made so. This project, also, would no doubt be found extremely difficult from the excessive wetness and unhealthiness of the climate. Another and most serious impediment, to which we have not yet alluded, exists to the execution of any of these undertakings; it is—the unsettled state of all the old Spanish American states, and the consequent insecurity of all property, particularly that of foreigners. If skilful engineers are employed to survey the country, a better knowledge of it may be obtained, and the best and the most practicable line ascertained, but the obstacles arising from scarcity of laborers, unhealthiness of climate, and insecurity

of property, will still remain unremoved, till the country itself has advanced greatly in population and civilization, and then it would most probably undertake the task itself, or at most with some pecuniary assistance in the shape of shares.

THE ATTRACTIONS OF HOME.

THESE are sweet words. Who is not charmed with their music? Who hath not felt the potent magic of their spell?

By home, I do not mean the house, the parlor, the fireside, the carpet, or the chairs. They are inert, material things, which derive all their interest from the idea of the home which is their locality. Home is something more ethereal, less tangible, not easily described, yet strongly conceived—the source of some of the deepest emotions of the soul, grasping the heart-strings with such a sweet and tender force, as subdues all within the range of its influence.

Home is the palace of the husband and the father. He is the monarch of that little empire, wearing a crown that is the gift of Heaven, swaying the sceptre put into his hands by the Father of all, acknowledging no superior, fearing no rival, and dreading no usurper. In him dwells love, the ruling spirit of home. She that was the fond bride of his youthful heart, is the affectionate wife of his maturer years.

The star that smiled on their eve has never set. Its rays still shed a serene lustre on the horizon of home. There, too, is the additional ornament of home—the circle of children—beautifully represented by the spirit of inspiration as “olive plants round about the table.” We have been such. There was our cradle. That cradle was rocked by a hand ever open to supply our wants—watched by an eye ever awake to the approach of danger. Many a livelong night has that eye refused to be closed for thy sake, reader, when thou, a helpless child was indebted to a mother’s love, sanctified by Heaven’s blessing, for a prolonged existence through a sickly infancy. Hast thou ever grieved

that fond heart? No tears can be too freely, too sincerely shed, for such an offence against the sweet charities of home. If there was joy in the place at thy birth, oh, never let it be turned into sorrow by any violation of the sacred laws of home.

We had our happy birth, like most of the human race, in the country, and can recall many tender and pleasant associations of home. There is earnest poetry in this part of our life. We remember with delight the freshness of the early morn; the tuneful and sprightly walk among the dewy fields; the cool repose amid the sequestered shades of the grove, vocal with the music of nature's inimitable warblers; the tinkling spring, where we slaked our thirst with the pellucid waters as they came from the hand of the Mighty One; the bleating of the flocks, the lowing of the herds, the humming of the bees, the cry of the whip-poor-will, the melancholy monotonous song of the night bird, relieved only by the deep base of that single note, which he uttered as he plunged from his lofty height into a lower region of atmosphere—these are among our recollections of home. And they come softened and sobered through the medium of the past, but without losing their power to touch the heart, and still endear that word, *home*.

There, too, perhaps, we saw a father die; having attained to a patriarchal age, he bowed himself on his bed, saying, "Behold I die, but God shall be with you," and was gathered to his people. Nor can the memory ever forget that mother in her meek and quiet old age, walking through many a peaceful year on the verge of heaven, breathing its atmosphere, reflecting its light and holy beauty, till at length she left the sweet home of earth for her Father's home in heaven.

"So gently dies the wave upon the shore."

Home, too, is the scene of the gay and joyous bridal. When the lovely daughter, affianced to the youth of her heart, stands up to take the irrevocable pledge—what an interesting moment! I saw not long since such a one. She stood unconscious of the loveliness which innocence and beauty threw around her face and person: her soft, smooth polished fore-

head was circled with a wreath of flowers, her robe was of purest white, and in her hand was held a bouquet of variegated roses. Beside her stood the happy man for whom she was to be

"A guardian angel o'er his life presiding,
Double his pleasures, and his care dividing."

As I pronounced the words that made them one, adding the nuptial benediction, a tear fell from the eye of the bride on the wreath in her hand! It was a tribute to home, sweet home. Not that she loved father and mother less, but husband more. That piece of music, "The Bride's Farewell," plunges deeper into the fountain of emotion in the soul, than any other combination of thought and song to which I ever listened. Was the bride ever found who was equal to its performance on the day of her espousals, or rather in the hour of her departure from her long-loved home, when the time had arrived to bid farewell to father, mother, brother, and sister? Perhaps in looking at the picture of domestic life, as exhibited in such circumstances, we should not omit to notice some of the least prominent traits and coloring, for they never escape the keen and practised eye of the true poet. Thus Rogers, in his graphic and natural poem of *Human Life*, in which he "snatches so many graces, "beyond the reach of art," does not in describing the wedding scene, forget the younger portion of the family, even the little daughter, so often the gem and joy of home:—

"Then are they blest indeed, and swift the hours,
Till her young sisters wreath her hair in flowers,
Kindling her beauty—while, unseen the least,
Twitches her robes, then runs behind the rest,
Known by her laugh, that will not be suppressed."

THE NIAGARA DISTRICT, WESTERN CANADA.

NO. II.

THE Niagara district, being already settled, does not offer any inducement to the usual description of emigrants who proceed to Canada for the purpose of purchasing land, and by their industry bringing the wild forest into a state of cultiva-

Fort Erie on Lake Erie in 1770.



tion; but persons with capital may do well to settle in this part of the province. They can purchase farms already cleared, and the vicinity of good markets at once compensates them for the higher price which they must pay. To those who are incapable of "roughing" it in "the bush," such a plan is undoubtedly the best. Both in the British provinces and in the United States there are a class of men who employ themselves in clearing land, and after bringing it into a rude state of cultivation they sell their "clearings," and these useful pioneers are again off into the woods. This is a very beneficial distribution of labor, and renders the task of the more refined emigrant comparatively light.

The beauties of nature, and the grand and novel features which she here presents, would surely to a rightly constituted mind be more attractive than the lounging habits of a second-rate town in France. There is no lack of field-sports, and of other amusements, which agreeably diversify the life of a man who is not pursuing some settled plan of existence, but merely resting for a time for some specified object. In summer the tour of the lakes might be made, the adjacent parts of the States visited, and the cities of Montreal, Quebec, Albany, Boston, and New York, are each within two or three days' journey. In a short time new and more correct views would be obtained of a state of things differing greatly in many points from that which the emigrant had quitted. It is said that those who have once resided in new settlements where the forms of society are comparatively free and unconstrained, seldom relish, on their return to an old community, the hollow formalities by which they are circumscribed, and look back with regret to their former freedom, so that a temporary sojourn might, in the case we have supposed, become a permanent settlement.

Eastern and western Canada, under a united constitutional government, such as they have now obtained, and aided by the stream of navigation from the mother-country, which is pouring in at the rate of above thirty thousand persons yearly, is likely to increase rapidly in population. In the speech with which the late Lord Sydenham opened the first session of the

united legislature of Canada, he pointed out the importance of measures for developing the resources of the country by extensive public works, observing that "the rapid settlement of the country, the value of every man's property within it, the advancement of his future fortunes, are deeply affected by this question." The objects which he pointed out as promising commensurate returns for a great outlay, were the improvement of the navigation from the shores of Lake Erie and Lake Huron to the ocean, and the establishment of new internal communications in the inland districts.

TITLES OF HONOR.

AMONG barbarous nations there are no family names. Men are known by titles of honor, by titles of disgrace, or by titles given to them on account of some individual quality. A brave man will be called the lion, a ferocious one the tiger. Others are named after a signal act of their lives, or from some peculiarity of personal appearance, such as the slayer-of-three bears, the taker-of-so-many-scalps, or straight limbs, long nose, and so on. Some of these—especially such as express approbation or esteem—are worn as proudly by their savage owners, as that of duke or marquis is by European nobles. They confer a distinction which begets respect and deference among the tribes, and individuals so distinguished obtain the places of honor at feasts; they are the leaders in battle. It is nearly the same in modern civilized life: titled personages are much sought after by the tribes of untitled, and are, moreover, the leaders of fashion. The only difference between the savage and civilized titles of honor is, that in the former case they can only be obtained by deeds; they must be earned; which is not always the case with modern distinctions.

The Romans had no titles of honor. Scipio and Cæsar were simply so called. Titles began in the court of Constantine. The emperor of Germany first took the title of majesty. Kings, till the fifteenth

or sixteenth century, were called highness.

In the social and political systems of modern nations, all titles of honor originally took their rise from official employments; but in many cases the duties have been abandoned, while the titles, which they at first conferred, are retained. This is the case with the five orders of British peerage, and with the baronetcy, and knighthood. In England, a duke, marquis, earl, viscount, baron, baronet, knight, have at the present time no official duties to discharge in consequence of their titles. It is not so, however, in some parts of Germany, and among the nations of the east. The highest of all titles—that of king or ruler—on the contrary, has never been merely honorary, the responsible duties of government having always been coupled with it. As might be expected, the most extravagant superlatives which language could supply have been added to the honorary designation of the supreme ruler; especially in oriental countries, where the poetical figure of hyperbole flourishes in the greatest excess. The most powerful of all monarchs is the emperor of China; his subjects believe him to be Heaven's sole vicegerent upon earth. Hence his titles are the "Son of Heaven," and "Ten Thousand Years." This is somewhat akin to the legal axiom—that the king *never* dies; which is true of the mere dignity. In an official document received from the governor of Bengal from the general of the Chinese forces, the emperor is styled "the flower of the imperial race, the sun of the firmament of honor, the resplendent gem in the crown and throne of the Chinese territories." His imperial highness is not supposed to possess these distinctions upon groundless pretensions; for he claims to be brother of the sun, cousin-german to the moon, and professes to be connected by ties of relationship to every one of the stars. In short, the emperor is considered the concentrated essence of all worldly distinction; in other words, "the sun of the firmament of honor;" for, besides him, there is no aristocracy in China—no strictly honorary titles but those he monopolizes. Every dignity must be gained by learning and merit; and there are no

titles whatever, except his own, which have not their official duties. There is no hereditary nobility in China.

The titles claimed by the shah of Persia are not less extravagant than those of the Chinese monarch. In a treaty concluded with Sir John Malcolm in behalf of the British government, he calls himself "the high king, the king of the universe, the phenix of good fortune, the eminence of never-fading prosperity, the king powerful as Alexander, who has no equal among the princes exalted to majesty by the heavens in this globe, a shade from the shade of the Most High, a prince before whom the sun is concealed;" and a variety of other outrageous similitudes, which it would be tedious to recite. His subordinate officers imitate him in this respect. The governor of Shiraz, for instance, adds to his official designations the following savory similitudes: the flower of courtesy, the nutmeg of consolation, and the rose of delight. Some of the titles assumed by the sultan of Turkey consist of high-flown comparisons with the Deity, which are carried to the point of blasphemy. He, as well as the Chinese emperor, claims a near relationship to the sun and moon. He declares himself to be, moreover, "the disposer of crowns," although during the present century he has had enough to do to keep his own on his head.

Russia unites Asia with Europe, and we naturally pass to a consideration of the autocrat who styles himself "emperor of all the Russias." This, however, is a modern appellation, that of czar (*kaiser*)—the Slavonic for "king"—having been always given to him from the earliest times.* Most European rulers are kings (from the Teutonic word *cuning*, signifying either knowledge—from which we get "ken"—or potentiality, giving us the auxiliary verb "can"): some, however, assume to be emperors, from the Roman *imperator*. The kings of Spain were formerly so encumbered with titles, that in 1586, Philip III. ordained that he should be termed

* Some etymologists trace the word czar to "Cæsar," of which they affirm it to be a corruption, but the reverse is the fact: Cæsar is the Latinized form of *kaiser* or *czar*. Richardson, quoting Ihre, a native etymologist, says that *kaiser*, *imperator*, or more strictly "watcher," is a word acknowledged and used by all ancient dialects.

simply *el rey, nuestro senor*—"the king, our lord." Indeed Spain may be considered the hot-bed of unmeaning and ignoble titles, though there are some persons of good and ancient family who have titles of real honor. The king of Spain is called his catholic majesty; the higher nobility are counts, marquises, and dukes. The precedence of persons holding these distinctions, as to who shall rank next after the princes of the blood, is settled by the king. This select few have the privilege of being covered in the royal presence, and are styled illustrious, and addressed, like the pope, with "your eminence." The inferior nobility of Spain call themselves *cavalleros* (knights) and *hidalgos* (gentlemen). Most of the nobles are on grand occasions covered with orders and other insignia. These are so cheap in many parts of the continent, that persons of very indifferent reputation often obtain them; hence the Spanish proverb, that "formerly rogues were hung on crosses; now crosses are hung on rogues." It frequently happened in former times, that, from the peculiar Spanish law of tenure, many small estates descended to the same individuals, the names of which the owner added to his own. Illustrative of this, there is a story in the Spanish jest-books of a benighted grandee who knocked at a lonely inn, and when asked, as usual, *quien es?*—"who is there?" replied, "Don Diego de Mendosa, Siloæ Ribera, Guzman Pimentel, Osorio Ponce de Leon Zuniga, Acuna Tellez y Giron, Sandoval y Roxas, Velasco Man." "In that case," interrupted the landlord, shutting his window, "go your way; I have not room for half of you." A great many titular distinctions in Spain have been levelled by the succession of revolutionary shocks which that unfortunate country has sustained within the last forty years.

The Germans cling to all sorts of titles with the most tenacious fondness, and often assume them without any right to do so. Many of the genuine titles are purchased, some persons buying land to which a title is annexed. This venality even exceeds what it did in France under her most corrupt régime. The most common honorary appellation is *geheimrath*, or privy councillor; but few are really en-

titled to assume it; insomuch that those who are put *true* after the designation. Every person is very sensitive about being properly addressed; to accost a gentlemen with *sir* (*mein herr*), is almost an insult; it is necessary to find out his office or profession. The commonest title is "rath," there being a rath for every profession. An architect is a *banrath*; an advocate *justizrath*; and a person with no profession at all contrives to be made a *hofrath* (court councillor), an unmeaning designation, mostly given to those who are never in a situation to give advice at court. The title of professor is also much abused. It is far safer in Germany to attribute a rank greater than the person addressed is entitled to, than to fall beneath the mark. Hence an ordinary stranger is often surprised by hearing himself called Mr. count (*herr graff*), or *eur graden* (your grace). "Every man who holds any public office," says Russell in his *Tour in Germany*, "should it be merely that of an under clerk with a paltry salary of £40 a year, must be gratified by hearing his title, not his name." Neither are the ladies behind in asserting their claims to honorary appellations. "A wife insists upon taking the title of her husband, with a feminine termination. There are *madame generale*, *madame privy councillor*, *madame day-book-keeper*, and a hundred others." These titles, as may be readily imagined, sometimes extend to an unpronounceable length. Conceive, for instance, a foreigner's powers of utterance taxed to the extent of addressing a lady as "*frau ober-consistorialdirectorin*;" in other words, Mrs. directress of the upper consistory court. In France, titles of honor were abolished at the revolution; in the present day, however, counts, and other members of the old aristocracy, retain their titles among their own private friends by courtesy. The legislative function of peer gives no personal title. Badges of honor are exceedingly prevalent: the cross of the legion of honor, with its gay riband, "decorates" the button-holes of almost half the grown male population of France.

On the European continent, the extreme abundance of titles causes their owners to obtain but little respect; but in England, the case is different. The royal

prerogative of creating knights and nobles is—except on rare occasions—exercised with much greater circumspection than it is, and used to be, by neighboring potentates; the honor, therefore, to the distinguished few, is highly prized. The feeling of loyalty is nowhere so fervent and sincere as in Great Britain; not only the “fountain of honor itself,” but the honors that flow from it, are held in great esteem. The ruler of the country is said to be “by the grace of God, queen (or king) of Great Britain and Ireland;” with, however, the irrational addition of “defender of the faith”—a faith which has ceased to be that of the state. The title of prince only belongs in that country to the sons and nephews of kings. The ducal was originally a Roman dignity, derived from *ductores exercituum*, or commanders of armies; but under the later emperors, the governor of a province was entitled *dux*, or leader, whence our word is derived. The first duke—as we now apply the title—was Edward the Black Prince, created duke of Cornwall; a titular honor, which ever since has belonged to the king’s eldest son during the life of his parent; so that he is called in heraldic parlance *dux natus*, or a born duke. After him there were many *duces creati*, or dukes who were created in such manner that their titles should descend to posterity. But in 1572, during the reign of Elizabeth, the dignity became extinct. Half a century afterward, it was renewed by James, who created his favorite, George Villiers, duke of Buckingham. The sons of peers in Great Britain and Ireland have not formally any noble rank; but by courtesy the eldest son always bears the second title of the family, if there be one, while the younger sons receive the appellation of lords, if the paternal rank be not under that of an earl. The second order is that of marquis, connected with which was once the duty of guarding the frontiers or limits of the kingdom, called, from the Teutonic word *marche*. The persons who had this command were called “lords marches,” or marquesses. The office was legally abolished by Henry VIII., after it had long fallen into disuetude; but the title remained. A marquis is addressed as “most noble,” but more in conformity

with herald’s authority, as “most honorable.” Of all honorary distinctions, none is so ancient as that of earl. We derive it from the Saxon word *eorl*, which means elder, and it is a little startling to find that two such dissimilar dignities as earl and alderman have a common origin; but so it appears; for the Saxon earls were called *ealdormen*, otherwise seniors or senators; and it would appear that, besides assisting in the general government, as is implied by this designation, they were also *schiremen*, or custodiers of divisions or shires. After the Norman conquest, these functionaries took the French name of counts, but which they did not long retain; though to this day their shires are called counties, and their wives countesses. The earl ceased to trouble himself with county business at an early period, deputing it to a subordinate officer, called *vice-comes* (in Saxon, *scyre*, a shire, and *reve*, a steward or sheriff), whence sprung the fourth degree of peerage—viscounts; “which,” saith Cowel, “is not an old name of office, but a new one of dignity, never heard of among us till Henry VI., his days.” With this uprise the viscounts or sheriffs got, like their official predecessors the earls, above their business, and the local affairs of the county are now superintended by the lord-lieutenant and his deputy, and by sheriffs. The history and etymology of the barons are involved in great obscurity.

The wives and daughters of all peers partake more or less in the titular honors of their relatives, except the female relations of the prelacy, who are plain Mrs. and Miss. All peers, except “their graces,” the dukes, are addressed as “my lord,” so that when we include the lords by courtesy not in the peerage, “my lords” of the treasury and admiralty, lords-lieutenant, the Scottish lords of session (facetiously denominated “paper lords”), lords provost, and the three lords mayor (of London, York, and Dublin), it will be seen that the lords of this empire are in great variety.

The next downward step in the ladder of dignity takes us out of the peerage into the baronetage. The title of baronet is compounded of baron and the diminutive termination *et*, which makes it to signify

a baron of lesser degree. The order was instituted by James I., at the suggestion of Sir Robert Cotton, in 1611. It is the lowest honorary title which is hereditary. Next come the knights, whose history goes back to that of ancient Rome, for in that empire it was the second degree of nobility. It was conferred in the chivalric times upon every person of good birth, to qualify him to give challenges, and to perform feats of arms. The honor has, however, gradually extended itself to persons whose habits are the reverse of military; who are dubbed, in Shakspeare's phrase, solely upon "carpet consideration."

The title of esquire, the next in order, has become as unmeaning in England as that of privy counsellor in Germany. What the designation originally meant, is ascertained by the origin of the word, which is traced to the Latin *scutifer*, or shield-bearer. They were men-at-arms, and attended knights "to the wars." Camden enumerates five orders of the rank, the last being "such as hold any superior rank, public office, or serve the prince in any worshipful calling." This is sufficiently vague to take in a very large class of persons; hence it has been a subject of great dispute and much doubt, among our wisest lawyers, to whom the title of esquire properly belongs. Blackstone and Coke have written on the subject, and the question has been recently agitated with great vigor by the worshipful petty sessions of Kensington. In such high estimation are titles held, that even to be associated even so indirectly with one is considered an honor. Hence the middle ranks of English society have been described, not without justice, as a body of tuft-hunters. These persons have a kind of reverence, an awe—not so much for the nobility in their proper persons, as for their titles. They know the peerage, baronetage, and knightage, by heart. They deem the smallest omission on the superscription of a letter, or in verbally addressing a noble, as an unpardonable sin. We have heard of a military poet—himself owning the title of lieutenant in a foot regiment—who, in writing some verses on Waterloo, conveyed one of his reminiscences of the battle in the following heraldic couplet:—

"Step forth, Lieutenant Cobden, of her majesty's hundred and second foot—step forth unto the front,
Cried Major-General Sir Hussey Vivian, K.C.B.—
'and bear the battle's brunt!'"

Titles are in that country a part of their political system, and as such, receive the sanction of many who otherwise care little about them. The example of our own land, however, shows that they may be formally excluded from a country, while a strong inclination to use them, however obliquely, still remains. Mere honorary distinctions are not by our constitution allowed; yet in no country in the world are titles more worshipped.

The "Society of Friends" abandon every vestige of titular distinction, be it ever so simple; and in this respect are at least consistent, for they scrupulously practise what they preach. Excepting this upright class of men, we know of no portion of mankind, civilized or otherwise, who disdain to seek for or to use titles. In this, indeed, there seems remarkably little distinction. To the high, titles appear almost a necessary part of their existence, although we have heard them complained of as a load which would be very willingly resigned. To the most humble in station they are perhaps still more fondly clung to. Every workman is desirous of being spoken to as *Mr.*; and his respectable wife, who requires no such adjunct, is addressed as *Mistress*. In short, from high to low, throughout all grades, is this craving manifest. Viewed in the abstract, titles are not things worthy of desire, and they must be considered as failing in their object when applied without distinction as to merit or any other qualification. Absurd or insignificant, however, as they too frequently are, they may be considered as not altogether useless. Classing them with many other things which philosophy would disown, they are to be viewed as in some respects essential to the present tastes and habits of society, and therefore worthy of all the toleration usually accorded to social arrangements, in themselves indifferent or unobjectionable.

Those days are lost in which we do no good; those worse than lost in which we do evil.

LINGERING GOOD-BYES.

THERE are some persons in the world who, either from a desire to kill time, or an unbecoming irresolution of purpose, are so lingering and tedious in their good-byes, as greatly to detract from the pleasure of their visits, and prove a source of considerable annoyance and irritation to the more busy and energetic of their fellow-men. The annoyance is also aggravated by its untangible nature, and often by the good temper of the offending party. If your lingering trifler were a rough unceremonious fellow, there would be little difficulty as to the best mode of dealing with him; but he is generally so gentlemanly and polite a person, that one would not willingly offend his sensibility by treating him rudely; although it is often difficult to endure with anything like grace and equanimity so sore a trial of temper and patience. Protesting that he can not stay a moment, he will frivolize away a couple of hours, without having any business to transact, or any information to communicate, and linger with a tedious pertinacity that betrays a weakness of purpose truly silly and contemptible. He can not stay, yet he will not go. He has nothing of importance to say, yet he still talks on. He shakes you by the hand, and bids you good-by again and again, and still he is not gone. He can not stay and dine with you, neither will he let you dine yourself. He can not sit down, and therefore keeps you standing; or he rises with well-dissembled earnestness, protesting he must go, but it is only to move a foot, and this step accomplished, he doggedly remains in that spot for another half-hour before he again moves. "Parting is such sweet sorrow," that he could bid good-by "till it be morrow." No limpet ever adhered more pertinaciously to the rock than does he to your side. The trifling conversation stops, the usual common-places are exhausted, and you now believe he is really going; but no, it is only to move half-way to the door, where, as if to recompense himself for his desperate effort, he plants himself more immovably than ever. At last he again relinquishes his position, retrogrades "unwillingly and slow," and having arrived at the door,

halts, holds by the handle, or plays with his hat, disputing every step with you as determinedly as though retreat were ruin; and there is no speculating with any certainty, although he has so long risen up to go, whether or not he may depart for the next hour. Wo to you if any stairs intervene between him and the street, for if so, he will yet make half a dozen resolute halts before he departs. Till he has positively bidden you good-by at the street-door, and moved away from the threshold, you are uncertain how much longer he intends to draw upon your patience; and at his departure, you find that two or three hours have been frittered away in dull unmeaning good-byes, and are left with vexed temper and irritated thought, to vainly endeavor, by increased exertion, to redeem the time which has been irrecoverably lost.

To those who are economists of time, and whose time is their estate, and their only one, the visits of such persons are positive inflictions and social nuisances. The busiest and most valuable hours are often sacrificed, and the arrangements of an entire day, put out of joint, by such tedious triflers. It is one of the chief principles upon which society is based, that every one should respect his neighbor's property as well as his own; and if these lingerers persist in vexatiously trying our patience, and tediously wasting our time, they must expect to be met with a frown instead of a smile, and their visits shunned instead of sought. That two fond lovers who live but for each other should be loath to separate; that friends whose next meeting will probably be distant, and doubtless uncertain, should protract their good-byes, is natural and pleasing; but it is contemptible, and argues a want of due appreciation of the value of time, and an indecision of purpose unbecoming any one who aspires to the name of man, to waste the time of a friend seen continually, and whose engagements and occupations ought to be a protection from such thoughtless trifling. If the irresolute lingerer stay, let it be in earnest; let it be understood that he intends to stay a while; and if he have any business at all, introduce it at once, remembering that if he deems his own time of little value, his friend may

not hold his so cheaply. If he is going, let him be decided; let one good-by, one shake of the hand, suffice, and let him depart promptly, and such decision will not only have a beneficial effect on his own arrangements, but render his future visits more welcome. If every one were thus to protract his call, all punctuality must be sacrificed, the fulfilment of every engagement jeopardized, and the most important arrangements set aside; or the busy must shut themselves up from the annoyance of such lingerers. Many a valuable friend has been lost, many a pleasant companionship broken, by such trifling; for even the kindest eyes can not be entirely blind to the absurdity of such weakness and irresolution; nor the most equable tempers always brook the vexatious hinderance of such tedious good-byes.

GUADALOUPE.

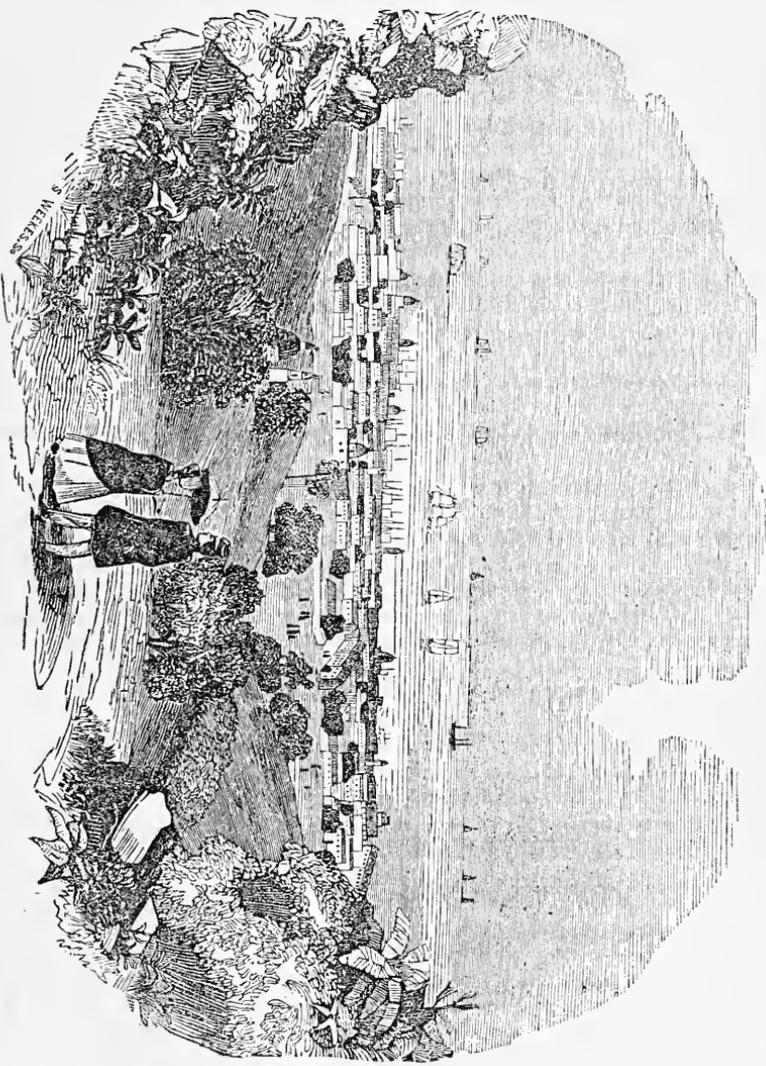
GUADALOUPE is one of the largest of the Lesser Antilles, extending in length from east to west about forty miles, the greatest breadth being about twenty-five miles. It is about fifty-five miles south of Antigua, thirty-five north of St. Domingo, and eighty northwest of Martinique. The island was discovered and named by Columbus, in November, 1493, and it is stated that the women, armed with bows and arrows, opposed the landing of the Spaniards, but fled immediately on hearing a discharge of firearms. It remained unappropriated until 1635, when a body of five hundred Frenchmen landed, and forthwith began a war of extermination upon the natives, which continued until 1640. It remained in possession of France until 1759, when it was taken by the English, but was restored to France in 1763. It was again taken by the English in 1794, and retaken in the following year. In 1810, it once more fell into the hands of the English, and was restored in 1814, at the general peace, since which time it has remained in the possession of France.

The island (correctly speaking there are two islands) is bisected by a navigable

channel called *La Rivière Salée*, or Salt river, running from north to south, with a large bay at each end. Between these bays the channel varies in breadth from thirty to seventy yards, and is full of islets and sandbanks. Its depth is so unequal that only vessels of small burden can pass through it.

Guadeloupe proper is traversed from south to north by a chain of volcanic mountains of an average height of three thousand feet, the most remarkable of which is *La Soufrière*, or the Sulphur hill, five thousand five hundred feet above the level of the sea, and from which are continually vomited thick black smoke, with occasional flashes of flame. The sides of this mountain display, among the huge fragments of rock, the openings of several caverns, which are supposed to communicate with the interior of the volcano. The sides of the whole chain are well-wooded, and several rivers find their sources therein, turning a number of sugar-mills in their descent, and bearing fertility to the soil of the plains which they water, but becoming in the rainy season furious torrents. Guadeloupe proper is the best wooded of the Antilles, with the exception perhaps of St. Lucia; there is abundance of water, and the air is mild and salubrious. On the tops of the mountains the cold is severe and vegetation scanty; but on descending, a climate is reached which is soft and temperate, where foreigners may find refuge from the attacks of the yellow fever, particularly on the eastern slopes, which are the most elevated, and the most exposed to the beneficial influence of the trade-winds, but the country at the western base, where the mountains intercept the eastern winds, is in general unhealthy and thinly populated.

La Grande Terre presents a country in general flat, watered by a few streams, scarcely sufficient for the purposes of agriculture and the consumption of the inhabitants; they make use, therefore, of pits of brackish water, and construct reservoirs and cisterns for the preservation of the rain: but the unfortunate slaves have frequently nothing to quench their thirst but the water of the ponds, which, exposed to the sun, is muddy and putrid,



Pointe-a-Pitre, before the late Earthquake.

and engenders many diseases. La Grande Terre having no mountains, and being more thinly wooded, the rains are much less frequent than in the other division of the island, and it is also subject to greater heats and seasons of long-continued drought.

The soil, rich and fertile, and full of shells and madrepores, attests that at some period it has been covered by the sea; but the almost total want of streams compels the inhabitants to use windmills for the manufacture of their sugar. The plough has been introduced into some of the cantons, but with no great success, the prejudices of the cultivators preventing its adoption. The introduction of European horses and cows has been entirely successful.

The capital of the island, St. Louis, or Pointe-a-Pitre, stands on La Grande Terre, at the south entrance of the Rivière Salée. The harbor is sheltered and the anchorage good. The town of Basse Terre, which is in the other division of Guadeloupe, stand near its southwest point. It is an unsheltered roadstead with indifferent anchorage, and is unsafe during the hurricane season: but from its greater proximity to the most productive part of the island, it is more frequented by shipping than Pointe-à-Pitre, and is the chief commercial station of the colony.

Like all the other Antilles, Guadeloupe is exposed to the most frightful storms, irruptions of the sea, and earthquakes. The last irruption of the sea was in 1825, which ravaged nearly all the island, the quarter of Basse Terre suffering the most, the town itself being almost entirely destroyed. The last earthquake was that of February 8, 1844, which almost totally destroyed Pointe-à-Pitre, with a most frightful loss of life, besides damaging many other parts of the island. This earthquake extended to Antigua, and some other places, but nowhere with the dreadful consequences it inflicted on Guadeloupe. A letter from that place, dated February 9, says:—

“All was overturned, except the wooden houses. Immediately after the shock, fires broke out in two or three hundred places together, and totally consumed the houses. At present the flames are play-

ing over the remains; and in the whole of the town, which contained sixteen thousand souls, there are not ten houses inhabitable. . . . The number of wounded is exceedingly great. Women and young girls may be seen with two or three limbs fractured. The scene is a hundred times more horrible than a field of battle.”

On the same day the governor reports: “Pointe-à-Pitre is entirely destroyed. What was spared by the earthquake has since perished by fire, which burst out a few minutes after the houses fell. I am writing in the midst of the ruins of this unfortunate city, in the presence of a population without food and without asylum, in the midst of the wounded, of whom the number is considerable—it is said, from fifteen hundred to eighteen hundred. The dead are still under the ruins, and their number calculated at several thousands.”

Many were burned alive in the hospital. After all was over, the number of dead made the town pestilential, and the survivors fled. Basse Terre was also much injured. Several buildings fell, and others were so damaged as to be uninhabitable. Subscriptions were raised with great promptitude for the relief of the sufferers both in Martinique and France, and everything possible was done to relieve their destitution. It does not appear that the volcano, La Soufrière, displayed any remarkable activity either before or during the fatal catastrophe.

THE DIVING-BELL.

I PRESUME it has rarely happened to the same person to have been at the bottom of the sea, and on the top of one of the highest mountains in the earth, within the same fortnight; and yet this was (says Captain Hall) within a few hours of happening in my case. On the 2d of August, 1820, being then in command of H.M. ship Conway, and ordered for South America, I took advantage of a slant of wind from the northwest, and left Spithead; but the breeze having proved treacherous, by backing round to the southwest

against the sun, and the weather looking very dirty, I was fain to put into Plymouth sound. We readily accomplished this, although the night was very dark, by first getting hold of the Eddystone lighthouse, and then steering with it upon a given bearing—I think southwest—till we came in sight of the light on the west end of the breakwater. On rounding the end of this wonderful artificial barrier against the ocean, we found ourselves in perfect security, with the water as smooth as a mill-pond, though on the outside there was a heavy swell rolling from the south. I was accompanied upon this voyage by Capt. Robert Elliott of the navy. As he had been unable to procure professional employment strictly so called, he resolved to profit by this moment of leisure to make a cruise with me, and eventually, by circumnavigating the globe, saw all the coasts of South America, visited many of the islands of the Pacific, remained some time in China and in Hindostan, and, finally, passed through Egypt in his way home.

The wind continuing unpropitious for our voyage, we were, as it may be supposed, thrown for recreation on such amusements as Plymouth and its neighborhood afforded, including the good offices of various worthy friends.

At last, on Thursday morning, the 10th of August, we were gladdened with what sailors call half a fair wind—namely, a dead calm—and every eye was turned anxiously up to the masthead vane, to see from what direction the first puff of the new breeze was to blow. Presently a little fluttering air began to breathe from off the land, “uncertain, coy, and hard to please,” as it seemed, for we wooed it, and whistled to it, and sighed to it to come to us, for some time in vain. Never, probably, were voyage-worn mariners more glad to reach the land, than we now were to break away from it, and to find ourselves once more bounding over the great ocean, free to think and act for ourselves, independent of the endless worry of a seaport.

The sails of the jolly old Conway were at the masthead, all sheeted home—the anchor at “short-stay peak,” and all ready for a start, by the time we got on board, not long after the earliest dawn. “Heave

round!” was now the word, and the heavy anchor rattled up to the bows, as if it had been made of cork—for the “Johnnies” were as anxious to be off as their officers were. It was catted and fished with equal smartness, and the fore and main tacks darted down to the bumpkin and chestree, like eagles pouncing on their prey; for everything at this joyous moment seemed to fly! Just at this moment the harbor-master came alongside, and called out to me, “You and Captain Elliott expressed a wish to go down in the diving-bell, I understand. We have got it all ready for you; here is the vessel within a quarter of a cable’s length, and as your boats are hoisted up, I shall be glad to carry you in mine, and to put you on board again.”

As it is always a dangerous thing to defer chances to another opportunity, which may probably never arise, I requested the first lieutenant to shorten sail, and merely to let the ship draw slowly out to sea, while my friend and I set off upon our submarine voyage.

The diving-bell, as every one knows, is an iron cube about six feet in each direction. Ours was not strictly a cube, being perhaps a couple of feet wider across the bottom than it is at the top—in fact a very steep-sided pyramid with the top cut off. It was suspended by a strong chain, attached to a purchase of two or three-fold blocks, through which was rove a five-inch hawser. This was brought to a windlass, worked, not by handspikes, but by wheels, in the manner of a winch, so that the movements were smooth and not in jerks. On the surface of the water there lay coiled up a long leather hose, like the pipe of a fire-engine. One end of this was connected with a forcing-pump on board of the vessel belonging to the diving establishment, which, I need not say, was securely moored over the spot it was required to examine. The other end of this pipe or hose entered the top of the bell, where the air was forced in at a valve opening inward. The pipe was several fathoms longer than the perpendicular depth of the water, so that when the bell reached the bottom, there were still several coils of air-pipe floating on the surface.

When we reached the vessel, the diving-

bell was hanging over the stern, and just so high, that when the boat passed under it, we easily stepped from the stern sheets to the foot-boards lying across the lower part of the bell, and thence gained the seats fastened inside it about half-way up. We sat on one bench, and the workman on the other. In the middle, between us, was suspended a large hammer, a very important appendage. When seated, our feet, resting on the cross piece, were about six inches from the bottom of the bell, while our backs rested against the side of this mysterious looking apartment.

I confess I felt not a little queerish when the man called out "Lower away!" and the bell gradually descending on the water, like a huge extinguisher, shut us completely out from the world above. The instant the lips of the bell touched the water, the people in the vessel began working the force-pump, and we could hear the air, at each stroke of the piston, entering the valve with a sharp, quick, hissing noise. The object of this process is not only to supply the divers with fresh air, but also, and chiefly, to exclude the water, which, if the quantity of air in the bell were not augmented, so as to maintain its volume, and the bell kept always full, would enter it and occupy an inconvenient portion of the space. If any vessel, filled with air at the surface of the sea, be sunk under its surface to the depth say of thirty feet, and an opening be left by which the water may enter, the air within the vessel will be condensed into one half its volume, the other half of the vessel being occupied by water. To prevent this happening in the case of the diving-bell, the forcing-pump is put in action, the effect of which is to keep the bell, during the whole of its descent, and to whatever depth it may reach, constantly full of air. But as the condensation becomes greater as the depth is increased, it is more and more difficult to work the pump, as the bell goes down, or, in other words, the actual quantity of air held by the bell is increased, though its volume be always the same.

This condensation produces an extremely disagreeable effect on most persons who go down for the first time, though the workmen soon get accustomed to bear it

without inconvenience. The lower edge of the bell was not above a couple of inches below the surface before we began to feel an unpleasant pressure on the ears. At first, however, the pain was not considerable, and we had leisure to contemplate the oddness of our situation, as we saw the waves rippling over us, through the strong glass windows placed in the top. But in a short while, when our depth was a fathom or two beneath the surface of the sea, the pain became so excessive as to be scarcely bearable. I can not better describe it, than by saying that it was as if a violent toothache were transferred to the ears. It was not like an ordinary earache, acute and piercing, but dead, burning, and fierce. I confess that it quite outmastered my fortitude, and in the apprehension of the pressure bursting in the drum of the ear, I suggested the fitness of making the signal to be pulled up again. But my companion's nerves were stronger, and he called out, though in equal distress, "Let us bear it out, now we have begun." So down we went.

In spite of this annoyance, it was not possible to be insensible to the singularity of our situation—at the bottom of the sea, and cut off from all the rest of the world by no less an interposition than the great ocean rolling over our heads! It was quite light, however, and we could distinctly see the fish swimming about below us, close to the bell. As the water was not very clear, it was not until we came within eight or ten feet of the bottom, that we discovered the pavement on which the sea rested. This partial muddiness probably made the sweeping past of the tide more conspicuous; and I rather think this was the most striking circumstance of the whole scene.

At length the bell actually touched the ground, which consisted of a bed of shingle, composed of pieces of slate about as big as my hand, being the remainder of a small shoal which, having been found very dangerous and inconvenient to the anchorage, had been gradually removed by means of the diving-bell. This troublesome shoal, the name of which I forget, was only thirty feet square, and had twenty-two feet of water over it. As it lay directly opposite to the entrance of the break water anchorage,

and was of a depth which would have been reached by many ships, especially when a swell was rolling into the sound, it was a point of some consequence to remove it. This was accordingly effected by the agency of the diving-bell, the workmen in which, having filled bags with the loose fragments, made signals for pulling them up by ropes let down for the purpose. When this work was going on, the bell, instead of being made to rest on the ground, as it did when we were in it, was kept a foot or so from the bottom, in order to leave room for the bags being pushed out when full. In this way the whole area of the magnificent anchorage within the breakwater had been cleared of innumerable anchors, left by ships which had parted their cables—and of guns dropped overboard accidentally, or cast out by ships in distress, or belonging to vessels that had foundered, and were long since gone to pieces, perhaps hundreds of years ago. Besides these things, many large stones were found scattered about, to the great injury of cables. Some of these may have been there from all time, but many of them, it was ascertained, had accidentally fallen from the vessels employed to transport them from the quarries to the breakwater; and we can easily understand why the persons to whose carelessness the accidents were due should be in no hurry to report their loss.

We had some expectation of catching a fish that played about under the bell till we were just upon him, when he darted off, laughing perhaps at our folly in quitting our own element for his—an example he had no mind to follow. We were now twenty-seven feet below the surface, and having satisfied ourselves of having reached the bottom by picking up a stone, we desired the man to make the signal to be pulled up again. This he did by striking the side of the bell very gently with the hammer. These blows, it appears, are distinctly heard above; and even sounds much fainter are heard, such as those caused by the workmen striking the ground with their pickaxes. The wishes of those who are below, are conveyed by means of a previously-concerted series of blows. A certain number is to pull up, another to lower down the bell; one set

directs it to be moved east, another west, and so on.

The moment we began to ascend, the forcing-pump was stopped, as no more air was required to exclude the water, and we had an ample store for breathing during the return to the upper world. Indeed, it was curious to observe how the air expanded as we rose again, and the pressure became less. This was made manifest by its bubbling out under the bottom of the bell. I don't exactly know the cause, but when we had been drawn up about a couple of feet, the bell was filled with mist. The violent pressure on the ears was also, of course, relieved, but the pain continued with considerable severity till we reached the surface. When we were about half way up, I found the blood running from my nose, and Capt. Elliott spat blood for some hours afterward. He continued very unwell all that day, and was not quite re-established for some time. I was not actually sick, as he was, but the pain, or rather an extreme delicacy in my ears, continued for nearly a week. From all we could learn from the workmen, it seems that we suffered more severely than most people do. A general sense of inconvenient pressure on the ears is felt, but seldom violent pain. They even told us of a lady who had suffered so little that she wrote a letter when down, and dated "from the bottom of the sea!"—a feat which very fairly earned for her the cognomen of the *diving-belle*.

PHILOSOPHY OF SOUND.

A BELL rung under water returns a tone as distinct as if rung in the air.

Stop one ear with the finger, then press the other to one end of a long stick, or piece of deal-wood, and if a watch be held at the other end of the wood, the ticking will be heard, be the wood or stick ever so long.

Tie a poker on the middle of a strip of flannel two or three feet long, and press with the thumbs or fingers the ends of the flannel into your ears, while you swing the poker against an iron fender, and you

will hear a sound like that of a very heavy church-bell. These experiments prove that water, wood, and flannel, are good conductors of sound—for the sound from the bell, the watch, and along the deal and flannel—to the ear.

It must be observed that a body, while in the act of sounding, is in a state of vibration, which it communicates to the surrounding air; the undulations of the air affect the ear, and excite in us the sense of sound. Sound, of all kinds, it is ascertained, travels at the rate of thirteen miles in a minute; the softest whisper travels as fast as the most tremendous thunder. The knowledge of the fact has been applied to the measurement of distances.

Suppose a ship in distress fires a gun, the light of which is seen on shore, or by another vessel, twenty seconds before the report is heard: it is known to be at the distance of twenty times 1,142 feet, or little more than four miles and a half.

Again, if I see a vivid flash of lightning, and in two seconds hear a tremendous clap of thunder, I know that the thunder-cloud is not more than seven hundred and sixty yards from the place where I am, and should instantly retire from an exposed situation.

The pulse of a healthy person beats about seventy-six times in a minute; if, therefore, between a flash of lightning and the thunder, I can feel 1, 2, 3, 4, &c., beats of my pulse, I know that the cloud is 900, 1,800, 2,700, &c., feet from me.

Speaking-trumpets, and those intended to assist the hearing of deaf persons, depend on the reflection of sound from the sides of the trumpet, and also upon its being confined and prevented from spreading in every direction. A speaking-trumpet, to have its full effect, must be directed in a line toward the hearer. The report of a gun is much louder when toward a person than in a contrary direction.

The human ear is so extremely sensible, that it can hear a sound that lasts only the twenty-four thousandth part of a second.

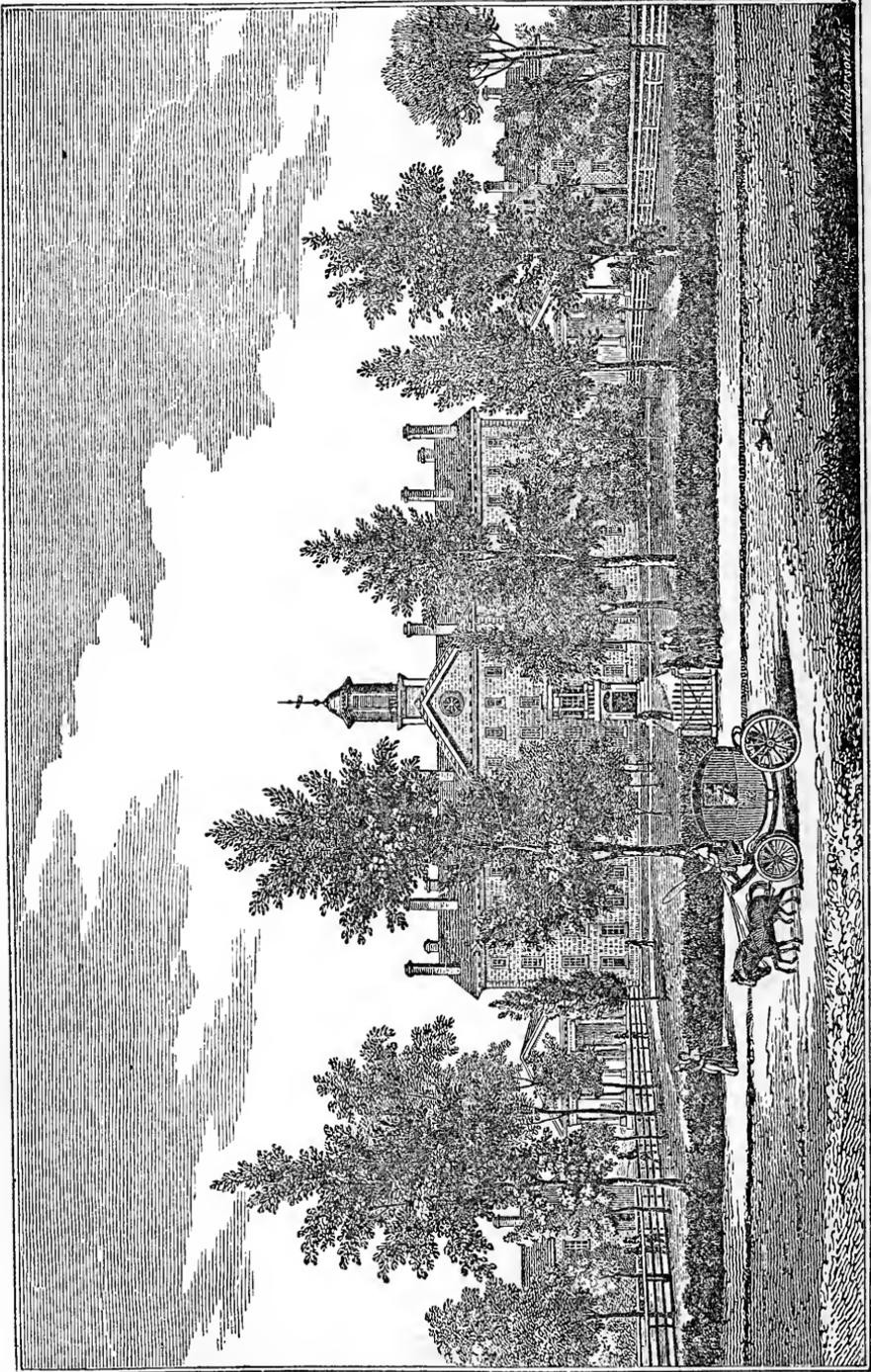
Deaf persons may converse together through rods of wood held between the teeth, or held to the throat or breast.

In the arctic regions, persons can converse at more than a mile distant, when the thermometer is below zero.

LIVING IN A HURRY.

PERHAPS the most characteristic peculiarity of our social condition at present is the unhealthy want of repose. Travelling by railroad is merely typical of the headlong hurry with which all the affairs of life are transacted. In business, men are in a hurry to get rich: they can not submit to the tedious process of adding one year's patient and legitimate gains to those of its predecessors, but seek by bold speculative combinations, by anticipations of intelligence received through the ordinary channels, to make or mar themselves by one bold stroke. The mechanical wheels revolve with accumulated speed to correspond to the hot haste of those who impel them. The long hours of factory and millinery drudges, the gangs of night and day laborers relieving each other in printing-offices and coal-pits—all the unintermitting, eager, "go-ahead" pressure of society—are but so many symptoms of the excitement which impels men to live in a hurry. It is a paradox only in form to say that we are in such a hurry to live that we do not live at all. Life slips through our fingers unfelt, unenjoyed, in the bustle of preparing to live. A day of business is a day of breathless haste. The duties of the toilet are hurried through; the breakfast is gulped down without being tasted; the newspaper is skimmed with a dim idea of its contents; the day is spent in straining to overtake complicated details of business too extensive for the mind's grasp; it costs a race to be in time for dinner, and dinner is curtailed of its fair proportion of time for the debate, or the committee, or the theatre, or the evening party, or all of them. Even sleep is got through impatiently, with frequent startings and consultations of the watch, lest the morning hours be lost. We snore in quicker time than our ancestors snored. And the worst of it is, that men can not help this railroad fashion of galloping out of life. When all are running at this headlong speed, you must run with them, or be borne down and run over, and trampled to death by the mass. Even the moralisers on this universal race for the sake of running, hurry along with the rest, and pant out their reflections as they run.





DR. ALEXANDER'S

CHAPEL.
THEOLOGICAL SEMINARY OF THE PRESBYTERIAN CHURCH, PRINCETON, N. J.

DR. HODGE'S

THEOLOGICAL SEMINARY, PRINCETON, N. J.

THE accompanying plate presents a view of the edifice and grounds of the Theological Seminary under the direction of the General Assembly of the Old School division of the Presbyterian church, instituted at Princeton in the year 1812.

This seminary is strictly theological in its design, having been founded for the purpose of extending to the candidates for the ministry in the Presbyterian church those facilities in their theological education which may best be secured by a public institution. Having, with this design, been founded by the General Assembly it remains under its immediate control, being governed by a board of directors, the vacancies in which are filled by the appointment of the Assembly. The seminary, consequently, has no connexion with the college of New Jersey, also established in Princeton. The directors of the seminary, however, at the time of its institution in 1812, were indebted to the trustees of the college for certain privileges which were granted by the latter in virtue of which, for about four years, the lectures and recitations of the seminary were conducted in the public rooms of the college. The proposal for founding a theological institution originated with an overture to the General Assembly, in May, 1809, from the presbytery of Philadelphia. After mature consideration of the subject, and a cordial approbation of the project expressed by a majority of the presbyteries, the Assembly appointed the Rev. Drs. Green, Woodhull, Romeyn, and Miller, and the Rev. Messrs. Archibald Alexander, Richards, and Armstrong, a committee to digest and prepare a plan or constitution for a theological seminary, to be reported to the next Assembly. In 1811 they made their report, which, after some amendments, was adopted. The General Assembly then took measures for collecting funds for the proposed institution, by appointing a number of agents in all the synods, who were instructed to report the following year.

The Assembly of 1812 fixed upon Princeton as the location of the institution,

and elected a board of directors, and appointed the Rev. Archibald Alexander, D.D., for some time president of Hampden Sidney college, and then pastor of the Third Presbyterian church in Philadelphia, to be their professor of didactic and polemic theology. On the last Tuesday in June following, the board of directors held their first meeting at Princeton, and on the 12th of August, of the same year, met again, when Dr. Alexander was solemnly inaugurated, and entered on the duties of his office. The number of students at the opening of the institution was *three*.

When the Assembly met in May, 1813, the number had increased to *eight*. By this Assembly, the Rev. Samuel Miller, D.D., at the time of his election pastor of the First Presbyterian church in the city of New York, was elected professor of ecclesiastical history and church government. He was inaugurated on the 29th of September following. By this Assembly, also, the location of the seminary in Princeton, before temporary, was made permanent.

In 1815, the General Assembly determined, in consideration of the great inconvenience arising from the want of suitable apartments for the recitation and other exercises of the institution, and the accommodation of the students, to erect an edifice to contain all the public apartments then indispensable, necessary, and lodging rooms for the pupils. This edifice (which occupies the centre of the engraving) is of stone, one hundred and fifty feet in length, fifty in breadth, and four stories high. It has been admired by all who have seen it, as a model of neat and tasteful, and at the same time of plain and solid workmanship.

The Assembly of 1820 appointed Mr. Charles Hodge, now the Rev. Dr. Hodge, then a licentiate under the care of the presbytery of Philadelphia, as an assistant teacher of the original languages of Scripture. By the Assembly of 1822, he was elected professor of Oriental and Biblical literature, and was inaugurated in September of that year. In 1834, Mr. Joseph Addison Alexander, at that time adjunct professor of ancient languages and literature in the college of New Jersey, accepted an appointment as assistant instructor

in Oriental and Biblical literature. In the spring of 1838, he accepted an appointment as "associate professor of Oriental and Biblical literature."

The Assembly of 1835 appointed the late Rev. John Breckinridge, D.D., for several preceding years corresponding secretary of the board of education of the Presbyterian church, professor of pastoral theology. He accepted the appointment, and was inaugurated on the 26th of the following September; but resigned his office in 1838.

Since that time, Dr. Alexander has been appointed professor of polemic and pastoral theology; Dr. Hodge professor of exegetical and didactic theology, and the Rev. Mr. Alexander, sole professor of Oriental and Biblical literature.

The library of the seminary was an object of early attention. One of the first and most liberal contributors to it, was the Rev. Ashbel Green, D.D., first president of the board of directors, and one of the most prominent and active of the original founders of the institution. In 1838, Mr. H. C. Turnbull, of Baltimore, with the concurrence of Bishop M'Crosky, presented to the seminary the remaining library of the Rev. Dr. Charles Nesbit, of Carlisle, numbering about one thousand volumes, which, together with a handsome donation of twelve hundred volumes, presented by the Rev. Dr. Sprague, of Albany, and augmented from other sources, make the whole number of volumes in the seminary library, about nine thousand. The increase of the theological library has always been, and still is, as every well-informed person must perceive, of the most urgent necessity. Books can not indeed be read by thousands; but that scholar can make little advantageous progress who has not thousands at hand for consultation. A suitable and safe place of deposits for such a collection of books was also most urgently needed, until this want was supplied by Mr. Lenox's munificent donation.

In the spring of 1843, James Lenox, Esq., of New York city, a member of the board of trustees of the seminary, presented to that board, for the use of the institution, two valuable lots, near the seminary grounds, and the buildings upon

them. The one is occupied by a dwelling-house, intended as a residence for a professor; upon the other Mr. Lenox has erected a large and elegant building for the library.

This new edifice is a beautiful Gothic structure, seventy-five feet long, and sixty wide. The front façade is fashioned in its proportions and ornaments, after Magdalen College Chapel, Oxford. The interior is finished with a groined ceiling, supported by vaulting shafts; the floor is of marble, tessellated. A gallery passes round three sides of the hall, under which are ample alcoves, and above, cases against the wall for books. The gallery, alcoves, and cases, are of wood richly carved in the Gothic style, and stained to resemble oak. But it is difficult to give an adequate idea of the exquisite proportions, and general effect of this beautiful and impressive structure. It is a pure, and, for its dimensions, a very effective specimen of the Gothic style. To the taste no less than to the liberality of Mr. Lenox is this elegant structure due.

This donation has been carefully guarded against abuse. It is to revert to the donor, or his representatives, if, at any time, the trustees pass from under the supervision and control of the General Assembly of the Presbyterian church, now commonly known and distinguished as the Old School General Assembly, and its successors; or if, at any time, the leading doctrines declared in the Confession of Faith, and the Catechisms of the Presbyterian church, such as the doctrines of universal and total depravity, of election, of the atonement, of the imputation of Adam's sin to all his posterity, and of the imputation of Christ's righteousness to all his people for their justification, of human inability, and of the necessity of the influence of the Holy Spirit, in the regeneration, conversion, and sanctification of sinners, as these doctrines are now understood and explained by the Old School General Assembly, shall cease to be taught and inculcated in the seminary.

We have seen that the institution went into operation in 1812, with *three* students in attendance. From that time the number gradually and steadily increased till within a few years since, when it reached

one hundred and thirty, at which it still continues. The whole number of students who have attended the seminary since its origin is about fourteen hundred.

Provision for the maintenance and education of indigent divinity students was the among the earliest and most favorite objects of the founders of the institution. For this purpose twenty-eight scholarships have been formed by private donations; most of them are called after their founders. Several of these, however, have suffered greatly in the embarrassments and depreciations of recent times. And the permanent funds designed for the payment of the professors' salaries, but never at all adequate to that purpose, have been still more seriously impaired.

The institution has always depended for much of its support upon the charities of its friends and benefactors. Of late years that dependance has become more unlimited. In consequence of this, a convention was called, in last October, of the directors, alumni, and other friends of the seminary, to take this matter into consideration. This convention, after due consultation, appointed the Rev. Cortland Van Rensselaer, of Burlington, N. J., its agent, to present the cause of the seminary before the Presbyterian churches, and to make a general collection of funds to meet the existing wants of the institution, and, if possible, to secure its full and permanent endowment. Mr. Van Rensselaer has just commenced his agency, and it is gratifying to learn that he has thus far, under the blessing of God, met with unanticipated favor, and success in the prosecution of his object.

CONVERSATION.

It is highly necessary to avoid too much familiarity in conversation. It is an old adage, "too much familiarity breeds contempt;" so he that familiarizes himself, presently loses the superiority which his serious air and good deportment gave him, and consequently his credit. The more common human things are, the less they are esteemed; for communication discov-

ers imperfections that prudent reserve concealed. We must not be too familiar with superiors, because of dangers; nor with inferiors by reason of indecency; and far less with mean people, whom ignorance renders insolent—for being insensible of the honors done them, they presume it is their due.

In your discourse be cautious what you speak, and to whom you speak; how you speak, and when you speak; and what you speak, speak wisely, speak truly. A fool's heart is in his tongue, but a wise man's tongue is in his heart.

Plutarch advises to moderate and correct all base, unworthy, and hurtful passions, that in all our conversations we may be open-hearted, and sincere, and not seek to overreach or deceive others in any of our dealings.

Let all your conversation with men be sober and sincere; your devotion to God dutiful and decent; let the one be hearty, and not haughty; let the other be humble, but not homely. So live with men as if God saw you; so pray to God as if men heard you.

Nothing more engages the affections of men, than a handsome address, and graceful conversation.

Our conversation should be such, that youth may therein find improvement, women modesty, the aged respect, and all men civility.

Talkativeness is usually called a feminine vice, but it is possible to go into masculine company, where it will be as hard to wedge in a word as at a female gossiping.

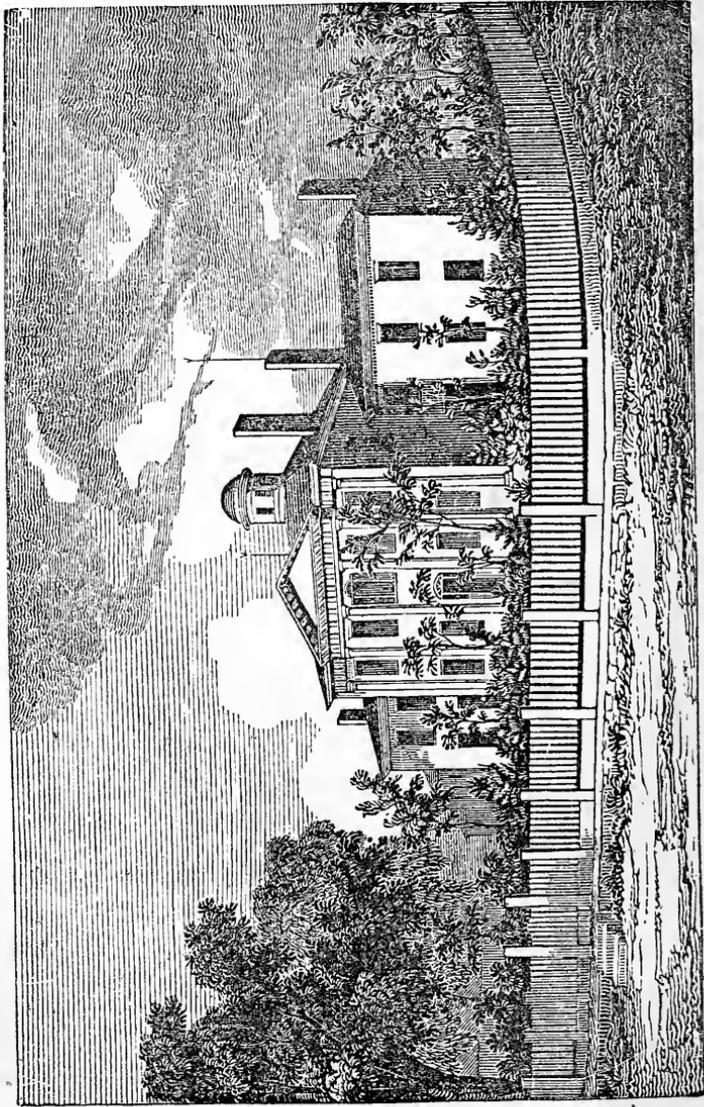
Controversies, for the most part, leave truth in the middle, and are factious at both ends.

Speak always according to your conscience; but let it be done in terms of good nature, civility, and good manners.

Discretion of speech is better than mere eloquence.

AMERICAN ANTIQUARIAN SOCIETY.

THIS building is pleasantly situated in the village of Worcester, Massachusetts.



Hall of the American Antiquarian Society, Worcester, Mass.

The central part was erected in 1819 and '20, and dedicated on the 24th of August, of the latter year. The wings were added in 1831. The whole building is of brick, and is the liberal donation of the late Isaiah Thomas, LL.D., to the society.

The society was organized in 1812, and held its first meeting at the Exchange coffee-house, in Boston, on the 19th of November of that year. Its officers are annually elected on the 23d of October, that being the day on which Columbus discovered America. The first anniversary meeting of the society was held at Boston, October 23, 1813, when an address was delivered, in King's chapel, by the Rev. William Jenks, D.D. There are now two meetings of the society in each year; the first on the 23d of October, and the second on the last Wednesday of May.

The objects of the institution are the collection and preservation of American antiquities.

It was the intention of its founder and munificent patron, Mr. Thomas, that its library should embrace as perfect a collection of American literature as possible. No institution had proposed the accomplishment of a similar object, and the general preference given in our libraries to European over American books, had prevented in a great measure the collection of them, only to a very limited extent. It seemed very desirable that a remedy for an evil of this description should be provided. So little care had been taken for the preservation of the productions of our early American authors, that many of them were found with extreme difficulty, while others were irrecoverably lost. By the establishment of an institution of this character, a convenient receptacle would be provided for the early as well as modern literature of the country, and when its objects should be generally known, individuals possessing books, pamphlets, maps, or manuscripts, might have a convenient place to deposit them, where they might be useful to the public.

Interesting materials of the history of the country are profusely scattered in every town, which have never yet found a place in any of our public libraries. It is among the principal objects of this in-

stitution to collect and preserve these, as well as all the productions of American authors.

Beside providing the society with a spacious building for the accommodation of its library and cabinet, Mr. Thomas also gave it between four and five thousand volumes of books, among which are many valuable works illustrating the history of the country, as well as many rare and interesting specimens of early printing. He also provided the society with a fund for the permanent support of a librarian, and otherwise richly endowed the institution with the means of making annual purchases of books and for meeting incidental expenses.

Visitors can have easy access to the library of the society, and it is always open to such as have occasion to use the books. As it is not local in its objects, but general or national, and from the means it possesses of making itself useful to the public, it must, eventually, rank among the largest as well as the most interesting public libraries of the country.

PHYSIOGNOMY.

THERE are perhaps few subjects in the whole circle of the sciences more universally and readily admitted, yet at the same time apparently less reducible to principles of scientific demonstration, than that of *physiognomy*. The phrenologists, indeed, seem to have the advantage; for whatever may be said of the correctness of their delineations, and their adaptation to positive principles, they certainly present to us more palpable and tangible evidence in the multiplicity and variety of their protuberant and characteristic bumps. We can not but believe that there is much truth in each of these *sciences*, notwithstanding it has been contended that such a designation is by far too dignified an appellation for them. Undoubtedly both, being in such juxtaposition, may be supposed to possess a common affinity, although the validity of the one in no degree involves that of the other. The advocates of phrenology have been by far the more

numerous; it has consequently received a larger share of the popular consideration. We shall endeavor to present some of the leading principles of the science, with occasional illustrations, simply "premissing," by a few commonplaces touching the more prominent features of the countenance, by way of *prima facie* evidence.

And first, to begin with noses. Every one knows he has a nose, and he knows that it is the leading feature, since all follow it. Noses are of divers kinds. There is the Roman, the Grecian, the Aquiline, the Snub, the Bottle, &c. In attempting an analytical description of these varieties of the organ, one is not a little embarrassed for terms by which to delineate their respective characteristics. With the first-named, the *Roman*, we are all familiarly acquainted. The excess of its conformation, however, strikingly resembles the bill of the parrot; hence this nose is sometimes facetiously termed the "beak." For an illustrious specimen of this variety, we may refer to that world-renowned son of Mars, the duke of Wellington, vulgarly known by the cognomen of "Nosey"—"Old Nosey!" There are doubtless many similar instances to be met with, but let this suffice. The classic honor bestowed on this species of the nasal organ is from the well-known circumstance of its having been so generally in vogue with the people of that name. The same, as its title imports, is also the case with the second class, called *Grecian*. This may be said to possess by far the greatest pretensions of any to beauty of figure. It is more perpendicular from the forehead, and without any of the projection of the bridge, comes straight down, with rather an acute angular termination. The *Aquiline* somewhat approaches the latter, with the exception of a slight indentation from the frontal bone, with rather an inclination upward at the extremity. We come next to the *Snub*. This has been sometimes vulgarly, but expressively, termed "the *Pug*." It has great expansiveness of the nostrils, is rather short and wide, and uncommonly fleshy withal. The *Bottle-nose* belongs almost exclusively to the victim of intemperance, of which it may be considered the sure concomitant. It is a kind of bulbous plant, or absorbent, concentrating in

itself the fiery essences of the "potations deep" of the devotee of Bacchus. Its appearance is the physical embodiment of the rosy juice. The *Turn-up* is a caricature of the "snub," possessing all its peculiarities in more startling relief, and is commonly supposed, although perhaps unjustly, to characterize the more vulgar of the species. We have an illustration of this variety in the case of the great "schoolmaster," Lord Brougham, who sports a nose of this description, which, in an eloquent harangue, possesses the most extraordinary nervous action. This, however, should be regarded rather as an anomaly than as an illustration of the class. There is also the *Mulberry*. This is a most abominable specimen of the bottle-nose in all its worst features. Nothing indeed can outvie its hideous characteristics. We have yet another to describe in our catagraph of the genus—the *Snout*. This is a nose concerning which there can be no mistake. It seems to project almost horizontally from the face, a little inclined to turn up, and appears to be made solely to accommodate a pair of elongated nostrils, of outrageous proportion; while from its very peculiarly projecting conformation, it seems to induce in the beholder an irresistible desire to have a pull at it, for which office indeed it is singularly adapted. Little need be said about the *Pimple*. It is the smallest apology for a nose extant, being "small by degrees, and beautifully less;" hence it will be only proportionably just to the others, to say as little about this variety as possible. We may remark, however, that it is sometimes observable in the young boarding-school miss. It is a curious fact, although common to the observation of all, that there is scarcely a straight nose to be met with. None may be said to be entirely without irregularity. Almost all noses incline either to the right or left of the direct line, in a slight degree, caused most probably by the frequent and indispensable application of manual service to that worthy member. It is also equally curious, that no two faces are to be found precisely alike in expression.

The next feature we shall glance at will be the eyes, "those windows of the soul." We are not acquainted with a very

extensive variety in this delicate and insinuating member. The dark eye, although proper to no particular class of character, may yet be said to possess some peculiarities. It is not only a token of beauty, and capable of imparting to features of even defective outline a highly pleasing effect, but it is of itself always powerfully expressive. Of the gray, there are some minor varieties, such as the dark gray, which is also expressive, and seems to be a medium between the black and blue.

The *cat's eye* is another variety of the gray, caused apparently by a slight infusion of yellow. It is extremely disagreeable to look upon, and its possessor is supposed to share some affinity in character and disposition with the feline race. The *blue eye* is always beautiful; it is one of nature's own sweet tints, and consequently ever delightful to contemplate. It betokens mildness and amiability of disposition, and is most generally monopolized, as indeed it should be, by the fair sex. The *gimlet*, otherwise called the *swivel-eye*, is a kind of anomaly in the world of eyes. It being an exception to all rule, no direct application can be made of it to any distinct individual class. The swivel, however, is of a very penetrating nature, since it at once insinuates itself into your affections. Some prominent individuals have possessed this peculiarity, among them the late Rev. Edward Irving.

There are three or four varieties of the *mouth*. It will not, however, be required that these should be very minutely particularized. A small mouth being justly considered the test of beauty, it would be ungallant to mar its fair proportions by attempting to *enlarge* upon it; while the large one, being already an outrage upon the true standard, any *extended* remarks upon it would be uncharitable.

The science of physiognomy, as already stated, although frequently condemned as being fallacious, and liable to mislead us in our estimate of character, is yet everywhere practically admitted among us. And although it may seem to be difficult to reduce it to positive principles, yet to reject it altogether on this account, is indeed a very unphilosophical method of solving the problem. Nothing is more

common than exclamations like the following, on first seeing an individual: "What an honest-looking face he has!" "How forbidding an expression this one has!" "How the rogue is depicted in the other!" &c. Have we not our likings and our aversions? Do we not involuntarily shrink from one person whose face does not comport with our ideas of honesty, and rush with open arms to another, whose countenance more nearly approaches our imaginary standard? This proves that we are all physiognomists. Then there are equally broad national characteristics, distinctions which have even become a proverb among us. We say, for instance, of the Englishman, from his habitually grave deportment, that he is never happy but when he is miserable: of the Irishman, also, from his strongly-marked and well known belligerent qualities, that he is never quiet but when he is kicking up a row: of the Scotchman, from his enterprising activity, that he is never at home but when he is abroad. These are not antithetical jokes, but palpable and admitted facts. There are also similar traits observable among other nations. The French, for example, from their vivaciousness, are said never to be at rest but when they are dancing: while we say of the phlegmatic sons of Yarmany, from their seeming obtuseness and indolence, that they can never see anything clearly but when they are enveloped in clouds of smoke. And there can be no doubt that other inhabitants of the civilized and uncivilized world exhibit in their *frontispieces* equally distinctive characteristic attributes. And were we to look at home, who could not detect at a glance, by his "cute" features, the purveyor of wooden nutmegs?

Does not all this speak volumes for the truth of our science? Again, the professions and trades have also a decided influence in determining the character of the countenance, so that even where nature has originally impressed the features with a marked dissimilarity, they nevertheless acquire, from this cause, a peculiar resemblance in expression. This is owing, of course, to the particular pursuit calling into exercise a corresponding condition of the mind, and which, being habitual, exerts a direct and powerful influence over

the features. The well-known and admirably drawn portrait by Boz, of "Squeers," the Yorkshire schoolmaster, is a case in point. What a mysterious compound does he represent!—exhibiting the broad grin of jesuitical politeness, coupled with the ill-disguised, because too legible lines, which none can mistake as indicative of tyrannical severity. These opposite emotions, so constantly alternating in his face, cause his features finally to assume the permanent expression already described. We find likewise in the physician the twofold expression of profound and inscrutable sagacity, united with that blandness and affability of deportment so essential to the disciple of Esculapius. Who can fail to discover in the lawyer, the characteristics of a stern cold-heartedness and cunning, which may be supposed to stop at nothing, where the interest of his client, and consequently his own, is concerned, provided only he is certain of *legal* indemnity? In him, too, we find the manifest expression of supercilious courtesy, and specious affability, even when he is deeply engaged in threading out the mazy sinuosities of his occult and never-to-be-by-common-people-understood profession. Again, in the clergyman: how can we fail to observe—in some instances more than others—the curious compound of an ill-disguised love of worldly enjoyments, united with an appearance of great sanctimoniousness, and a portion of the asceticism of the cloister, as well as contempt of all sublunary good? Should it be objected here that these sketches are not *average* portraits, it must be remembered that those selected have been preferred for their points of illustration simply, without the design of disparaging any class, by an attempt at caricature.

But we should not omit, in enumerating the evidences of the validity of our theory, that we possess, in addition to this mass of incontestable demonstration, the records in its favor which are of divine origin: "The countenance of the wise," saith Solomon, "showeth wisdom; but the eyes of a fool are in the ends of the earth." And Ecclesiastes the Preacher: "A man may be known by his look, and one that hath understanding by his countenance, when thou meetest him." Indeed, is it

not a common maxim with us, that "the face is the index to the mind?" Where we find so much apparent truth, it is scarcely just to insinuate all to be founded in error.

But let us now glance at the probable advantages to be derived from the study and application of this science. To acquaint himself with the principles which have been educed from the profound investigation applied to this interesting and important subject, is assuredly the duty, as it is the interest, of every diligent inquirer after truth. Man, composed as he is of a complex nature, is physically and morally a very mysterious being; and if we regard either his actions or his words, we shall find ourselves equally at a loss fully to ascertain the reality of his motives and intentions. But to enter into a detailed enumeration of the several advantages which result from the right application of this science, would require more space than can be allotted to it in the present essay; a single remark must suffice. Nothing is more important to man and to society than mutual intercourse. Any rational method, therefore, by which we may readily, as well as accurately, judge between the virtuous and the vicious, in forming our associations, must be of paramount value. Physiognomy then comes to our aid; it directs us when to choose, when to reject; when to speak, as well as when to be silent; when to console and when to reprove. Thus a more accurate acquaintance is ascertainable of the prevailing internal emotions and sentiments which determine the character, from the conformation of the external features of the countenance, than it is possible to attain by any other means. Lavater, the great father of this science, says: "We know that nothing passes in the soul, which does not produce some change in the body; and particularly, that no desire, no act of willing, is exerted by the mind, without some corresponding motion at the same time taking place in the body. All changes of the mind originate in the soul's essence, and all changes in the body, in the body's essence. The body's essence consists in the conformation of its members; therefore the conformation of the body, according to its

form, and the form of its constituent members, must correspond with the essence of the soul. In like manner must the varieties of the mind be displayed in the varieties of the body. Hence the body must contain something in itself, and in its form, as well as in the form of its parts, by which an opinion may be deduced concerning the native qualities of the mind. The question here does not indeed concern those qualities derived from education or observation; therefore, thus considered, physiognomy, or the art of judging a man by the form of his features, is well-founded." The lines of the countenance constitute its expression, which expression is always true, when the mind is in a state of repose, and free from constraint; therefore, it is by them we are to discover, when in their native position, what are the natural bent and inclination of certain properties of the mind.

Thus it is the province of this science to usurp the place of those crude and uncertain opinions, so commonly adopted, by which we imbibe at first sight either the feeling of preference or aversion toward an individual, and to aid us, by the ascertained principles of true philosophy, to arrive at correctness in our conclusions. This principle, however, has been applied by many of the advocates of physiognomy to the entire human form. The most recent writer on the subject, Dr. A. Walker, whose anthropological works have met with so wide and deserved a popularity both in England and in this country, argues for this hypothesis, from the three great systems of which the animal economy is composed, viz., the locomotive, by means of the bones, ligaments, and muscles; the vital, or vascular, being the nutritive and secretive organs and absorbents, including also the blood-vessels; and the nervous, or mental, comprising the organs of sense, which possess the mysterious faculty of transmitting impressions from external objects. It is also ingeniously remarked of the location of these several systems, that there is a striking and curious analogy between them and the inferior orders of nature. We find the mechanical or locomotive organs, abstractly considered, are placed in the lowest situation, the extremities; while the bones,

being essentially mineral, correspond with the lowest order of creation, the mineral kingdom. Those, again, which consist chiefly of the vital system, also appear to correspond with the second order, in the vessels which constitute vegetable life, being placed in a higher situation in the human body; while the nervous or mental system (proper to all animal existences, for all organized bodies are believed to possess both brain and certain nervous fibres) is placed in the head, corresponding with the highest order of creation. The science of anthropology, or anatomical development, has, however, but a collateral bearing upon our subject; yet it may not be amiss to take a passing notice of it, for the sake of illustration. This theory, as we have already intimated, is that of adapting the rules of physiognomical science to the developments of the entire human system, which is seen by the relative proportions of the bones, muscles, &c. Thus, for an instance of pre-eminent physical strength, the author refers to the muscular developments, as depicted in the statues of Hercules and the gladiator, as constituting the beauty, and expressive of the power, of the locomotive system. Again, as in the ancient Saxons, where the body is found to be disproportionably large, and the limbs slender and small, an excess of the vascular system is portrayed. While again, as in the busts of Homer, and most specimens of Grecian sculpture, where the head is large, and the countenance expressive and indicative of thought, the beauty and power of the mental system is consequently denoted.

But to return to the "head and front" of our subject. Phrenologists divide the cranium into two great divisions; the *cerbellum*, or hinder portion, comprising the organs of sense, common to all animals, and the *cerebrum*, consisting of the organs of the mind; as these organs, therefore, respectively exhibit greater or less development, we discover the indications of the preponderance of the mental or animal qualities; as in all superior animals, the organs of sense are found precisely opposite where the face terminates, that is, opposite the articulation of the lower jaw, extending to the spine, and projecting

from the occiput, or back of the head. Again, where the cerebrum is longest anteriorly, observation and intellect excel, and the reverse is seen where the animal qualities predominate. Thus physiognomy is in part allied both to phrenology and physiology, as seen in the comparative view of the three great organs of sensation, mental operation, and volition. This last faculty is situated at the back of the head, or cerebellum, while those of sense, being placed in the face, present every facility for physiognomical examination. These faculties, or organs, are, it is well known, five in number, viz., touch, taste, smell, hearing, and sight. The intellectual parts of the countenance are at once self-evident—the forehead, the eye, and the ear. Where these are found amply developed, the head will be generally found of a pyriform shape, indicative of a predominance of intellectuality. We find this peculiarity displayed in a striking manner in the head of Daniel Webster. The expansion of the other parts of the head being adapted to animal and vital purposes are less distinctly marked: wherever these, however, are found in excess, there will also be observable a general roundness of the countenance, indicating a preponderating influence of the animal system. But it must be borne in mind, that the face not only presents organs of sense, but also those of impression, its muscular parts being under the control of the will. Had this been otherwise, we should not have been able to ascertain so accurately the extent of mental action. This, then, appears to be the first and most important rule of physiognomy, that of examining the preponderance of these organs respectively. How commonly do we hear it observed, that a face is beautiful though utterly destitute of intellectual expression; and the reverse is equally true. This partial deficiency in expression is more generally observable in the countenances of the softer sex, although there are some lamentable instances, in a stronger degree, of this peculiarity in the other. Indeed, we might take occasion to enlarge upon the subject of the diversity of expression in faces to as great a length, and much greater than the reader's patience would permit, beginning, perhaps,

with that which most nearly accords with the correct standard of beauty, through an almost infinite variety, down to that curious nondescript familiarly called a "wry face," and which is, remarkably enough for our argument, often indicative of a corresponding disposition. We should like to ask, by the way, what portrait painter would disavow his belief in physiognomy; for it seems to us the life and soul of his profession, since *character*, otherwise called *expression*, is everything to the success of a picture.

But to resume. The *observing* faculties then appear to depend on the anterior part of the brain, corresponding to the forehead, the comparing on the middle, and the determining faculties on the posterior part of the brain. From the peculiar organ of *touch*, we chiefly derive ideas; from sight, emotions; and from hearing and tasting, desire or aversion. No illustration is required in confirmation of these apparent truths. The two intellectual organs, the eye and ear, resemble each other in being both duplex, and also in being situated separately on each hemisphere of the cranium; while the nose and mouth, being adapted for more animal purposes, are situated near to each other, and in the centre of the face. So necessary, indeed, is this approximation of smell and taste to animal purposes, that wherever we find the greatest preponderance of these, we invariably discover the increase and nearer approach of these organs: on the other hand, so far as the eye and ear are organs of impression and not of expression, and as such connected with the brain by peculiar nerves, it is obvious that they are not animal, but purely intellectual. Thus much for general principles. We shall particularize very briefly these organs respectively.

And first, touching *touch*. This sense, as is well known, is diffused over all the human system, but is more intense both at the lips and fingers' ends. The lips therefore may be said to represent this organ, and the degree of their linear or full development to indicate accordingly the possession of the faculty. The nose and mouth, in a subordinate sense, possess intellectual sympathies and associations. It is a curious fact, that all the parts connect-

ed with the lower jaw are acting parts. The under teeth act on the upper, the tongue on the palate, and most generally also the under lip on the upper. Accordingly, where we find the under lip protruded, there is sure to be the active exercise of passion, either of desire or aversion: in the former case, it is said to be everted, and in the other inverted; while we invariably find the upper lip expands on receiving pleasurable impressions. Thus we may generally decide, that an equally, yet moderately, prominent development of both is characteristic of a well-balanced mind. Of the nose, that called Roman, possessing large capacity, and more directly constructed to admit odors, to impress the olfactory nerve, is considered usually as a favorable development; and that which is flat, defective in this. Again: the short up-turned nose is evidently calculated to receive more rapid impressions, while that of a long overhanging shape receives them more slowly. Width of the nose is said to denote the greater permanency of its functions, and its height, their intensity. In the total absence of elevation and delicate outline of the nose, as usually observable in the commoner Irish, will be found absence of sentiment, while the contrary is equally true. Bulwer, the novelist, is an instance in point. Of the eye, that which is large, being capable of more powerful impression, especially of projecting from its orbit, betokens large capability, while that of lesser magnitude and more receding, denotes, on the contrary, a deficiency of power. An iris of a dark color is said to possess more accuracy, and to be of a firmer character, while one that is blue, is the reverse. In the former, the rays of light are more concentrated and absorbed, while in the latter, these are rendered more indefinite and soft.

The eyelids, like the mouth and nose, are active or passive; those beneath rise or fall, with sensations of pleasure or pain, while the upper lids receive or exclude impressions at will. Those, therefore, which are widely expanded, exemplify intensity and keenness of inspection, but little sensibility, while the contrary indicate greater sensibility, but less keen perception. This is observable when a per-

son is reflecting; the brow becomes depressed and contracted; so it is in cases of anger, because the object that excites it is the subject of severe and scrutinizing inspection. On the contrary, an eyebrow greatly elevated denotes absence of thought. Again: the degree of susceptibility of the auditory nerve is in proportion to its thinness and delicacy of form. Those that project and incline forward, are less calculated to collect sound. An ear that is long between its upper margin and lobe, will be best adapted to receive the niceties of elevation and depression of sound, as well as its intensity. One of great breadth will, on the contrary, be best suited to its diffusion and permanence. It is said also that there is a striking analogy between the conformation of the ear and the organ of the voice. The great length and narrowness of the space between the nose and chin always indicates acuteness and shrillness of voice. This is caused by the palate being elevated and the ellipsis of the jaws being consequently more narrow; while in proportion to the expansiveness of the forehead over and between the eyes, containing the maxillary cavities, and the cheek prominencies, containing the frontal sinuses, is the resonance, or echo, imparted to the voice. The elevation of these is supposed also to denote force and activity of character.

Lastly, of the chin and teeth: these, however, forming an important instrument in the voice, may evidently be taken as representatives of those parts with which they are associated. It is remarkable that the projection of the occiput, on which depends the exercise of passion, corresponds with the teeth, and particularly the lips, so that the prominence of the posterior parts of the brain may generally be safely predicted by that part of the face. A similar coincidence subsists between the cerebellum and the jaws; the breadth of the former is said to correspond with the breadth of the face over the cheek-bones, while its length answers to that of the lower jaw, measured from the tip of the chin to the angle.

Such is a brief outline of the leading principles of this very interesting science. We shall conclude by a resumé of the principal points, which may serve as hints

in the practical application of the subject. It will be remembered then, that a large head with a small triangular forehead denotes absence of intellect. A gently-arched and prominent forehead indicates, on the contrary, great genius. Shakspeare is a striking evidence of this. A forehead full of irregular protuberances is characteristic of an uneven and choleric temper. Deep perpendicular lines between the eyebrows generally bespeak strength of mind, but when counterbalanced by others in an opposite direction, the reverse. Small eyebrows generally betoken a phlegmatic temperament, and if strongly marked and horizontal, vigor of character; but if very elevated, absence of intellect. Black eyes portend energy, while gray often mark a choleric disposition, and blue, mildness and vivacity. The Roman nose is especially characteristic of valor and strength, like the beak of the eagle: the possessors of this kind of nose seem in many instances to have exhibited in their characters the peculiar properties of this kind of birds. Such was Cyrus, it is said; Artaxerxes, Mahomet, the prince of Condé, duke of Wellington, and General Jackson, all possessed the eagle or Roman nose.

Thus we see that the diversified and often conflicting passions and emotions of the human mind are in a pre-eminent manner susceptible of spontaneous expression, or that indicated by the features of the countenance; and so intimate is their correspondence and affinity, that speech, however honest, can hardly be said to be more faithful in its testimony. The practical uses of this science are twofold; first, in aiding us in forming a just estimate of character; and secondly, in the matter of education; for since it is its peculiar province to demonstrate the possession of constitutional power, as well as its defects, it is manifest that it may be rendered available, by directing us to suitable care in the cultivation of faculties not adequately developed. Let no one, therefore, suffer himself to become exasperated with his ugly looks, but seek to acquire, by mental cultivation, beauties more ornate, conspicuous, and imperishable. Who would not award the meed of praise to such a one, rather than to him

who, how lavish soever may be the blandishments of outer man, yet discovers all the vapidness of an empty pate, being destitute of those great moral attributes which confer the true dignity of man? There is indeed a double merit due to virtue, when it is thus seen, by almost superhuman power, to gain the mastery over a natural predisposition to vice.

THE CASTES AND TRIBES OF INDIA.

NO. II.

THE Hindoo account of the institution of castes has already been given, and it will be recollected that only four pure castes are recognised, the Bramin or priests, the Cshatriyas, who are soldiers, the Vaisyas as husbandmen, and the Sudras as servants or laborers. Heeren supposed that the first three were a foreign race, who subdued the aborigines of the country, and reduced them to an inferior caste. These four classes constitute the elements of every society in an early period of civilization. In England, during the Anglo-Saxon period, the people would be found divided into the same number of classes, but then the distinction was not hereditary. Plato ascribed the origin of political association and laws to the division of labor. From this cause, he says, men are obliged to associate, one man affording one accommodation, another another, and all exchanging the accommodations which each can provide, for the different accommodations provided by the rest. Herodotus and Strabo state that the Colchians and Iberians were divided into four classes whose rank and office were hereditary and unchangeable. The Levites were an hereditary priesthood. Mr. Mill, in his "History of British India," proves that among the Persians, the Medes, the Athenians, and other people in very early periods of history, the distinction of castes or classes existed. The institution of castes marks a more advanced stage of society than that which is constituted of families only; and it is a step not yet reached by the Arabs of the desert, or the



A Bramin expounding the Veda.

roaming Tartars of the great plains of Asia. We may here remark that we have borrowed the word "caste" from the Portuguese word "casta," which signifies a lineage or race.

Professor Wilson says, that everything in the Hindoo institutes indicates that the Bramins originated not from political but religious principles. "Apparently," he says, the system "was contrived by a religious confederation, as the scheme best adapted to introduce order among semi-civilized tribes, and with no view to their own advantage, or aggrandizement, or enjoyment of indolent ease. The authority of influence, of advice, the Bramins necessarily retained, and they were the only competent expounders of the laws which they promulgated. They had no other means of protection than the character of sanctity with which they invested themselves, and which was equally necessary to insure attention to their instructions. They labored to deserve the opinion of sanctity by imposing burdensome duties on themselves of a domestic and religious character."

In the very rudest constitution of society the priest is to be found. In addition to the influence which he professes to have with good and evil spirits, he sometimes practises the medical art, and in various ways sustains his importance by superior cunning, working upon the superstition, ignorance, and fears of man in his most abject condition. Nowhere has the influence of a priesthood been so paramount and extensive as in Hindostan. It is remarkable that the Bramins never invested themselves with royal authority; but Professor Wilson observes that this probably proceeded from motives of prudence and policy, as well as from a feeling of true contemplative devotion, by which especially they retained their hold on the people. But then, as Mr. Mill shows, their power was really greater than that of the sovereign. The laws of Menu direct that "To one learned Bramin, distinguished among the rest, let the king impart his momentous counsel." As the sole interpreter of the laws, they in reality possessed the judicial powers of government as well as those of a legislative character. The code was already perfect and com-

plete, as coming from the Divine Being, and in no case could it be interpreted except in the sense the Bramins were pleased to impose. The king was little more than a servant of the Bramins. In order to have an adequate idea of the superiority of the ancient Bramin, we must refer to the laws of Menu, which were probably promulgated three thousand years ago. While the Sudra, the lowest of the four castes, are represented as proceeding from the foot of the Creator, the Bramin came forth from his mouth. He is declared to be the lord of all the classes, and from his high birth alone is an object of veneration even to deities, and it is through him, and at his intercession, that blessings are bestowed upon mankind. "When a Bramin springs to light, he is born above the world, the chief of all creatures." The first duty of civil magistrates is to honor the Bramins. "Whatever exists in the universe is all in effect, though not in form, the wealth of the Bramin, since the Bramin is entitled to it all by his primogeniture and eminence of birth." The sacred books are exclusively his; and while the other classes are scarcely permitted to read them, he is appointed their sole expounder. For offering to give instruction to Bramins, hot oil must be poured into the offender's mouth and ears, and for contumelious language the punishment is almost as severe. Mysterious powers were assigned to them. "A priest who well knows the law, need not complain to the king of any grievous injury, since, even by his own power, he may chastise those who injure him: his own power is mightier than the royal power." Again, it is said, "Let not the king provoke Bramins to anger, for they, once enraged, could immediately destroy him;" and it is asked, "What man, desirous of life, would injure those by the aid of whom worlds and gods perpetually subsist, those who are rich in the knowledge of the Veda?" Extraordinary respect must be paid to the most humble Bramin: "A Bramin, whether learned or ignorant, is a powerful divinity." "Thus, though Bramins employ themselves in all sorts of mean occupations, they must invariably be honored, for they are something transcendently divine." The meanest Bramin

would be polluted by eating with the king, and death itself would be preferred to the degradation of allowing his daughter to be married to him. The worst crimes scarcely subjected them to punishment, though in other classes they were visited with cruel severity. "Neither shall the king," says one of the admirers of Menu, "slay a Bramin, though convicted of all possible crimes." To confer gifts upon Bramins was an essential religious duty. These gifts were a necessary part of expiation and sacrifice. The noviciates to the priestly office derived their subsistence from begging. Possessing all the realities of supreme power in the state, the Bramins were, if possible, to a still greater extent the masters of private life. The Hindoo ritual, as Mr. Mill remarks, extended to almost every hour of the day, and every function of nature and society; and consequently, those who were the sole judges and directors of its complicated and endless duties could not but be possessed of an enormous influence on the mental character of the people.

To the above extracts from authentic texts we must append the following important note from Professor Wilson's new edition of Mill's "History of British India," in which he observes that these texts are nevertheless calculated to give "wrong impressions." He says: "The Bramins are not priests in the ordinary acceptation of the term, nor have they, as Bramins only, such influence in society as is here ascribed to them. The Bramins, in the early stages of Hindoo society, were an order of men who followed a course of religious study and practice during the first half of their lives, and spent the other in a condition of self-denial and mendicity. They conducted for themselves, and others of the two next castes, sacrifices, and occasionally great public ceremonials; but they never, like the priests of other pagan nations, or those of the Jews, conducted public worship, worship for individuals indiscriminately, worship in temples, or offerings to idols. * * * The whole tenor of the rules for the conduct of a Bramin is to exclude him from everything like worldly enjoyment, from riches, and from temporal power. Neither did the Bramins, like the priests of the Egyptians,

keep to themselves a monopoly of spiritual knowledge. The Bramin alone, it is true, is to teach the Vedas; but the two next orders are equally to study them, and were, therefore, equally well acquainted with the law and the religion. Even the Sudra, was, under some circumstances, permitted to read and teach. In modern times the Bramins, collectively, have lost all claim to the characters of a priesthood. They form a nation, following all kinds of secular avocations. And when they are met with in a religious capacity, it is not as Bramins merely, but as being the ministers of temples, or the family 'gurus,' or priests of the lower classes of the people, offices by no means restricted, though not unfrequently extended to the Braminical caste, and, agreeably to the primitive system, virtually destructive of Braminhood."

INFLUENCE OF RURAL SCENES.

IF ever you detect yourself indulging in the reflections of a misanthrope, and correspondingly thinking there is nothing in the world worth living for—nothing bright, nothing good, nothing pure—penetrate into the noble forest, or the trackless woods; let your mind contemplate the gigantic and majestic works of God; study the page of the poet, teeming with charity and Christian love; let a prattling, artless child be your companion; think of affection, of innocence, and then ask yourself is the world such a dreary waste as, in the bitterness of some trifling disappointment, you had thought it? If you still retain the same gloomy conviction, your temper must have been soured beyond the power of the most benign influences to recover it; but no—you will not, you *can not* steel your heart against their appeal. He who lives pent up in cities, with nothing to contemplate but the snares set by man to catch his fellow-men—with no prospect but the frail works of human hands—hath little to remind of a higher power: it is the contemplation of nature which leads his thoughts to nature's God. Man serves man for pay, and one member

of the community assists the other only to the extent to which his services will be required. The great spring which sets the vast body of a city into action—which governs all its movements—is but business. The very air is tainted with the scent of business; the ear is deafened by the sounds of business; the eye bewildered by the signs of business; and profit is the prize for which the inhabitants of cities struggle through their life, trample on their fellows in the busy race, and beat down those who are running to the same winning-post. But he who gave to man the trees of the forest and the grass of the fields, who provided streams of water for his use, and made the soil fertile and productive, asks no remuneration for his mighty labors—demands no reward; and the contemplator of rural scenes feels that he is communing, through their agency, with a higher, a more generous, a more disinterested Being than man.

The superior morality of the agricultural over the manufacturing portion of our population, is principally attributable to the influences of the scenes with which the pursuits of the former classes bring them into contact. The laborer who tills the soil, who watches the beneficial effect of the dew of heaven on his seed, and is grateful for a ray of sunshine, learns to think of the Master-hand which regulates their succession; but the mechanic, toiling monotonously on a spot where high walls close his prospects, whose operations depend not for success upon the seasons, and who is surrounded by the works of man, which he is taught to think ingenious, or useful, or valuable, forgets those nobler and more stupendous works which are beyond his prospect; and thus is brought too often to forget, also, their maker—God. How frequently do we exclaim, "What a wonderful power is steam, and how clever must man have been to discover it!" Yet how seldom do the vital functions inculcated by our Maker—the primitive and original motive power of which our application of steam is but a feeble imitation—how seldom does the great principle of animation and vitality, formed and arranged by God, engage our admiring wonder! The comparatively miserable efforts of the crea-

ture are placed in competition with the works of the great Creator, and surrounded by machinery and their own productions, as man is in cities, Nature, her beauties and her wonders, are forgotten.

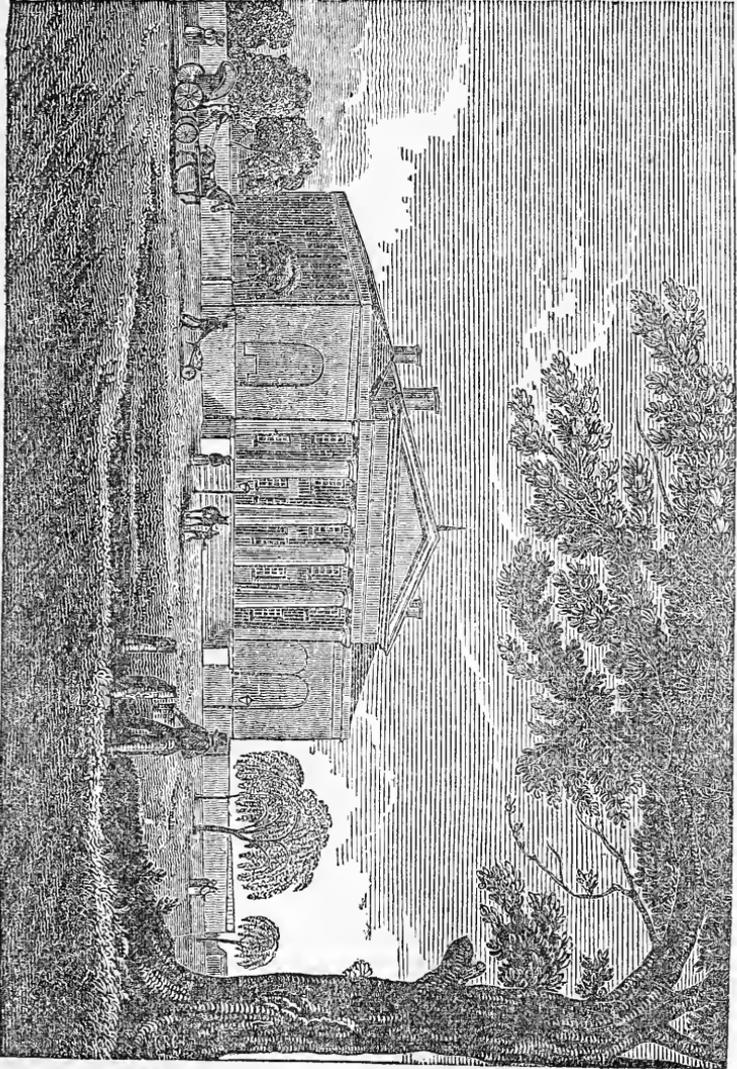
INSTITUTION OF THE DEAF AND DUMB IN PHILADELPHIA.

THIS institution was established in 1820, and the building erected in 1824. It is constructed of granite; the front is ninety-six feet, and the width is sixty-three feet. The legislature of Pennsylvania granted eight thousand dollars to the funds of the institution, and to which were added donations from some liberal individuals. The state made provision also for the maintenance of fifty indigent pupils, for several years. Maryland and New Jersey gave support to the institution; the former by an appropriation of thirty-five hundred dollars for a number of years, to support indigent deaf and dumb children of that state; and the latter, by maintaining twelve pupils, for an indefinite period. The children are taught industrious habits, and their minds so cultivated by their skillful teachers, that they acquire much useful information. The pupils continue in the asylum from four to six years. The system pursued in the institution is agreeable to the theory of the Abbé Sicard, and substantially conformable to that adopted in the American asylum at Hartford.

YOUTH.

Who has forgotten the days of youth? Has that gray-haired sire, almost blind to time, but viewing eternity with burning desire—whose feet are tottering on the verge of the grave—whose ear is deaf to most earthly reminiscences? Mark! his dim eye brightens at the remembrance of youth, and his furrowed cheeks relax into a smile,—

"Like sunshine on a tomb."



Institution of the Deaf and Dumb in Philadelphia.

Memory in youth, as when the wax is hot, retained every impression, but now in age it has become cold ; so that when the seal is lifted from it, scarce a trace is left behind. These numerous impressions were then thrown aside when every new impression was made ; and at different periods, when "the soul was led to solemn thought," they were carefully collected and laid past in the chambers of the mind. Fancy, now heavy-heeled to most things, at the mention of youth shakes her wings, flies into the bygone years and leads forth the ghosts of youth, and from memory's secret chambers brings materials to deck the stage. She paints in a moment the scenes which then took place—adorns the stage with flowers such as then decked the golden curls on some fair brow, and youth is lived once more. Forgotten in these "airy castles" are the frailties of age, till the curtain drops—hides the scene from the view, and leaves the mind to contemplate the sad havoc of time.

Who does not remember youth ! when the brow was like polished marble, ere care had chiselled his letters—when the heart was light as the bubble on the waters, dancing like it, forgetful of the dangers around, till it lost its short-lived buoyancy—sunk down into the sober realities of life—driven hither and thither with every passing wave—when the feet ran with the wind, or danced to the music of the heart—when the voice made the welkin ring, and rivalled the songsters of the grove ? Ah ! who can forget these things, nor forbear wishing himself again amid their joys ? Who can forget the days when we roamed through the woods, and listened to the birds among the trees ; or scattered o'er the meadow, gathering the wild flowers from which the bee drank nectar ; or when, overcome with our pleasing toil, lay on the green sward, clasped in each other's arms ? Time would fail to tell the pleasures we enjoyed—a dream can only paint them ; and, too, like a dream they were—we enjoyed them but a moment, when we found them gone.

Youth is the starting-point of the traveller—time is the path—eternity the goal ; some take longer, others shorter, in reach-

ing their journey's end. How many were the light-hearted ones who accompanied us, when first we took the pilgrim's staff and began the journey of life ! We can remember, when we first set out, all was sunshine, gayety, joy ; or if, perchance, a cloud was seen, or a shower fell, we paused under the trees by the roadside, and only thought how much more beautiful the flowers should look after the rain. No care did we take of "what we should eat, or what we should drink, or wherewithal we should be clothed ;" we plucked the fruits as we passed, and decked ourselves with the flowers, painted with richer colors than ever art possessed. Oh ! were we not joyful ? Did we not think and tell one another that we should never part—that our youth should never fade ; but that, as years rolled on, we should be more joyful still ? How we chased the butterfly, and whistled o'er our disappointment, with "Ne'er mind, we'll catch you again ;" and chased again as heartily, though again disappointed, as before ! Yes ! we were then free from care ; his wrinkled face was never seen among our counsellors ; his thoughtful voice was never heard in our ear. We would then have made care himself to hold his sides for glee, had he seen our gambols as we beguiled the way, and scarcely saw the sand-glass turn.

Yet, look now around ! Where are all the gay travellers who began their journey with us—how few can we now gather around us to talk of "lang syne !" Yes ! we remember, one of the merriest of our companions, the very life of our band, soon parted from us—he took another road ; we bade him farewell ; and the tears for once trickled on our cheeks, like dew upon the rose ; but as soon were they dried up, and again were we happy. But one by one separated from us ; some of our fairest companions, some of our choicest bosom friends, shook hands with death as "the messenger to call them home," though early ; and often do we yet recall their features, and think of the cup of joy of which we partook ! Some are now separated by many a weary mile, and many a weary hour have many of them spent. And though, as we have since pursued our journey, we have associated

with many fellow-travellers, among whom often we have spent a happy hour, yet none do we remember with such pleasure as those of youth. *They* are engraved on our hearts with pens of steel; and though time has constantly rubbed the letters as he passed, memory has as often deepened them again. Oft, when tired climbing some "hill of difficulty," have we sat down, with fancy's telescope, to view the joys of happy youth; and when the glass brought to view some favored spots, how have we lingered o'er them! After leaving them have we returned to them again, our lips involuntarily muttering the songs with which they were associated, while the tear moistened the eye, and the breast heaved with emotion, as we laid aside the glass, and betook again ourselves to the world.

Youth, like everything connected with time, passeth quickly away; 'tis like the "morning cloud and the early dew." How happy they who have not lived in it in vain—who "in the morning sowed their seed," and now look forward to the harvest, with its waving crops of yellow grain, and branches loaded with mellow fruit! "They shall renew their youth as the eagles, run and not be weary, walk and not faint; they shall sing as in the days of their youth." Though crowned with the snows of age—the closing of *their* year—yet they are but young—they have been "born again;" and when translated from the cold regions which mortals inhabit to the regions of unmingled bliss, they shall be clothed with immortal youth—crowned with the gifts of eternal love.

Let youth beware! We have spoken of the joys they experience—of the roses scattered around and along their path; but beside these roses lurks many a thorn, and true wisdom will be shown in plucking the rose without touching the thorn. If the straight path is kept, while the orb of truth shines, then you are safe; but if, to gain every flower and view every scene, you diverge to the right hand and to the left, you will be lost in the mazes of error, without a mark to regain your former path. Let your youth be spent to profit; keep the end of life in view, and studiously hold by every principle and practice which will render *this* life happy, while it pre-

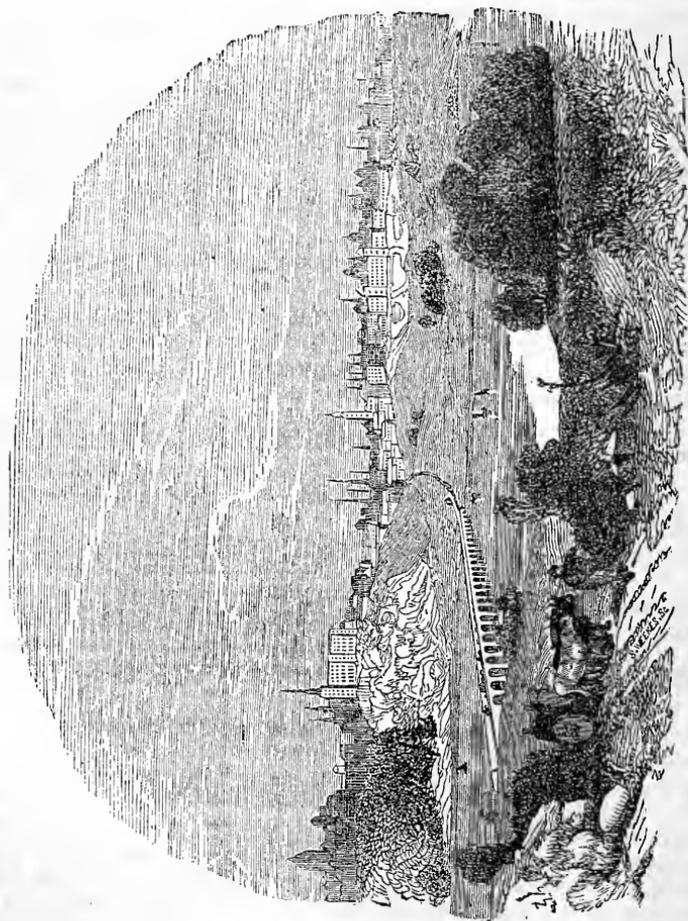
pare you for a life to come. In youth life is like the stream silently dancing o'er the pebble, and scattering its spray as it trickles down the glade, glittering as with joy when the sunbeams dance upon its path, and murmuring applause to the melody of the grove. But as it goes onward it gets stronger—takes a wider course; its sound is louder, and its influence greater: much depends upon the course it takes, whether it waters and fertilizes the vale, or overflows with destruction some less happy spot. Alas! many, too many, spend their lives to no purpose, but allow them to run waste, and injure everything they meet. Like the schoolboy, they follow every gaudy butterfly, which, with "wings of silver, and feathers of yellow gold," sails upon the air, and flutters in the sunbeam. They follow o'er every obstacle, till they either fall exhausted in the fruitless attempt, or find the glittering feathers fade at their touch, and fall to the ground with the expiring hopes of their deluded souls.

Hear, then, the voice of inspiration, and attend its sacred command—"Re-deem the time;" or, in the words of a poet who has re-echoed its sacred truth:—

"Youth is not rich in time; it may be poor;
Part with it as with money, sparing; pay
No moment but in purchase of its worth;
And what its worth ask death-beds—they can tell.
Part with it as with life, reluctant; big
With holy hope of nobler time to come;
Time higher aimed, still nearer the great mark
Of men and angels, virtue more divine."—YOUNG.

MADRID.

MADRID, the capital of New Castile and of Spain, and now also of the province of Madrid, stands on a range of small hills rising in the middle of the extensive plain of New Castile, which is bounded on the north by the mountains of Guadarama, and on the south by those of Toledo, in 40° 24' 18" N. lat. and 3° 42' W. long. of Greenwich. Madrid is supposed to occupy the site of the Mantua Carpetanorum of the Romans, which was called Majoritum by the Goths, whence its present name Madrid is derived. Some antiquarians contend that it was so called by



Madrid.

the Spanish Arabs, in whose language the word *Magerit* meant "a well-aired house."

During the occupation of the peninsula by the Arabs, the place served as a frontier town, and its castle was often taken from the Arabs, and retaken by them, until 1086, when it was finally taken by Alphonso VI., the conqueror of Toledo, who annexed it to the bishopric of Toledo, to which it now belongs. It continued to be a mere village until the reign of Henry III. of Castile, who, being passionately fond of hunting the wild boar and the bear, both which animals were then abundant in the mountains near Madrid, made the place his residence during the hunting-season. Charles V. occasionally lived in it, and it was at last made the capital of the Spanish dominions by his son Philip II., in opposition to the opinion of his ministers, who strongly advised him to fix his court at Lisbon.

Madrid is more than two thousand feet above the level of the sea, a circumstance which accounts for the coldness of its winters. In summer the heat is excessive, in some measure owing to the want of trees in the neighborhood. The thermometer in 1837 rose to 117° of Fahrenheit in the open air. In winter the same thermometer sometimes descends as low as 18°.

Madrid is on the left bank of the Manzanares, a small rivulet which has rise in the mountains of Guadarrama, about thirty-six miles from the capital, and which, after flowing under the walls of Madrid, joins the Xarama, a considerable stream, at some distance from the capital. Two majestic bridges, called Puente de Toledo and Puente de Segovia, are thrown over the Manzanares; but such is the contrast between the imposing grandeur of these bridges, and the scanty stream which flows beneath them, that it has given rise to the witty saying that "the kings of Spain ought to sell the bridges, and purchase water with the money." In winter, however, the heavy rains, and in spring the sudden melting of the snow on the neighboring mountains, sometimes swell the Manzanares into an impetuous torrent.

Madrid is surrounded by a brick wall, twenty feet high, which contains fifteen gates, mostly built of coarse gray granite.

Among these the gate of Alcalá and that of San Vicente, built in the reign of Charles III., and that of Toledo, erected in the reign of Ferdinand VII., are characterized by beauty of design and solidity of structure. During the present civil war, some slight fortifications have been erected on the principal points leading to the city.

The general aspect of Madrid from all the approaches is anything but inviting. The numerous fantastic spires of churches and convents, the tiled roofs of the houses, the sterility of the neighborhood, and the total absence of good houses, pleasure-gardens, or other buildings which indicate the approach to a great city, give to the capital of Spain the most gloomy and forbidding appearance.

The interior, however, is not devoid of beauty. The wide and well-paved streets, the extensive and well-planted public promenades in and near the city, with the fountains in many of the squares, the gorgeous churches, and handsome public buildings, remind the traveller that he is in the capital of Philip II. The houses are well constructed; the foundations and some of the ornamental parts are of granite, and the rest of red brick, stuccoed and generally painted. Each house is four or five, and frequently six stories high, and contains several families. The principal streets, with few exceptions, are moderately wide and handsome: that of Alcalá, for instance, is wider than Portland-place in London, and contains many splendid buildings. The Calle Mayor, Carrera de San Geronimo, Calle de Atocha, &c., would be ornaments to any capital; the rest of the streets are generally narrow and crooked; there are forty-two squares, of which the principal are—that of the Royal palace; that of Santa Catalina, where a beautiful bronze statue of Cervantes has been lately placed; the Puerta del Sol, where the five principal streets of Madrid meet, and which is a place of resort both for the idle and the busy, being the spot where, owing to the proximity of the Exchange, or Bolsa, all commercial transactions are conducted in the open air; the Plaza de la Cevada, where criminals were formerly executed; and lastly, the Plaza Mayor, which is the finest of all.

This square is now used as the rallying-point for the garrison of Madrid in case of alarm, on account of the strength and solidity of the buildings and the difficulty of approaching it through the narrow crooked streets. Its form is quadrilateral, four hundred and thirty-four feet by three hundred and thirty-four, and it is surrounded with stone buildings, six stories high, ornamented with pillars of gray granite, which form a fine piazza all round.

The population of Madrid, as to which no official returns have been published since 1807, was stated by Miñano, to be 201,344 in 1826, but this number is generally supposed to be too great for that time, although it may at present be nearly correct. The circumference of Madrid is not above five miles; and there are no suburbs.

The royal palace of Madrid, though unfinished is one of the finest royal residences in Europe. The interior is decorated in a style of costly magnificence. It stands on the site of the old Alcazar, or palace, inhabited by Philip II., which was burnt to the ground in 1734. Philip V. began the building, which was continued by his successors. It has four fronts, four hundred and seventy feet in length, and one hundred feet high. The custom-house, a noble building, erected by Charles III., to whom Madrid is chiefly indebted for its embellishments; the Casa de Correos (post-office) in the Puerta del Sol; the palace called Buena Vista, formerly belonging to the dukes of Alba, now converted into an artillery museum; the royal printing-office, in the street of Carretas, and the palace of the duke of Berwick, are among the public and private buildings which adorn the capital. Among the numerous churches and convents which fill the streets of Madrid, scarcely one can be mentioned as a specimen of a pure style of architecture. That of San Isidro, formerly belonging to the Jesuits, has a very fine portal; the convent of the Salesas, founded by Ferdinand VI. and his wife Barbara, is likewise a fine building, and the interior of the church is ornamented with the richest marbles. The convent of San Francisco el Grande, built in 1777, is justly admired for the severity and correctness of the design, its

beautiful proportions, and a dome built in imitation of that of St. Peter's at Rome.

There are sixty-seven churches in Madrid, exclusive of private chapels. Before the year 1834 there were sixty-six convents, thirty-four for men, and thirty-two for women. Some of them have been recently pulled down, either to widen the streets, or to form squares; others have been converted into barracks, hospitals, magazines, and government offices.

Public promenades abound in Madrid. That which is the most resorted to is the Prado, which consists of various alleys lined with double rows of trees, and ornamented with beautiful marble fountains. Adjoining to it is the Retiro, an extensive and beautiful garden. The garden suffered greatly, both from friends and foes, during the peninsular war, but was restored by the late king, who added to it an extensive menagerie. Another favorite promenade is a vast plantation outside the gate of Atocha, called Las Delicias, leading to a canal known by the name of Canal de Manzanares. This canal, which extends only six miles from Madrid, was intended to unite the capital with the river Tajo, at Toledo, by means of the Xarama.

The literary and scientific establishments are generally of old dates, and insufficient to meet the wants of the present day. Miñano mentions one hundred and sixty-six primary schools as existing in 1826, besides two colleges, both conducted by ecclesiastics. This number, however, has recently diminished. There are two extensive libraries open to the public; one founded by Philip V. in 1712, which contains one hundred and fifty thousand volumes, besides a very large collection of manuscripts, chiefly Greek, which have been described by J. Iriarte, and a museum of medals and antiquities. The library of San Isidro belonged formerly to the Jesuits. Both have been considerably increased of late by the addition of the libraries of the suppressed convents within the capital. There are also four academies: 1. "La Academia de la Lengua," founded in 1724, in imitation of the Académie Française, confines its labors to the publication of works in the Spanish language, such as grammars and dictionaries, and to editions of the

best Spanish writers. 2. The academy of history originated in a society of individuals whose first object was the preservation of historical records. It was confirmed by Philip V., who, in 1738, granted the present statutes. The labors of this body have been far more useful than those of its sister institution: and the nine volumes in quarto already published by them form a valuable addition to the history of Spain. 3. The academy of the fine arts, instituted in 1738, holds weekly meetings at its rooms in the street of Alcalá, but it has hitherto done little or nothing: lastly, the academy of medicine. A fine botanical garden, well stocked with exotic plants, forms a delightful spot in the spring, when it is much frequented: attached to the establishment are various professors, who lecture upon botany, agriculture, and geology. The museum of natural history, in the Calle de Alcalá, is not worthy of the praise bestowed upon it by travellers: it certainly contains a splendid collection of minerals from the Spanish dominions in America, but they are badly arranged and worse kept. It contains, however, the interesting skeleton of the *Megatherium* described by Cuvier.

Along the east side of the Prado is the national gallery, a noble building of colossal dimensions, with a beautiful Tuscan portico and Doric colonnades. The collection of paintings which it contains has been lately pronounced by competent judges to possess a greater number of good pictures, with fewer bad ones, than any other gallery in Europe. The armory, a fine building of the time of Philip II., contains some of the most beautiful specimens of armor in Europe, especially of the *Cinque Cento*, or the fine times of Benvenuto Cellini. There are several complete suits of armor, which formerly belonged to Ferdinand V., Charles V., the Great Captain, John of Austria, Garcia de Paredes, and other illustrious Spaniards. The most interesting of all, perhaps, is a coat of mail with the name and the arms of Isabella upon it, which she is said to have worn in her campaigns against the Moors. An account of this collection, with drawings of the best pieces of armor, is now in course of publication.

Madrid has two small theatres, "La

Cruz" and "Principe," both managed by the Ayuntamiento, or municipal corporation, where Italian operas and Spanish plays are alternately acted. Another of much larger dimensions, called the "Teatro de Oriente," has been lately built in the centre of the square opposite to the royal palace, but is still unfinished for want of funds.

The inhabitants of Madrid repair, every Monday during the season, to a vast amphitheatre outside of the gate of Alcalá, where the favorite spectacle of bull-fights is exhibited.

The police of Madrid is not good. The streets are generally dirty, and the approaches to the city sometimes blocked up by heaps of rubbish. The city has no common sewers. Notwithstanding the great number of fountains, the want of good water is severely felt in summer. The city itself is considered to be extremely unhealthy; and if Philip II. chose it for his residence on account of the purity of the air and the quality of its waters, as we are told, Madrid must have undergone a complete change since that time. The sharp winds which blow from the Guadarrama mountains in winter produce the endemic pulmonia or pneumonia, which often proves fatal in a few hours. A sort of colic, caused by the dryness of the atmosphere, is likewise a prevalent complaint in summer.

Charitable and benevolent institutions are numerous, and some are amply provided with funds; but the management having always been in the hands of the clergy, the funds have been spent in building monasteries and churches, rather than applied to the charitable purposes intended by the donors. An institution, supported by voluntary contributions and patronised by the government, has recently been established outside of the city, for the reception of beggars, who were formerly objects of horror and disgust in the streets of Madrid.

Madrid has little manufacturing industry. A manufacture of porcelain and another of tapestry are both the property of the crown

Faith, hope, charity, and vigilance, are inconsistent with idleness.

MODERN CHARITY.

"The world is still deceived with ornaments."

It is certainly a natural and a reasonable supposition, that if aught possesses a foundation sufficiently deep and an adaptation to the wants and capacities of mankind of sufficiently extensive application to insure its exemption from perversion, it must be that system of moral truths recognised by reason, attested by conscience, and demonstrated, in innumerable manifestations, by human history and individual experience—that system, in short, which, when practically evinced, we call virtue. And yet it is a subject we apprehend, concerning which very vague impressions prevail. Few, indeed, can err in determining whether an action or motive is morally right or wrong; but the erroneous conceptions to which we refer, are chiefly manifested in the disproportionate moral worth frequently attached to human conduct. Perhaps this, tending, as it does, to obscure the true glory of virtue, has done more than is generally supposed to lessen its attractiveness. Surely, whatever transforms virtue from a principle innate in man, and capable of endless development, into an abstract system, and whatever deprives it of its active character, as consisting in moral effort and not in passive subservience, robs it of its birth-right, and thus weakens its hold on human regards. It is eminently an independent principle—the product, alone, of self-exertion; and yet means have been adopted, for the avowed purpose of securing men's allegiance to duty, which presuppose, in their very nature, an agent in the formation of individual virtue more powerful than moral energy and more efficient than virtuous example. But our concern is, to speak of these perversions with reference to that beautiful virtue, charity.

Bacon has significantly compared innovations to births of living creatures which at first are ill-shapen; but the parallel must rest here, when applied to many of the modern methods of exercising charity: for it can hardly be anticipated that these will ever assume more symmetrical or consistent forms than they exhib-

ited at their origin. It is beneath the dignity of its office to be ranked with mere amusement; it is too holy to pioneer those whose natural delicacy should interpret its true character, into "the rank beams of vulgar fame;" it is too closely allied with what is truly excellent, to serve as a bright surface beneath which the turbid waters of contending passions may flow unseen. But even in self-defence, charity will use no other than the weapons of love: it is more meet, therefore, that her advocates should, as far as in them lies, exhibit her true features, than to inveigh against the perversions that bear her name.

It is charity, then, that effaces the bad impression, ere it strengthens into a practice; that respects conscientious opinions too much for difference to be riveted by bigotry; that overlooks error in consideration for the motive; that checks the passionate or thoughtless exclamation, lest the tender cords of feeling should be too widely struck; that exercises its moral and mental functions in a pure and invigorating atmosphere.

And in all this, it is plain that the actuating motive is a respect for, and a consequent sympathy with human nature. Thence, "its field is the world." Charity, then, far from being dependant on momentary sensibility, is essentially founded on principle, and calls into action some of the noblest powers—self-denial, active and widely-diffused love, liberality, and self-government. It is in its office of relieving outward distress, as in every other manifestation, that charity, like a sister virtue, "blesses him that gives and him that takes;" and without this double influence, it is evidently miscalled charity.*

Its chief good is within. It is its chief purpose to raise to a common level every member of the human family. And it is with strict reference to this end, that it produces its effects, the cause, like the source of a mighty river, being concealed from the view. It is objected, that the inciting influence of example is thus lost.

* "He that relieves another upon the bare suggestion with bowels of pity, doth not this so much for his sake as his own; for by compassion we make others' misery our own, and so by relieving them we relieve ourselves also."

There are those, however, who are unaffected by the flaming meteor, but whose moral sense is permanently awakened, when attracted to some little star that beams serenely and "meekly through the kindling air."

Charity, like every other virtue, is chiefly to be sought for itself; not only as being its own reward, but because it strips self-love of the perversions which have debased it from the guardian and guide of virtue to its deadliest foe. Who can doubt that charity directs the principle of selfishness to its legitimate end, by teaching that the true field for its exercise, and the gratification of its desires, can only be found in disinterestedness?

Virtuous sensibility, however wounded by the view of moral evil, never suffers more acutely than when contemplating the low and unworthy standards which are so often made the ordeals of human conduct. Not only is the sublime form of virtue in a measure shrouded, but there is afforded a sad, yet striking proof, that to many is still unrevealed the glory and power of their nature.

"How is it so forgotten? Will it live
When the great firmament hath rolled away?
Hath it a voice for ever audible,
'I am Eternal!' Can it overcome
This mocking-passion find, and even here
Live like a seraph upon truth and light?"

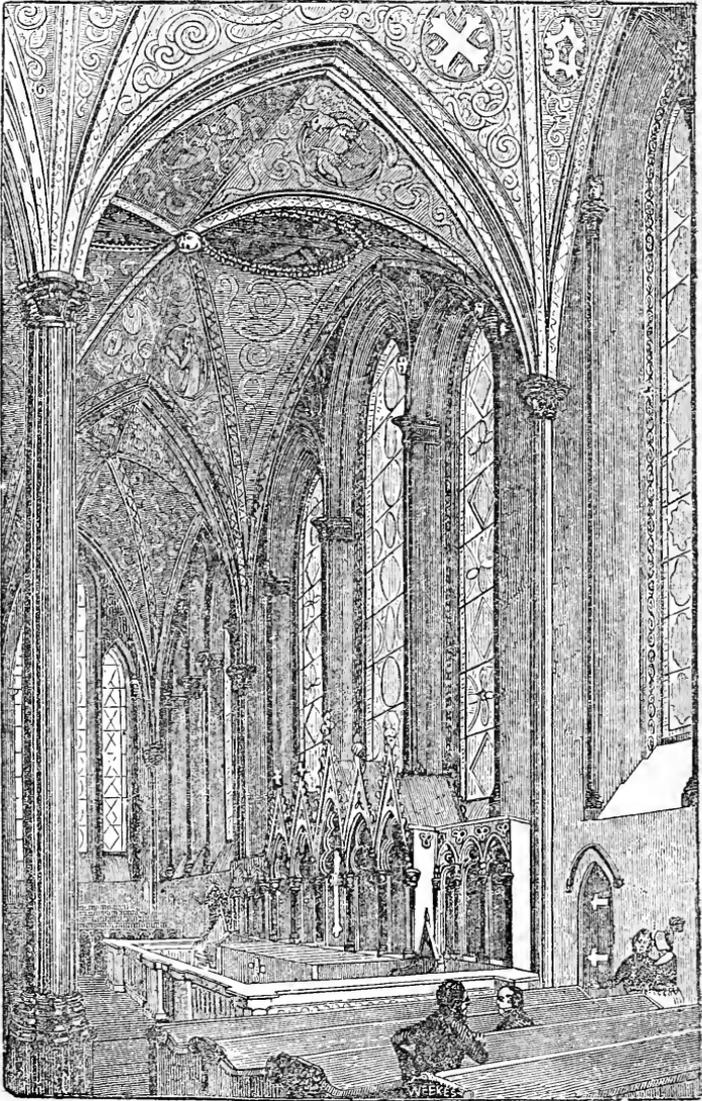
THE TEMPLE CHURCH.

NO. III.

It has been said that the Round is deficient in color, and there can be no doubt than in comparison with the chancel, or oblong part beyond, it is so; whether that be a defect or the reverse depends on which of two principles of art we favor; for it does not seem certain what the original arrangement of this matter was. The benchers had, therefore, the alternatives of raising the whole of the decorations up to such a point that, the moment the spectator entered, he should be surrounded by *all* the splendor that the church had to exhibit, thereby producing an instantaneous and powerful, but not in-

creasing effect—or to conduct him from the sober realities of the outer world up to the gorgeous magnificence of the altar, through a succession of transitive stages: first, a doorway sculptured only; then a magnificent vestibule (the Round), where rich colors begin to appear, but still subordinate to the architecture; and finally, of the chief portion of the chancel itself, revelling in the most intimate and happy union of painting and architecture, and only less rich and glorious than the last compartment of the columnar vista. The second of these methods is the one which has been adopted by the benchers; and if a *little* more color could be added to the Round—the large spaces of blank wall rendered a little less conspicuously blank—we think that method the best one.

The period of the erection of the Temple church was precisely that which offered the best opportunities for rich decoration. The crusaders, however little they liked the Saracens, were much smitten with their magnificence; and every ship that returned brought no doubt fresh importations of eastern taste, with probably materials of various kinds—as designs—to diffuse such taste in England, and possibly even oriental artists themselves. The spectator, therefore, who has just advanced into the church, and stands bewildered with the magical scene before him—all the old tales of childhood, with its fairy palaces and gardens of enchanted fruit, such as the "Arabian Nights" opened into his heart once and for ever, crowding upon him—need not be surprised at the eastern character of the arabesques, which in many a flowery maze play over all the compartments of the roof, and entwine about its groinings down to the very capitals of the pillars which support them. These last, four in number on each side, are, like the pillars of the Round, clustered, exceedingly elegant and stately-looking, and of a finely-veined dark (Purbeck) marble. A series of smaller clustered columns against the wall, and resting on the stone seat which extends along the base of the latter through the entire church, supports in a similar manner the roof of each aisle. The more conspicuous ornaments in the roof of the nave differ from those in the aisles: in the first



Interior of the Temple Church—The Chancel.

we see in alternate compartments the societies' emblems in small circles, the lamb on a red ground, and the horse on a blue; and in the second the two banners used by the Templars—one a flag, half white for their friends, and half black for their enemies, with the dreaded war-cry "Beauseant"—the other the Maltese-like cross: with these is interspersed a device used by them, copied from a seal belonging to the Temple now in the museum, representing the Christian cross triumphing over the Saracenic crescent.

These remarks apply with equal force to the painted windows, those at the east end, over and at each side of the altar, being one blaze of gorgeous hues, and the window in the centre of the south side being equally conspicuous for the general chasteness of its design and the intense richness of their few masses of color, which are confined to the figures of the angels playing ancient musical instruments, three in the central light, and one in each of the others. As to the chief of the eastern windows, the eye at first feels lost amidst what appear at some distance only a marvellous combination of the minutest possible pieces of glass of different hues; and, delighted with the harmony evolved from the combination, is content to be lost: but as we approach nearer, the whole resolves itself into a thousand beautiful designs; and at last we perceive standing out from the rest a long series of pictures illustrating all the more important acts and events in the life of Christ. Immediately beneath this window is the altar, where the arcade of small trefoil bended arches, and the fretted and canopied panels in the centre, the capitals of the pillars, and the elegantly sculptured heads, are all richly gilded, yet without producing any sense of gaudiness or tasteless profusion. In the centre panel is a large cross, with the letters I.H.C., and surrounded by small golden stars on a ground of the heavenly tincture. The altar-table is covered with a crimson-velvet cloth, sumptuously embroidered in gold. Everywhere, indeed, we meet with evidence of the untiring zeal and liberality which have directed all the recent operations. The very seats could furnish employment for an hour or two in the mere

examination of the oak carving so thickly strewed over them in the shape of heads, which are as remarkable for their variety as admirable for their expression, animals, flowers, fruit, and foliage. The designs are chiefly, if not entirely, from the casts in Mr. Cottenham's collection, taken by him from the original works in the chief cathedrals by means of what is technically called *squeezes*, that is, pressing with the hand a suitable plastic material—a kind of prepared clay—on the carving or sculpture to be copied, and which as it hardens becomes a mould for the cast.

On removing the organ from the central archway, it was found a difficult matter to decide upon a new and suitable position. At last a happy thought occurred to some one, which, after long discussion and consultation between the benchers, aided by the advice of some of the most eminent architects, led to its being placed immediately behind the central window of the north side, in a chamber erected for it; the window itself stripped of its glass, and having an additional slender marble shaft added in the place of each division wall between the three lights, forming a very handsome open screen to the brilliantly painted and gilded pipes behind, with their noble Gothic canopy. The organ has lately been reconstructed, in order to receive the best modern improvements: when we add that it was previously distinguished as one of the best instruments in England, our readers may judge of its quality now. It was built by the well-known Schmidt, who, when the societies, in the reign of Charles II., determined to erect one of the best organs that could be obtained, offered himself in rivalry with Harris to undertake the work. The makers were both so good and so popular, that the benchers, in despair of deciding satisfactorily to all parties, in that preliminary stage of the affair, made a very ingenious proposal that each should erect an organ in the Temple, and they would keep the best. This was done, and with such good success by both, that the benchers, unable to determine in favor of either, were at last obliged, in order to put an end to the contest, which excited the whole musical world in a most extraordinary degree, to confide the final judg-

ment to chief-justice Jefferies, who chose Schmidt's organ. The other was subsequently divided, and part erected at St. Andrew's, Holborn; the remainder found its way to Christ church cathedral, Dublin. The Temple choir consists of fourteen voices—six men and eight boys; full cathedral service is performed.

Beneath the organ-chamber is a low vestry-room, where, among other memorials, is the bust of Lord Thurlow, buried in the vaults of the church, and the tablet erected by the benchers to Goldsmith, who lies in the paved court adjoining to that part of the building which was till recently the burying-ground. These are to be removed to the triforium, or gallery surrounding the rotunda, where are all the monuments formerly in the different parts of the church, chiefly of the period of Elizabeth and James. Among them is that of Plowden, the eminent lawyer, who was buried here, as was also Selden.

On the side of the circular stairs, in the wall of the northern aisle, which leads to the triforium, is a small space hollowed out, not large enough for a man to lie down in at full length, with two slit holes as windows, overlooking respectively the two different portions of the church. This was the penitential hell of the Templars, and terrible have been the penances inflicted here, if we may judge of the record of one fact: "Walter le Bachelor, grand preceptor of Ireland, was placed here in irons by the master, till he died; the corpse was then taken out at daybreak, and buried between the church and the adjoining hall." Descending again into the church, and throwing one last lingering look around, we notice the painted figures over the three archways, which represent respectively, beginning on the left, Henry I., contemporary with the foundation of the order, with the black and white banner; Stephen with the cross, for which in his reign they exchanged the said device; Henry II., in whose reign the Round was built, as you see by the model in his hand; Richard I., with a sword, allusive to his exploits as the first of English monarchs who joined personally in the crusades; John; and lastly, Henry III., holding a model of the entire church, the chancel having been added in his reign—

an interesting series of historical portraits in connexion with the Knights Templars, but which, like the procession where Brutus's statue was not, suggests most by its necessary incompleteness. All are here that the Templars would have placed here: but not the less are we reminded of Edward I., and his pious visit to his mother's jewels in the Temple, which, by some peculiar mental process, ended in his carrying away ten thousand pounds from the Templar's coffers; or of Edward II., who, after long dallying between the desire to break up the order for the sake of its possessions, and the consciousness the monstrous wrong that desire involved, yielded to the temptations held out by the example of the king of France, and on the 8th of January, 1308, caused the Templars throughout England suddenly to be arrested and imprisoned; and though the excessive barbarities of the French government, where actually thirty-six out of one batch of one hundred and forty perished under the torture, were not imitated here—no bonfires lighted for such wholesale destruction, as the burning of fifties at a time—yet it appears torture was resorted to in England to make the unhappy Templars confess the odious, absurd, and all but impossible crimes which Philip of France, the guiding spirit of the movement throughout Europe, had determined should be fastened upon them. With the exception of a chaplain and two serving-men, the English members remained firm; and as Edward was not prepared to go the entire length of Philip, of killing them one way or another unless they did confess, a lucky discovery was made, which, to a certain extent, relieved all parties. The Templars had believed their master had the power of absolution: this it was now most carefully and dispassionately pointed out was a grievous heresy, as the master was a layman: did they wish to persevere in heresies? Oh, certainly not: the Templars were quite willing to abjure that as well as every other heresy. Great was the apparent joy of the church ministers who had the direction of the affair; one body after another publicly affirmed this declaration; and lo! the whole were reconciled to the Christian community. As to the charges on

which they had been arrested and tortured, and their possessions seized, it was marvellous to see the utter forgetfulness on all sides: not so, however, as to the goodly possessions themselves. The order was finally abolished in 1312, and the property in England directed to be transferred to the Hospitallers of St. John, to whom Edward did ultimately hand over some portion thereof, possibly about a twentieth. The site and building soon after fell into the hands of the students of law, whose successors have now, after a lapse of five centuries, shown so nobly their sense of the value of the building and the memories committed to their charge.

THE SURF AND THE BORE OF INDIA.

AMONG the geographical, or rather hydrographical features which distinguish the great continent of India, there are two of a very remarkable kind—the *surf* and the *bore*: the former presenting a formidable obstacle to the approach of ships toward the port of Madras, and the latter occurring near the mouths of the great Indian rivers, such as the Indus and the Ganges.

Madras is one of the most unfavorably situated cities which have ever risen to eminence; for such is the state of the sea near it, that no ships can approach the shore, and all communications between them and the city are maintained by boats and rafts, the crews of which go through no small amount of danger in the transit. The site of the city appears to have been determined on more by accident than design, or such a formidable obstacle to freedom of communication would not have escaped notice. In front of the city the surf rages in three distinct foamy ridges, which can only be passed safely by small vessels built expressly for the duty. These vessels are called *massoolahs*.

The massoolah is a light, large, and flat-bottomed boat, without ribs, keel, or other timber; the broad planks being sewed at the edges with “kyar,” or line made from the outer fibres of the cocoonut, and are filled in between the seams

with the same material. Iron is utterly excluded from the whole fabric. By this construction the massoolah is rendered lithe and buoyant enough to meet the violent shocks which it will have to encounter from the roaring surges; it yields to the percussion of the waters, so as, by diminishing the resistance, to be thrown up safely on the beach without breaking by the concussion. The management of these boats requires great dexterity and experience, the crews being bred from their infancy to the hazardous enterprise. The massoolahs are impelled by broad elliptical paddles; and the “tindál,” or master, chants a wild kind of song, to the cadence of which his “clashes,” or rowers, keep time, quickening or retarding the motion of the boat as may be necessary to evade or encounter the stroke of the surf. Thus they approach the European vessels, which are obliged to anchor at the back of the surf at a prescribed distance; and the passengers and ladies are then transferred from the larger vessel to the massoolah. They then return; and on entering the outer line of surf, which is said to appal every one who encounters it for the first time, the rowers simultaneously pause, and the song is suppressed; but the instant the surf has tumbled over, a loud shout bursts forth, and the most skilful and strenuous efforts are made to meet the next ridge of surf, toward which the massoolah is whirled with awful rapidity; and so on, till they reach the shore.

The massoolah is always attended by little rafts, called *catamarans*, to aid in rescuing the passengers and bearing them to the shore in the event of the massoolah being upset. In very rough weather the whole line of coast becomes terrific; the massoolahs can not venture out; and all intercourse with the shipping would then be stopped, except for the means afforded by the catamarans. This simple and singular contrivance consists of two or three logs of light wood lashed together, the outer ones being seven or eight feet long, by six or eight inches diameter, and the centre one rather longer. It is rounded off at one end, for the convenience of progression through the water, and is paddled by one or two men, who squat on their knees, in a position which appears to an English-

man a most uneasy one. The surface is flat, and is level with the water when the men are properly seated in the centre. The water is continually washing over them, and yet these men will remain thus for hours together. It is very common for them to be washed off the catamaran; but if they escape the sharks, which are looking out for prey, they regain their position by expert swimming. Drenched as they are with water, these men yet contrive to convey letters and despatches between the ships and the shore without getting them wetted: the papers are usually placed in their scull-caps, enveloped with a kind of turban, which, with a cloth round their middle, are the only articles of dress they require.

The catamaran-men often receive medals of distinction from the Indian government for having saved the lives of persons who have been upset from the massoolahs. The singularity in the nature of the surf which these men have to encounter is, that it is often most violent in calm weather; hence there frequently occurs sad destruction of shipping in the Madras roads. A recent writer, describing the Madras surf from personal observation, gives the following as one among many instances of the dangerous character of the spot for shipping: "On the 2d of May, 1811, Madras was visited by a storm of such fury as to create both destruction and sorrow. Before the commotion of the elements began, one hundred and twenty ships and vessels proudly rode at their anchors: in the morning all these either bilged or foundered, and were strewed in fragments along the shore. Fewer lives were sacrificed than could have been expected, considering the extent of the calamity, and that numbers of the vessels sunk at their anchors; but neither of the men-of-war lost a single man. It is, however, quite frightful to ponder on the extent to which our naval means would probably have been destroyed had this storm come on sooner. But ten days before, the expedition had sailed for Java, with a strong squadron of men-of-war, twelve Company's cruisers, and sixty transports, with twelve thousand soldiers on board, all of which must have been wrecked."

It is not yet clearly proved how this

formidable surf may be correctly accounted for. The probabilities are, that the formation of the coast near Madras, the narrowing of the bay of Bengal as it recedes toward the north, the flowing of the equatorial current against the coast, and the nature of the bottom, as to depth, shoals, etc., all exert their influence in the production of the surf; but, to what extent, future hydrographical researches must show.

Let us next pass on to notice the "bore," or rushing tide, at the mouths of some of the Indian rivers. This is a remarkable periodic phenomenon, depending in some way on the flow of the tide into an estuary not calculated to give sufficient space for the due reception of the waters. The Ganges, the Indus, and the bay of Cambay, are the parts of India where this remarkable rush of waters takes place. We will take the accounts of these bores from travellers who have visited the respective spots.

The Rev. Hobart Caunter, in one of the volumes of the "Oriental Annual," gives an account of the bore of the Ganges. It may be proper to premise that the Ganges enters the bay of Bengal by innumerable mouths, none of which are navigable for large ships except that branch called the Hooghly, on the banks of which the city of Calcutta is built. The Hooghly passes by Calcutta with a broad, deep, and tranquil current; but between the city and the sea there are numerous shoals and sandbanks. On this branch of the river occurs the bore, a violent flux of the water, which rushes up the stream at certain intervals with such extreme violence as to swamp everything within its influence. Its power is chiefly confined to the sides of the river, being scarcely felt in mid-channel, where the Indiamen generally lie at anchor.

This sudden influx of the tide commences at Hooghly Point, where the river first contracts its width, and is perceptible above Hooghly Town. So quick is its motion, that it hardly employs four hours in travelling from one to the other, although the distance is nearly seventy miles. It does not run on the Calcutta side, but along the opposite bank, whence it crosses at Chit-poor, about four miles above Fort William, and proceeds with great violence in its upward course. At Calcutta, it sometimes

occasions an instantaneous rise of five feet. So impetuous is the rush of the water, that if small vessels at anchor are not prepared to receive it, they must be infallibly upset. Ships at anchor, being generally in mid-channel, where its influence is little felt, escape with a few uneasy rolls. If, however, larger vessels are overtaken by it, the shock is prodigious, and at times serious mischief ensues, especially if they are struck on the broadside. By turning their prows toward the current, little or no injury is sustained. The bore rises commonly to the height of eighteen feet, and invariably produces a sensation of great terror near the shore, where small boats are always moored in considerable numbers; and much alarm is excited when one of the visits of this formidable enemy is expected, for the frequency of its occurrence has not by any means had the effect of calming apprehension.

In the river Brahmapootra, which enters the bay of Bengal not far from the eastern mouth of the Ganges, the bore is witnessed, of a similar character to the above. In the channels between the islands near the mouth of the river, the height of the bore is said to exceed twelve feet; and it is so terrific in its appearance, and so dangerous in its consequences, that no boat will venture to navigate there at spring-tide. It does not, however, ascend to so great a distance up the Brahmapootra as up the Ganges, probably on account of some peculiar conformation of the shores.

The late Sir Alexander Burnes, when speaking of the Indus, in the following terms described the bore often observed at that river: "The tides rise in the mouths of the Indus about nine feet, at full moon; and flow and ebb with great violence, particularly near the sea, where they flood and abandon the banks with equal and incredible velocity. It is dangerous to drop the anchor unless at low-water, as the channel is frequently obscured, and the vessel may be left dry." The description of the passage of Alexander's boats down the Indus, as given by Arrian, was the first intimation given of this rushing tide, and serves to corroborate other portions of the testimony.

In the gulf of Cambay there is a very remarkable bore, arising from the peculiar formation of the coast. It will be seen by

inspecting a map, that this gulf runs up between Bombay and the peninsula of Guzerat in the western coast of India; that it is very irregular in shape, that it runs deeply into the land, and that several rivers flow into it. Many shoals occur in different parts of the gulf, by which the flood of waters occasioned by the tides are divided into various channels or distinct currents; and up two of the principal of these currents the phenomenon of the bore is observed. Lieutenant Ethersey, of the Indian navy, communicated to the Geographical Society, a few years ago, an account of these two bores, and of an observation which he made in person on one of them. In February, 1835, in order to try the effect of the bore on a large-sized "bander-boat," and at the same time to ascertain the strength of the stream after the wave had passed, Lieutenant Ethersey anchored the boat at spring-tide half a mile to the northward of what was then the last cape on the western side of the gulf. Although the anchorage was in five fathoms, the boat grounded at low-water, and was left high and dry. A few hours afterward the noise of the bore was heard, when every precaution was immediately taken for the safety of the boat. The night was still and calm, and the roar of the rushing tide, as it approached, echoing among the neighboring hills, is described as having been truly awful. The bore struck the boat, lifted her, and threw her violently round on her bilge; in which position she was forced before it, broadside on, for the space of five minutes, the grapnel being of no use, for it was carried faster than the boat. So violently was the boat shaken, that her commander thought she would go to pieces. However, no accident happened; for, on getting to a hollow in the sand-bank, which was quickly filled, the boat righted. By subsequent experiments made with the log-line, it was found that the bore rushed up with a velocity of about ten "knots" an hour.

This phenomenon of the bore has been thus accounted for: From a comparison of those rivers of India which exhibit the bore, with those which do not, it seems necessary for the production of this effect that the rivers should fall into an estuary; that this estuary be subject to high tides,

and that it contract gradually; and lastly, that the river also narrow by degrees. The rise of the sea at spring-tides drives a great volume of water into the wide estuary, where it accumulates, not being able to flow off quick enough into the narrower part. The tide therefore enters with the greater force the narrower the estuary becomes; and when it reaches the mouth of the river, the swell has already obtained a considerable height above the descending stream, and rushes in like a torrent. It is as if water were entering into a funnel-shaped mouth which becomes too small to give it adequate room; and hence the same phenomenon may be exhibited in the gulf of Cambay as in the Indian rivers, if the form of the coasts be alike.

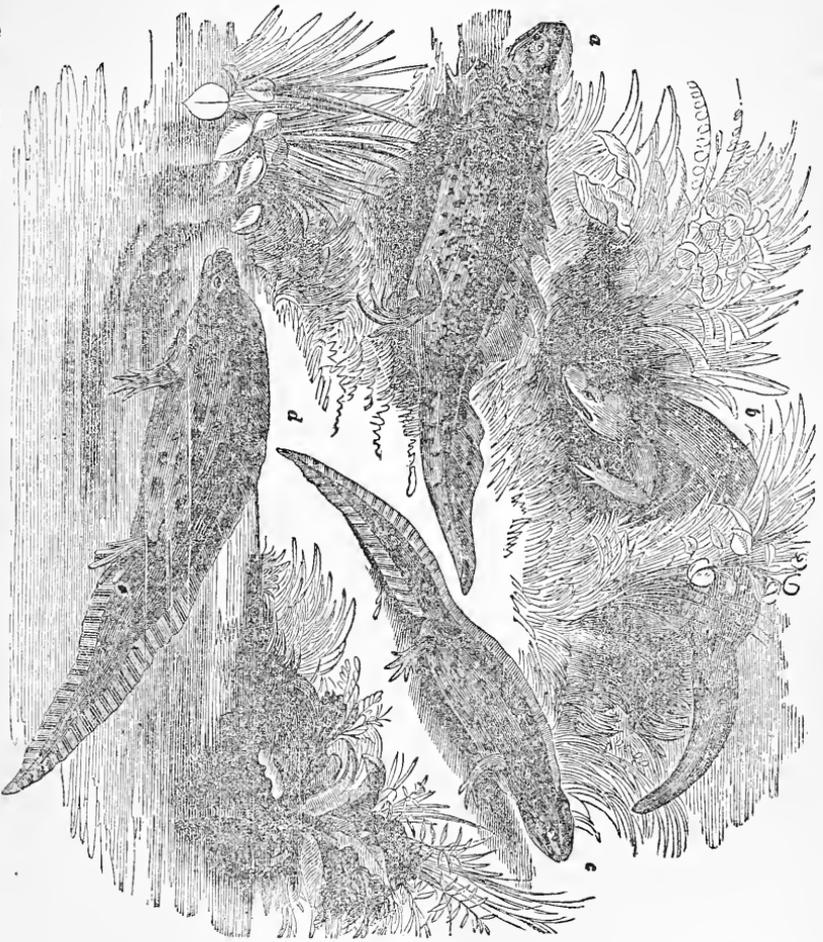
The bore is exhibited, to a greater or less extent, on the shores of Brazil, in the rivers Araquari and Meary; and in England, on a small scale, in the Severn, the Trent, the Wye, and the Solway frith.

THE WATER-NEWT, OR EFT.

IN some minds the creeping things of land or water produce feelings of disgust—or rather, many persons assume feelings of disgust at the sight of such creatures. Others (we hope they are but few) look with indifference upon all natural objects, unless such as immediately minister to their comfort, convenience, or vanity; they wonder at, perhaps despise, the man who stops on his walk to examine the web of the spider, the nest of the bird, or the underground galleries of the mole. The rapid actions of the full-eyed squirrel as he darts up the tall stem of the beech, the turmoil and bustle of the rookery, the cloudy flight of congregated starlings—all sight and sounds which to the lover of nature are of interest, they do not regard—they have no pleasure therein: much less, then, would such creatures as the water-newt attract their notice; creatures to which popular ignorance has attributed the most noxious properties, and which have nothing in their aspect or in the brilliancy of their coloring to recommend them. Yet, in truth, the history of

the water-newt is far from being uninteresting: it has indeed engaged the attention of some of the most philosophic investigators of nature, and involves some points of physiological importance. Of the water-newts (*Triton*, Laurenti, *Sal-amandra*, Ray), four species inhabit the ponds, ditches, and clear sluggish or standing waters of our island; of these the largest is the great water-newt (*Triton cristatus*), which is common in the neighborhood of London, and may be readily obtained or observed in months of spring and summer. The water-newts, lizard-like as they are in appearance, must not be confounded with the Lacertine group, with which Linnæus, overlooking their true characteristics, associated them, under the common generic title of *Lacerta*. All the true lizards have the skin covered with scales, and undergo no transformation after exclusion from the egg. The water-newts are, in fact, like the frog, amphibia, and belong to that section (*Caducibranchiate*) in which the gills, or branchiæ, with which the animals are at first furnished for aquatic respiration, become ultimately lost, and are replaced by true lungs adapted for a different medium. On its first exclusion from the egg, the minute tadpole of the newt has much the appearance of the tadpole of the frog; on the sides of the neck are to be seen the lobes of the branchiæ in a simple state, the anterior pair serving the purpose of holders, by which the animal attaches itself to objects in the water. In about three weeks on the average the anterior limbs have gained terminal and distinct feet, the branchial tufts have acquired a fringed character, the eyes have assumed a definite outline, and the holders have disappeared. The little creature now moves rapidly about, propelling itself through the water by the undulatory movements of its laterally-flattened tail. In a short time after this, the anterior limbs become more perfect, and the toes, four in number, are fully developed, the hind limbs begin to sprout, and the branchial tufts, three on each side, are much enlarged and finely plumed. In a short time the hind limbs, and feet with five toes, are completely formed, the body has attained its nearly perfect figure, and the

a, Common Water Newt, (*Triton cristatus*.) b, Common Smooth Newt, (*Lissotriton punctatus*.) c, Straight-lipped Water Newt, (*Triton bibronii*.) d, Palmated Smooth Newt, (*Lissotriton palmipes*.)



branchiæ have assumed a deeper color and finer texture. The lungs are now rapidly developing, a change in the routine of the circulation is gradually taking place, the branchiæ are becoming absorbed; toward the middle or close of autumn they disappear, and air, instead of water, becomes the medium of respiration. In the branchiæ of the tadpole of the newt, when the fore limbs are beginning to sprout, or have made some progress, the circulation of the blood, when viewed through a good microscope, is calculated to excite the greatest admiration. Their transparency is such as to permit the currents of globules rapidly coursing each other to be distinctly seen as they ascend the arteries and return by the veins to the aorta. A similar transformation takes place in the tadpole of the frog, with this addition, that the compressed tail shrinks as the branchiæ are in progress of obliteration, and is at last absorbed. In the tadpole condition of these animals the circulation of the blood resembles that of fishes. The heart consists of one auricle and one ventricle. The auricle receives the blood of the general system, and immediately transmits it to the ventricle, which is muscular; from this ventricle it is propelled through a system of branchial arteries, where it becomes decarbonized by the action of oxygen; from these arteries it passes into the branchial veins, which ultimately unite to form an aorta, without the intervention of a second ventricle. When the branchiæ are lost, the heart and circulation have assumed new characters; the heart then consists of a ventricle and two auricles, and by wonderful modifications the branchial becomes transformed into a pulmonic circulation. The right auricle receives the blood returned from the system, the left auricle the freshly oxygenated blood returned from the lungs; both these auricles transmit their contents into the ventricle, which thus receives exhausted and also rearterialized blood, the two fluids becoming more or less mixed together. Part of this mixed fluid is sent through the aorta to the system, part through the pulmonary arteries to undergo a still further degree of oxygenation in the lungs.

The great water-newt (*Triton cristatus*)

attains to the length of more than six inches, and is one of the most aquatic of its genus, residing almost constantly in the water: we have, however, several times captured it in meadows, especially in Cheshire (where it is termed asker), at the latter part of the summer: its bright orange-colored abdomen with distinct round spots of black, together with its size, prevent the possibility of confounding it with any other species, except perhaps the Triton palmipes, of which the under-surface is saffron-yellow, or, as Latreille states, white without spots. The great water-newt is active and voracious: it feeds during the spring and summer on the tadpole of the frog, and also upon the smaller species of newt, which it attacks and seizes with the utmost determination; it will also prey upon worms and insects, and may be taken by means of a hook baited with a small worm. It swims vigorously, lashing its compressed tail from side to side, the limbs being so disposed as to offer no resistance to the water: we have seen it, however, crawl slowly at the bottom of the water, as well as on land, where its movements are inert; its small feeble limbs are indeed ineffectual organs of locomotion. In this respect it differs very greatly from the common lizard (*Zootoca vivipara*), the actions of which are exceedingly prompt and rapid; but the scale-clad lizard uses not only its limbs, but its whole body and tail in a serpent-like manner in progression, and appears to glide through the tangled herbage. The newt, like the frog, hibernates; generally it lies in a torpid state during the winter in the mud at the bottom of ponds and ditches. Mr. Bell, however, states that he has found it hibernating under stones, and we ourselves on one occasion, early in the spring, saw several creeping out from under some large flags placed to support a bank by a roadside not far from the river Bollen in Cheshire. On taking up one by the tail, as we well remember, the tail, to our dismay, broke short off, and continued for some time to be rapidly agitated. The same we have seen take place when the common lizard has been seized in a similar manner. In the newt the tail is reproduced after such an accident, and, we believe, also in the lizard;

this is certainly the case in the geeros. On awaking from its lethargy in the spring, the male begins to assume a membranous dorsal and caudal crest, by which he is at once distinguished from the female. The dorsal crest, which extends along the whole length of the back down the spine, has its edge indented; but that along the tail has the edge even: with the completion of this crest the colors become brighter and more decided, and the animal is more lively and vigorous. At the latter end of April, and during the months of May and June, the female deposits her eggs, not, as in the case of the frog, in multitudes all agglutinated together in a gelatinous medium, but one by one, each in a distinct spot from the other. Resting on the leaf of some aquatic plant, she folds it by means of her two hinder feet, and in the duplication of the leaf thus made she deposits a single egg, gluing at the same time the folded parts together, thus concealing and protecting the enclosed deposit. This process was first described by Rusconi, and has since been minutely detailed by Mr. Bell, who has often observed the process. It is in this manner that egg after egg, at various intervals, is secured each in a separate leaf. Soon after their deposition, changes in the eggs begin to show themselves with an according development of the embryo, till its exclusion, when it passes gradually through the transmutations already detailed, till it acquires its permanent condition.

The membranous dorsal crest of the male continues till the autumn, when it is gradually absorbed, and quite lost during the period of hibernation; that of the tail is also greatly reduced, but not entirely, a trace of it still remaining.

In this species the upper lip is slightly pendulous; the teeth are numerous and minute; the head flattened, the body round, corrugated, and covered with minute tubercles. There are two patches of simple pores on each side of the head, and a line of similar pores running at distant intervals down each side. The upper parts of the body are dusky-black or yellowish-brown with darker round spots, the under parts orange with round spots of black; the sides are dotted with white;

the sides of the tail are to a greater or lesser extent of a silvery-white.

The common smooth newt (*Lissotriton punctatus*, Bell) differs considerably from the great water-newt in its habits. It is much more terrestrial, frequenting damp places, and is often found in cellars and underground vaults. Shaw indeed, in his "General Zoology," asserts that the common newt is altogether a terrestrial species, and contradicts the statement of Linnæus, that during its larva or tadpole condition it inhabits the water.

The common or smooth water-newt is found in all clear ponds and ditches or drainages; in the spring the males appear ornamented with a continuous membranous crest from the head down the back to the end of the tail. This crest they lose in the month of June or July, when both adults and young quit the water for the land, where they creep about, lodging in damp places, among the roots of trees, under stones, in crevices of the ground, &c. Early in the winter the crest of the male reappears, and is complete in the beginning of the spring, at which period he assumes a richer coloring. Aquatic insects and their larvæ, worms, and the tadpoles of the frog, constitute the food of this species, which in turn falls a prey to fishes, and to the great water-newt. The female deposits her eggs much in the same manner as already described, generally within a folded leaf, but not unfrequently at the junction of the leaf with the stalk. Mr. Bell states he has sometimes seen the females in the act of placing eggs not only singly, but by two, three, and four together.

The growth of the young is rapid, and they arrive nearly at their full size during the course of the first summer and autumn; but it would appear that the transformations are not concluded in the same space of time by all; for specimens are sometimes found which have not lost the branchiæ, and yet are far larger than other individuals in which the transformation is completed. Temperature, food, locality, and other circumstances may influence the slowness or rapidity of the change.

In this species, as proved by Spallanzani, not only the tail, but also portions of the limbs may be removed, the lost parts being in due time reproduced, bones, mus-

cles, nerves, blood-vessels, and all: nor this only once, but several times in succession. So tenacious, in fact, is the newt, that it has been frozen in a solid mass of ice, and survived the ordeal if the thawing process was slow. Yet tenacious of life as this and the other species certainly are, they die in the most violent convulsions when sprinkled with salt, and evidently suffer extreme agony. No one, we trust, will be so inhuman as to try the experiment.

In the common newt the skin is smooth; on the head there are two rows of pores; the crest of the male is not only much developed in the spring, but its margin is crenate, the lips of the crenations being often tinged with fine red, sometimes violet. The general color is yellowish or brownish gray above, bright orange below, and everywhere marked with dark spots, some rounded, some of an irregular figure. The female is yellowish-brown, with scattered spots, and without the rich orange of the under surface. The upper lip is quite straight. This species is three and a half or nearly four inches in total length.

Of the two other British species, one is the straight-lipped warty newt (*Triton Bibronii*, Bell), and the palmated newt (*Lissotriton palmipes*, Bell). The former (*T. Bibronii*) differs from the great water-newt (*T. cristatus*), in having the upper lip perfectly straight, and not overhanging the lower at its sides. The skin is also more rugose and strongly tuberculated, and the general color is darker. M. Bibron first detected the existence of this species in England, and pointed out the difference between it and the great water-newt, with which it had always been confounded; at the same time he regarded it as the *T. marmoratus* of Latreille, common on the continent. Mr. Bell, however, thinks it distinct, and consequently new to science. His opinion is founded on a close comparison of several individuals with specimens of Latreille's *T. marmoratus*, sent from Paris by M. Bibron for his examination. Its manners and habits are precisely those of the great water-newt, and it is perhaps equally abundant.

The palmated water-newt is also a common species, but has been by most natu-

ralists confounded with the common species, from which it differs in having the upper lip pendulous at the sides and the five toes of the hind feet fringed permanently with a short membrane. It is also of larger size, and the spots which cover the body both above and below are more numerous and smaller, and their outline is more distinctly defined; the head also is elegantly marked with brown longitudinal lines. Like the common species, however, it is liable to some variation of markings.

A SCENE ON THE HUDSON RIVER,

TWO CENTURIES AGO.

WILDNESS and savage majesty reigned on the borders of this mighty river. The hand of cultivation had not as yet laid low the dark forests, and tamed the features of the landscape; nor had the frequent sail of commerce yet broken in upon the profound and awful solitude of ages. Here and there might be seen a rude wigwam perched among the cliffs of the mountains, with its curling column of smoke mounting in the transparent atmosphere; but so loftily situated, that the whoopings of the savage children, gamboling on the margin of the dizzy heights, fell almost as faintly on the ear, as do the notes of the lark, when lost in the azure vault of heaven. Now and then, from the beetling brow of some rocky precipice, the wild deer would look timidly down upon the splendid pageant as it passed below; and then, tossing his branching antlers into the air, would bound away into the thickest of the forest.

Through such scenes did the stately vessel of Peter Stuyvesant pass. Now did they skirt the bases of the rocky heights of Jersey, which spring up like everlasting walls, reaching from the waves unto the heavens, and were fashioned, if tradition may be believed, in times long past, by the mighty spirit Manetho, to protect his favorite abodes from the unhallowed eyes of mortals. Now did they career it gayly across the vast ex-

panses of Tappan bay, whose wide extended shores present a vast variety of delectable scenery—here the bold promontory, crowned with embowering trees, advancing into the bay—there the long woodland slope, sweeping up from the shore in rich luxuriance, and terminating in the upland precipice—while at a distance a long line of rocky heights threw gigantic shades across the water. Now would they pass where some modest little interval, opening among these stupendous scenes, yet retreating as it were for protection into the embraces of the neighboring mountains, displayed a rural paradise, fraught with sweet and pastoral beauties; the velvet-tufted lawn, the bushy copse, the tinkling rivulet, stealing through the fresh and vivid verdure, on whose banks were situated some little Indian village, or peradventure, the rude cabin of some solitary hunter.

The different periods of the revolving day seemed each with cunning magic to diffuse a different charm over the scene. Now would the jovial sun break gloriously from the east, blazing from the summits of the eastern hills, and sparkling the landscape with a thousand dewy gems; while along the borders of the river were seen heavy masses of mist, which, like catiffs disturbed at his approach, made a sluggish retreat, rolling in sullen reluctance up the mountains. At such times all was brightness, and life, and gayety; the atmosphere seemed of an indescribable pureness and transparency—the birds broke forth in wanton madrigals, and the freshening breezes wafted the vessel merrily on her course. But when the sun sunk amid a flood of glory in the west, mantling the heavens and the earth with a thousand gorgeous dyes, then all was calm, and silent, and magnificent. The late swelling sail hung lifeless against the mast—the simple seamen with folded arms leaned against the shrouds, lost in that involuntary musing which the sober grandeur of nature commands in the rudest of her children. The vast bosom of the Hudson was like an unruffled mirror, reflecting the golden splendor of the heavens, excepting that now and then a bark canoe would steal across its surface, filled with painted savages, whose gay feathers glared bright-

ly, as perchance a lingering ray of the setting sun gleamed on them from the western mountains.

But when the hour of twilight spread its magic mists around, then did the face of nature assume a thousand fugitive charms, which, to the worthy heart that seeks enjoyment in the glorious works of its Maker, are inexpressibly captivating. The mellow, dubious light that prevailed, just serve to tinge with illusive colors the softened features of the scenery. The deceived but delighted eye sought vainly to discern in the broad masses of shade the separating line between land and water, or to distinguish the fading objects that seemed sinking into chaos. Now did the busy fancy supply the febleness of vision, producing with insidious craft a fairy creation of her own. Under her plastic wand the barren rocks frowned upon the watery waste, in the semblance of lofty towers and high-embattled castles—trees assumed the direful forms of mighty giants, and the inaccessible summits of the mountains seemed peopled with a thousand shadowy beings.

Now broke forth from the shores the notes of an innumerable variety of insects, who filled the air with a strange but not inharmonious concert; while ever and anon was heard the melancholy plaint of the whip-poor-will, who, perched on some lone tree, wearied the ear of night with its incessant meanings. The mind, soothed into a hallowed melancholy by the solemn mystery of the scene, listened with pensive stillness to catch and distinguish each sound that vaguely echoed from the shore—now and then startled perchance by the whoop of some straggling savage, or the dreary howl of some catiff wolf stealing forth upon his nightly prowlings.

HINTS FOR PRESERVING HEALTH.

1. **HABITUAL** cheerfulness and composure of mind, arising from peace of conscience, constant reliance on the goodness of God, and the exercise of kindly feelings toward men. Peace of mind is as essential to health as it is to happiness.

2. Strict control over the appetites and passions, with a fixed abhorrence of all excess, and all unlawful gratifications whatsoever. He that would enjoy good health must be "temperate in all things," and habitually exercise the most rigid self-government; for every sort of vicious indulgence is highly injurious to health; first, *directly*, in its immediate effects on the body; and, next, *indirectly*, in the perpetual dissatisfaction and anxiety of mind which it invariably occasions.

3. Early rising; and in order to this, take no supper, or if any, a very slight one, and go early to bed. *The hour before bed-time* should be spent in agreeable relaxation, or in such exercises only as tend to compose the mind and promote inward peace and cheerfulness.

4. Simplicity, moderation, and regularity, with respect to diet. A judicious selection of the articles of food, the careful avoiding of unwholesome dainties, and whatever has proved hurtful to the constitution: The quantity of food should be proportioned to the amount of exercise a person undergoes. Sedentary people should be rather abstemious; their food should be nutritious, easy of digestion, and moderate in quantity. Seldom eat anything between meals.

5. To abstain from the use of wine and other stimulants. They may sometimes be employed to advantage in cases of extreme debility or extraordinary labor; but, under any circumstances, if too freely or too frequently indulged in, they will most certainly impair your health and shorten your life.

6. Eat very slowly, with a view to the thorough mastication of your food: rather forego a meal, or take but half the needful quantity, than eat too fast.

7. Refrain from both mental and bodily exertion for a short time after the principal meal. If immediate exertion be required, only a slight repast should be taken instead of the usual meal. Never eat a full meal when the body is heated or much fatigued with exercise. Wait till you are somewhat refreshed by a short interval of repose.

8. Occasional abstinence. Whenever the system is feeble or disordered, diminish the quantity of your food, and allow

yourself more time for exercise. In cases of slight indisposition, a partial or a total fast will often be found the best restorative.

9. Take no physic unless it be absolutely necessary. Learn, if possible, how to keep well without it. In case of real indisposition, consult a competent medical adviser without delay, and implicitly attend to his directions, so far as you think he is fully acquainted with your constitution, and with the best means of treating your disorder. Never risk your health and life either by neglecting serious illness or by tampering with quack remedies.

10. Gentle exercise should be taken regularly two hours a day at least; and it must never be forgotten that cheerfulness is an essential ingredient in all beneficial exercise. Mental relaxation in agreeable society, too, should be sought as often as due attention to business and other important affairs will permit.

CLIMATES.

EVERY one knows that the temperature in different places on the surface of the globe is not only not the same, but also that there is a most remarkable contrast between those which are situated at various distances from the equator. For the convenience of general observation and discourse, the superficies of the earth has been divided into five zones. That part which lies between the tropics, and receives the almost direct rays of the sun, is called the torrid zone: those parts which surround the north and south poles of the earth, and are confined by the polar circle, are denominated the frigid zones; and those spaces between the tropics and polar circles are called the temperate zones. This division gives to the reader a general idea of the temperature of the earth's surface, and yet places, situated within the same zone, are known to have almost every variety of climate. The first thing to be considered, in reference to climate, is the situation of the place in regard to the solar rays, the length of the day, and the amount of heat it receives; but this is

not the only subject of inquiry, for there are many local causes which regulate the temperature; such as its elevation above, and position in regard to the sea, the prevailing winds, the proximity to forests, the nature of the soil, and many other circumstances. All these must be carefully taken into consideration, when we attempt to account for the climate of any place.

The climate is greatly influenced by the elevation of a place above the level of the sea. On the summits of mountains the cold is intense, although, on the plains below them, the heat may be oppressive. The highest mountains on the surface of the globe are perpetually covered with ice and snow; and, as we ascend, so the cold increases. It must therefore follow, that the temperature of any place on the earth's surface varies with the height above the surface. To give the reader some idea of the influence of elevation upon the temperature of a place, we will present him with an extract from an account, written by a friend, of a visit to the glaciers of Mont Blanc, and of that especially which is denominated the Mer de Glace:—

“At the sight of so many delicious spots, which we thus looked upon by turns, as the clouds came upward in fragments, the sense of numbness, which we felt from the thorough drenching we had received, and the increasing chilliness of the air, on an unusually cold day, and all the other many inconveniences of the journey, took their leave; and, wretchedly uncomfortable as we were, I believe that neither of us would have objected to have remained till night-fall fixed to the spot in perfect ravishment of the enchanting vision.

“Two pathways branch from the neighborhood of this ravine to the summit of the mountain. The one is very steep and rough, the other much longer, but easier to climb: but, in pursuing this, you have to descend a little down the edge of the escarpment, which much retards your arrival. However, the magnificent prospects, unfolded at every step of the deep valley below, amply compensate any extra trouble.

“The end of our journey was at hand when we left the shade of the trees that had hitherto, in some manner, sheltered

us, and came upon the bleak and dismal wilderness at the foot of the Aiguilles de Chamouny.

“But, desolate as is this spot, it is one of the most interesting in Europe. Hitherto we had a continual view of the lovely paradise beneath: but now all was changed. Instead of looking down upon ‘the valley smiling far below,’ in all the pride of a luxurious vegetation, we had to contemplate a prospect as astonishing as grand.

“The Mer de Glace, in all its wonderful and chilling grandeur, was before us. Behind arose the Aiguille de Chamouny, black and awful; while, in front, looking over a sea of solid ice, which seemed to have been just frozen in the storms, at a distance, the eye rested on the superb red obelisk of granite, called Aiguille de Dru, the most extraordinary and singular of mountains. The clouds for a few seconds cleared away, and left us to enjoy the majestic spectacle which that lordly pinnacle affords. Six thousand three hundred and sixty-two feet above the level of the spot on which we stood, is its computed height. The massive blocks of which it is composed, when viewed through a good telescope, have all the apparent regularity of a gigantic masonry, while their sides appear as if they had been polished by the friction of the hands which piled them there.

“There is no single mountain throughout Switzerland or Savoie, or perhaps in Europe, which can at all compare with this vast mountain of the creative power.

“At its feet are seen green pastures, which the shepherds use in the four months of summer, called ‘le place de l’Aiguille de Dru,’ where Saussure tells us that he visited a miserable being who had taken up his lodging in that homeless and voiceless solitude. The Aiguille de Dru is perfectly inaccessible: it defies the presumptuous foot of man

“Standing on the edge of the descent, the eye wanders over an extensive field of ice and snow, covered with huge blocks of stone, which have been brought down by avalanches from the mountains above. But it is not a plain surface which meets the vision. Very justly is the glacier called ‘le Mer de Glace,’ for, instead of

the level smoothness of a frozen lake reflecting the hills around and the heavens above, in its crystalline face, you are surprised by the appearance of a scene which represents the billows of a stormy sea, frozen, as it were almost instantaneously, in all the variety of their forms, into a solid mass. Still it seems more like the sea, just when the wind has ceased, than when it is raging in its violence.

"The Mer de Glace is here about half a league in width, but the eye does not, apparently, embrace a quarter of this distance, in consequence of the proportion being much diminished by the stupendous height of the surrounding mountains. We rested a few minutes by the side of a large granite boulder called 'La Pierre des Anglois,' which stands by the edge of the glacier. It was the stone which served for a dining-table to Messrs. Pockock and Windham, the discoverers of the valley of Chamouny, when they paid their first visit to the glaciers. From this stone we surveyed, with much astonishment, the extraordinary appearance of the ice before our first essay upon it, and from what I then observed, I am convinced that no one can form an accurate idea of what the glaciers are, without examining them by a walk across them. No sooner had we left the edge than we became doubly assured of this fact; for instead of what from the height above appeared merely waves of ice, we found was the whole glacier broken into enormous masses, which rose so far above the surface as actually to have the appearance of mountains. These waves chiefly turn longitudinally along the glacier, while they are intercepted by deep cracks called 'les crevasses,' which sometimes are more than one hundred feet in depth, the elevations varying between that and sixty feet.

"The cause of these elevations and cracks is the increase and progress of the glaciers; nothing seems now better established than the gradual progress of the ice of the glaciers from the height to the valleys. Experiments made at Chamouny, and elsewhere in the Alps, show this. The glacier of which I am speaking, has an annual progress of about fourteen feet, while in the Grindelwald, the ice advances about twenty-five feet per annum.

"By this means, the masses of rock which are cast down from the mountains are gradually advanced to the plains below; and thus, a heap of stones, amounting in many cases to a perfect mountain in size, is always forming at the end of the glacier, which heap is also called *Moiame* in Savoie; in the Swiss Alps, *Granda* and *Grandechen*; and in the Tyrol, *Trochne Merven*. These *Moiames* are highly valuable to the geologist, they afford him specimens from heights which are wholly inaccessible, and they are of such magnitude as to afford him every facility of inquiring as to the stratification and character.

"This progress of the ice accounts for the mountainous character of its surface; for, in consequence of its passing along the bottom of the valley in which it lies, the nature of the bottom of the valley causes it to crack and to be forced upward in places where it could not otherwise proceed. When the inclination of the descent is little and the bottom level, the surface of the glacier is also level, and has few elevations or cracks; but when the descent has more than thirty or forty feet of inclination, the blocks of ice press each other, force themselves out of their former position, and become gradually piled up into the most fantastic forms, sometimes resembling pillars, sometimes castellated rocks, now a church steeple, then an isolated mountain—but viewed in the mass, presenting a scene whose similitude is that of a storm-disturbed ocean.

"The contraction of the passage between the bounding heights has much to do with the increase of these elevations, and also it is to be observed that the middle of the glacier generally presents the greatest inequalities, showing the truth of this suggestion."

This account of the glaciers of Mont Blanc will be interesting to the reader, not only as giving a proof of the decrease of temperature with the increase of the elevation, but also as a description of a most important natural appearance. But we must proceed to mention very briefly, some other causes which may influence the temperature of a place.

It has been commonly observed that the temperature is higher and more equable

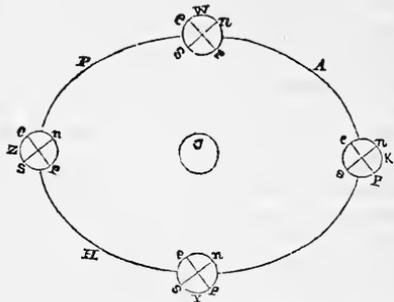
on the seacoast than in inland districts. This accounts for the fact, that Bergen, with a latitude of 60° , has a higher temperature than the centre of Germany with a latitude of 50° . The presence of forests increases the amount of humidity, a fact which has been proved in the Cape Verd islands; for since the destruction of the woods, the springs and streams have been dried up. The quality of the soil has also an influence upon the climate; a sandy soil gives aridity to the atmosphere, as we may observe in Arabia, and clay increases its humidity. "Mountains strengthen or impede according to relative situation, the effect of the sunbeams and winds. The severe cold of Siberia is in a great measure attributable to the position of mountains, which, lying southward, expose it to the north winds, while they check the southern breezes."

SEASONS.

THERE is another circumstance to be considered with reference to the temperature of a place, altogether distinct from climate, for not only have different places different temperatures, but also the same place. These changes in temperature are called the seasons, distinguished as spring, summer, autumn, and winter. The temperature must at all times, as already stated, depend mainly on the length of the day, for during the time that the sun is above the horizon of any place, it must be receiving heat; and during the period it is beneath the horizon, it must be radiating the heat it has received. Hence, it follows, that, as the days are at but few places equal, there must be a difference of temperature at the several periods or seasons of the year. When the days are longest it is summer, when shortest it is winter, and the intermediate periods are spring and autumn; all therefore that it is necessary for us to do for the purpose of explaining the seasons, is to show why the days are longer at one period of the year than at another, which may be accomplished by reference to the following diagram.

The earth on which we dwell has been proved by astronomers to be a spherical body, a member of a system of bodies which revolve round the sun as a centre.

The orbit in which it moves is an ellipse, but still deviates but little from a circle. The period which the earth takes to perform its revolution round the sun we call a year. But it has also a revolution on the axis, which is completed in about twenty-four hours, and is called a day.



Let the curve P A T H represent the orbit of the earth, in which the figure of the earth is placed in four different places; *n* and *s* being respectively the north and south poles, and the line connecting these points an imaginary axis upon which it revolves; *eq* is the equator. Now it will be observed that although the earth is represented in four different positions, the direction of the axis does not change, for it is always parallel to itself in whatever part of the orbit it may be. Let us then consider the relation of any part of the earth's surface, say for instance the north pole, to the central body *c*, which represents the sun. When the earth is at *w*, the north pole represented as the point *n*, is evidently deprived entirely of the rays of the sun, and consequently there must be a continued darkness without a single glimmer of a ray from the great source of light and heat. Can we therefore wonder that when the earth is in this position, and the radiation of heat from the surface is going on continually without the slightest addition, that the cold should be intense, and that frost and ice should have an uncontrolled dominion, closing up all the avenues of life and activity? Consider the earth now in the position *x*, and it will be at once perceived that a slight glimmering of light may be observed as it revolves on its axis, but the day short, as it must be, will relieve slightly the rigor of the season, and the sun will be seen

for a short period above the horizon, although never reaching the summit of the heavens. From this point, however, which represents spring, the day will be increasing in length, and the sun will continue to rise higher and higher in the celestial arch. But now we may imagine it to have reached the point *y*, and here it is in opposition to the place which represents the depth of winter, and the north pole has consequently an unintermitted summer—the sun never sets, but still its rays are feeble—vegetation, if it can survive the rigor of the winter, shoots forth with an extraordinary vigor, and arrives at a premature perfection—animal life, if such can bear the excessive torpor induced by the cold, revives, and feels a more than wonted energy; but the hour of existence is soon past, and the autumn, with increasing cold, approaches. When the earth has arrived at the point *z*, the days and the nights are again equal, although the cold will then be intense and painful, and from the moment that the sun has passed the equinox, the temperature will fall rapidly, and all nature will be again wrapt in the deep sleep or apparent death of a rayless winter.

Such are the successions of the seasons in an extreme point of the earth's surface; and it would be easy to trace the effects of the same causes upon the equatorial regions, or upon any intermediate places; but the facts which have been stated will enable the reader to do this without our assistance.

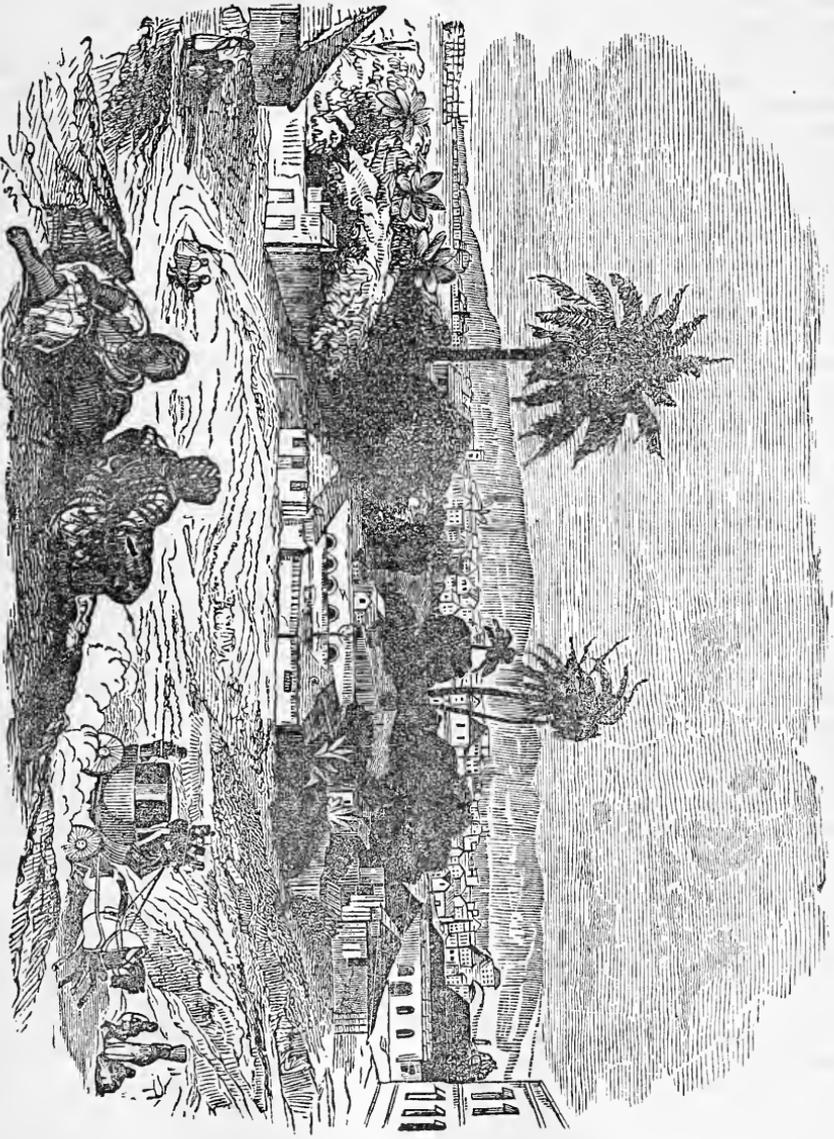
BRIDGETOWN, BARBADOES.

BARBADOES is the most considerable of the Caribbee islands, and was one of the earliest occupied by emigrants from England. It is twenty-one miles in length, and fourteen in breadth, nearly every acre being in a state of cultivation, though the soil is by no means rich, nor of a uniform character, in some places being scanty and slight, in others wet and swampy, dry, coarse, or clayey. There are many wells of good water in the island, besides two rivers and several reservoirs for rain; the

latter, however, are not so well supplied as the inhabitants would wish; and this is supposed to be owing in a great measure to the absence of trees—those which formerly covered the island having been cut down by the planters and superseded by the sugar-cane. The climate, though warm, is as temperate as that of any other place within the tropics, the thermometer ranging from 72° to 88° Fahrenheit, and is deemed healthy for those accustomed to it, as well as for those Europeans who are cautious and regular in their habits on their first arrival. Owing to the deficiency in tall trees and thickly-wooded uplands, the country being flat, Barbadoes does not present so attractive an appearance from the sea as others of the Caribbees; but the coast is sufficiently picturesque to appear delightful to voyagers who have been thirty or forty days at sea. The approach to land after a sea voyage, during which nothing but the monotony of sky and water has claimed the wanderer's attention, is one of the most pleasing of sensations; every little indication of the expected haven—the visits of native birds, the floating plants and weeds, the fragrance of the air (perceived long before the land)—is hailed with delight; and when at last the dark line on the horizon denoting its proximity is beheld, it is welcomed as one of the dearest objects in existence.

As vessels near the harbor of Bridgetown, the capital of Barbadoes, they are visited by canoes and boats laden with milk, yams, plantains, pomegranates, pineapples, and other island luxuries, which may be purchased at a low price, three cents being the charge for a juicy pineapple. The harbor is generally very lively, full of vessels, and echoing to the voices of the native watermen, conducting boats laden with sugar to the ships. These ships receive the produce of the whole country at Bridgetown, small sloops or schooners, called droghers, being employed to carry the sugar from the different parts of the coast to this harbor.

The town, as seen from the bay, appears of considerable extent, as it stretches along the shore for a distance of more than two miles, but the houses do not extend backward further than half a mile.



View of Bridgetown, Barbadoes.

Even these limits show it to be what we should call a large town; and the clusters of palm and cocoa-nut trees, which are seen here and there rising among the houses, give it a very pretty and interesting appearance. The surrounding country, however, though agreeable, is deficient in those gently sloping hills or mountainous elevations which form so desirable a background to a scene viewed from the sea.

The general rendezvous for all the stores of the island, Bridgetown maintains the first rank among the towns of Barbadoes. The streets are clean and neat; the roads are good, and covered with a soft white sand; and the houses pretty and comfortable, though they pretend not to any elegance or architectural beauties. Most of the houses consist of but one floor, and that on the ground; but some have rooms above these, and a few are two stories in height. Generally speaking they are built of wood, supported by pillars of brick or stone, and have, commonly, covered balconies in front. The houses principally consist of shops or stores, where, as in most West Indian towns, the merchants do not confine themselves to the sale of one particular article, but trade in everything, so that they may be said to be in opposition to one another.

There is a lower class of stores occupied by hucksters; persons for the most part black or mulatto, who gain their livelihood by purchasing goods in small quantities from the merchants, and retailing them to the negroes in still smaller portions, for which they charge in a higher degree, though the sums are not so large; and by this means they make proportionately a greater profit, or a greater per-centage than the higher class of store-keepers.

Business is suspended at an early hour in Bridgetown, the stores being generally closed by four or five in the evening, after which time the Barbadians indulge in festive entertainments, or in a quiet walk by moonlight.

The blacks, however, and indeed many of the white inhabitants, have some curious ideas respecting the unhealthy or mischievous effects of the moon's rays, and while they promenade in the open air car-

ry umbrellas and parasols to shield them from its light. If a moonlight walk has any pernicious influence on the health or spirits, it is probably owing to the very heavy dews which fall at night in this climate.

In the daytime, the Barbadians drive about in a horse and gig, one of which almost every one possesses, though four-wheeled carriages are uncommon: in these the ladies go shopping or paying visits, the vehicle being generally driven by a black servant, but sometimes it is conducted by the owner, when the servant hangs on behind in an inconvenient manner. No one thinks of going out either in his gig or on horseback without being attended by a boy, who, when the latter method is chosen, has to run by the side of the horse, occasionally assisting himself, when the pace is swift, by holding by the tail.

The government offices, and other public buildings, as well as the residences of the principal inhabitants or official personages, are much superior in taste and elegance to the generality of the buildings, and the interiors are commodious and well furnished. There is a public library, well stocked, but not with many useful books; commercial rooms, well conducted, and several good hotels for the reception of new-comers, where, however, good prices must be given for good accommodation, which, by such means, may be easily procured. There are several places of public worship in the town, some of which are of considerable architectural elegance.

Education is not in a very flourishing condition in Barbadoes; but Bridgetown contains several schools for the gratuitous instruction of the poorer classes, the expenses of which are defrayed by the government, and the arrangements superintended by the bishop. There is also, about twelve miles from the town, a college, founded at the commencement of the last century by General Codrington, for general education in the liberal arts, and for the propagation of moral and religious instruction among the slaves.

Honor yourself and you will be honored by others.

THE FIRST BOOKS.

AMONG the Greeks the earliest books were in verse, which has everywhere been prior to prose. The oldest book extant in prose is Herodotus's history. The most ancient printed book with a date is a psalter—the truly beautiful *Psalterium Codex*—printed in 1547, at Mentz (that is, Mayence, on the Rhine)—not at Metz, as sometimes stated, which is situated in the ancient province of Lorraine. Caxton printed Raoul le Fevre's *Recueil des Histories de Troyes* (without printer's name, place, or date), which, there is every reason to conclude, was the first book ever printed in the French language. Mr. Hallam states that the earliest works printed in France bear the date 1470 and 1471, while there is little doubt that Caxton's impression of the *Recueil* was printed during the life of the duke of Burgundy, to whom its author was chaplain, and, therefore, in or before 1467. Caxton commenced a translation at Bruges in 1468, and finished it at Cologne in 1471; this was the first book printed in English. In a little book entitled Francis Adams's *Writing Tables with Sundry Necessary Rules* (1594), we read that "Printing was found out at Mentz in 1459, and was first brought to London by William Caxton, mercer."

The first book printed in England is said to have emanated from Oxford in 1468, under the title of *Expositio Sancti Jeronimi in Simbolo Apostolorum*. Its claims to be regarded in this light have, however, been much discussed; others are of opinion that the first work printed in England was *The Game and Playe of Chesse, translated out of the French, and imprinted by William Caxton. Fynysshed the last day of Marche, A. D. 1474*. It is certainly the first book to which Caxton has affixed a date, and is consequently highly prized by book collectors. Trevisa's translation of Glanville treatise *De Proprietatibus Rerum*, printed by Wynkin de Worde in 1507, is the first book printed on paper made in England. The first book containing English woodcuts is Caxton's *Mirror of the World* (1481), a folio volume exceedingly rare and valuable. Sir John Harrington's trans-

lation of *Orlando Furioso* (1590) is the first English work containing copper-plates. The first collection of English maps is Saxton's folio volume consisting of thirty-five maps and an illuminated portrait of Queen Elizabeth, published in London 1579. Hearne says he "often consulted Saxton's maps, and found them of great advantage." The first county history published in England is Lambarde's *Perambulation of Kent* (1576). The first printed volume containing English verses is John Watton, or Wotton's *Speculum Christiani*, printed at London by William Machlinia, and now exceedingly rare, a copy of it being valued at from fifteen to thirty guineas. Surrey's translations of the second and fourth books of the *Æneid* are universally allowed to be the earliest English specimens of that noblest of all metres, blank verse. The first book published on the subject of genealogy was Kelson's *Chronycle*, printed in 1547, with a genealogy of Edward VI. *Ferrex and Porrex*, written by Sackville, who died in 1608, is the first regular English tragedy. The first English Bible was published by Miles Coverdale, who died in 1568. *The Almanac for Twenty-five Years*, printed in 1577, is the first almanac ever published. The first London bookseller's catalogue is that of Andrew Maunsell, who published in folio *The First Part of the Catalogue of English Printed Bookes* (London, 1595); though we have seen the priority ascribed to Robert Scott's *Catalogus Librorum ex Variis Europe partibus advectorum* (1674). The first printed notice of Shakspeare by name occurs in a work entitled *Polimanteia*, or the Means to Judge of the Fall of a Commonwealth, whereunto is annexed a letter from England to her three Daughters, Cambridge, Oxford, Inns of Court, by W. C. (Cambridge, 1594). Mr. Clerk, a landsman, was the first who reduced naval tactics to a systematic form, and his excellent treatise was a great favorite with Nelson. The first English book upon navigation was published in 1626, and entitled *An Accidence, or Pathway to Experience, Necessary for all Young Seamen, or those that are desirous of going to Sea: by Captain John Smith, sometime Governor of Virginia, and Admiral of New England*. The author says in his

dedication, "I have been persuaded to print this discourse, being a subject I never see writ before."

One Roberts was the first systematic writer upon *trade* in the English language, and in his treatise upon the subject, entitled *The Merchant's Mapp of Commerce* (1638), to which his portrait is attached, gained him great reputation. The first book on *surveying*, published in England, is Sir Richard de Benese's *Boke of Measuring of Lande, as well of Woodland as Plowland, and Pasture in the Field; to Compt the true Nombre of Acres of the same* (1560). To be sure there is a *Boke of Surveying* printed earlier—about 1540—but it relates only to agriculture. Robert Record, who died in 1558 in the King's Bench prison, where he was confined for debt, was the first person who wrote on arithmetic in English (that is, anything of a higher caste than the works mentioned by Tonstall); also the first who wrote on geometry in English; the first who introduced algebra into England; the first who wrote on astronomy and the doctrine of the sphere in English; and finally, the first Englishman (in all probability) who adopted the system of Copernicus. The very rare and valuable work by Apicius Cælius, entitled *De Arte Coquinaria, Libri X*, published at Mediolani in 1498, is the first printed treatise on cookery, and is an exceedingly curious book, throwing much light on the feasts of the ancients. But in beauty it is surpassed by the great Italian receipt book, entitled *Ricettario Fiorentino* (1574), a folio volume, wherein the culinary art is handed to posterity in splendid print, enriched with woodcuts and an engraved title-page. Bernard Breydenbach's *Sanctarum Peregrinationum in Montem Syon* (Mayence, 1486) is perhaps the first book of *travels* ever published, and contains very remarkable illustrations; among others, a view of Venice more than five feet in length, and a map of the Holy Land more than three.

NATURAL APPEARANCES ON WATER.

THE total superficies of the earth is estimated at about two hundred millions

British miles, of which about seven tenths is occupied by water. A person who was informed of this for the first time would probably ask—for what purpose is so large a space appropriated to that which in our estimation merely serves to separate distant countries and render the communication between distant places more difficult? To this question we reply that a less surface of water would not be sufficient for the refreshing of nature, and that from all the calculations that have been made, it appears to be a most wise and beneficent provision for the sustenance of the present condition of existence. It is true that the ocean is to man, considered without reference to the earth on which he dwells, of small importance, but as he is dependant on the productions of the earth for his subsistence, it is to him a conservative principle, for without the moisture it yields, the most productive soil would become a wild and arid waste.

It is not unworthy of remark that the bed of the ocean is but a continuation of the surface of the land. Many persons, we believe, consider it a uniform basin in which the mass of waters are contained, but a slight reflection will be sufficient to convince any one that it must have its mountains and valleys like the earth itself. There are spots where a bottom can not be obtained with the longest available line; these are, probably, the valleys: there are others where the land rises above the surface, and frequently to great elevations; these are its mountains. Captain Scoresby sunk a heavy line in the Greenland sea, to the depth of four thousand seven hundred feet, without finding a bottom.

Upon the sea there are many phenomena worthy of observation, one or two of which we will mention, beginning with that of its *phosphorescence*. This most singular appearance has been observed and described by many voyagers, and as it not only exhibits different characters, but is seen under different circumstances, it is supposed to be produced by distinct causes. Sometimes it is observed in the wake of a vessel when the wind is blowing fresh, or covering the surface of the ocean when the storm is raging, and is then supposed to be produced by the elec-

tric fluid. It is also observed in hot weather, during a calm, and is not confined to the surface, but the water appears to be luminous for some depth: this variety of phosphorescence is imagined to arise from the presence of putrid animal matter. Under nearly the same circumstances a phosphorescent appearance is produced by animalculæ, as some naturalists suppose, but this is doubted and denied by others.

The presence of *ice* and *icebergs* in the ocean is another curious fact worthy of notice. "To congeal sea-water of the ordinary saltness," says the late Professor Leslie, "or containing nearly one thirtieth part of its weight of saline matter, requires not an extreme cold; this process taking effect upon the 27th degree of Fahrenheit's scale, or only five degrees below the freezing point of fresh water, within the arctic circle: therefore, the surface of the ocean being never much warmer, is, in the decline of the summer, soon cooled down to the limit at which congelation commences. About the end of July, or the beginning of August, a sheet of ice, in the space of a single night, is formed, perhaps an inch thick. The frost now maintains ascendancy, and shoots its increasing energy in all directions, till it has covered the whole extent of these seas with a solid vault to the depth of several feet. But on the return of spring, the penetrating rays of the sun gradually melt or soften down the icy floor, and render its substance friable and easily disrupted. The first strong wind creating a swell in the ocean, thus breaks up the continent into large fields, which are afterward shivered into fragments by their mutual collision. This generally happens early in the month of June, and a few weeks are commonly sufficient to disperse and dissolve the floating ice. The sea is at last open for a short and dubious interval to the pursuits of the adventurous mariner.

The floating masses of ice to which the term, *iceberg*, has been applied, are of various sizes, and some of them are of enormous magnitude. They are formed on shore, but are separated by heat, and float over the ocean, to the danger and frequent destruction of vessels. "Frost,"

says Pennant, "sports with these icebergs, and gives them a majestic as well as other singular forms. Masses have been seen assuming the shape of a Gothic church, with arched windows and doors, with all the rich drapery of that style, composed, of what an Arabian tale would scarcely dare to relate, of crystal of the richest sapphirine blue; tables with one or more feet, and often flat-roofed temples, like those of Luxor on the Nile, supported by transparent columns of cerulean hue, float by the astonished spectator. I have not unfrequently seen floating masses of ice which had evidently been formed of drifted snow, since they wanted the compactness and solidity of those formed by the melting of the snow. Many of these contained trees, and, as there are no trees in Spitzbergen, must have been originally formed in the northern parts of Russia or America, and being carried by the rapid rivers of these countries into the ocean, had drifted into these latitudes. These trees have often the appearance of being burnt at the ends; and Olafsen mentions, that the violent friction which they frequently experience, occasionally sets them on fire, and exhibits the extraordinary phenomenon of flame and smoke issuing from this frozen ocean."

Rivers are accumulations of water flowing through the dry land, and usually discharging themselves into the ocean. They take their rise either from springs or from streams flowing from mountainous countries. Those rivers which are fed by mountain streams have an increase of water during the rainy seasons, and frequently overflow their banks. This is the case with the Nile, the Ganges, and other rivers.

Some rivers are of small breadth, while others are exceedingly wide; some flow over a small extent of country, and others pursue their course toward the ocean for hundreds of miles; some flow with a gentle and almost imperceptible current, while others move with such a momentum that they bear before them every obstacle, as though they disdained the control of all things. The velocity of a river depends upon the amount or body of its water, and the inclination of its bed; nor must we consider the influence of one without the other. The bed of the Rhine has a much

greater inclination than that of the Danube, but it is not so rapid. The Inn and the Rhone are the most rapid rivers in Europe; the Platt and the Missouri in North America.

Rivers have a great effect upon the countries through which they flow, not only by the destruction of their banks, but also by the distribution of detritus over their beds, and over the ocean into which they are discharged. Their effects are in many cases very remarkable, but may be best observed during floods.

Lakes are collections of water almost entirely surrounded by land, and having no visible connexion with the sea, but of these there are several kinds, some of which we may notice.

There are some lakes which are, without doubt, supplied by springs, since they do not receive water from any river, but, on the other hand, frequently form them of considerable magnitude. This may be easily imagined, for if the lacustrine basin be continually supplied with water from springs, the level must continue to rise, until an outlet is presented, and the whole amount that is then added flows off, forming a river, the magnitude of which will be according to the quantity of water supplied by the springs.

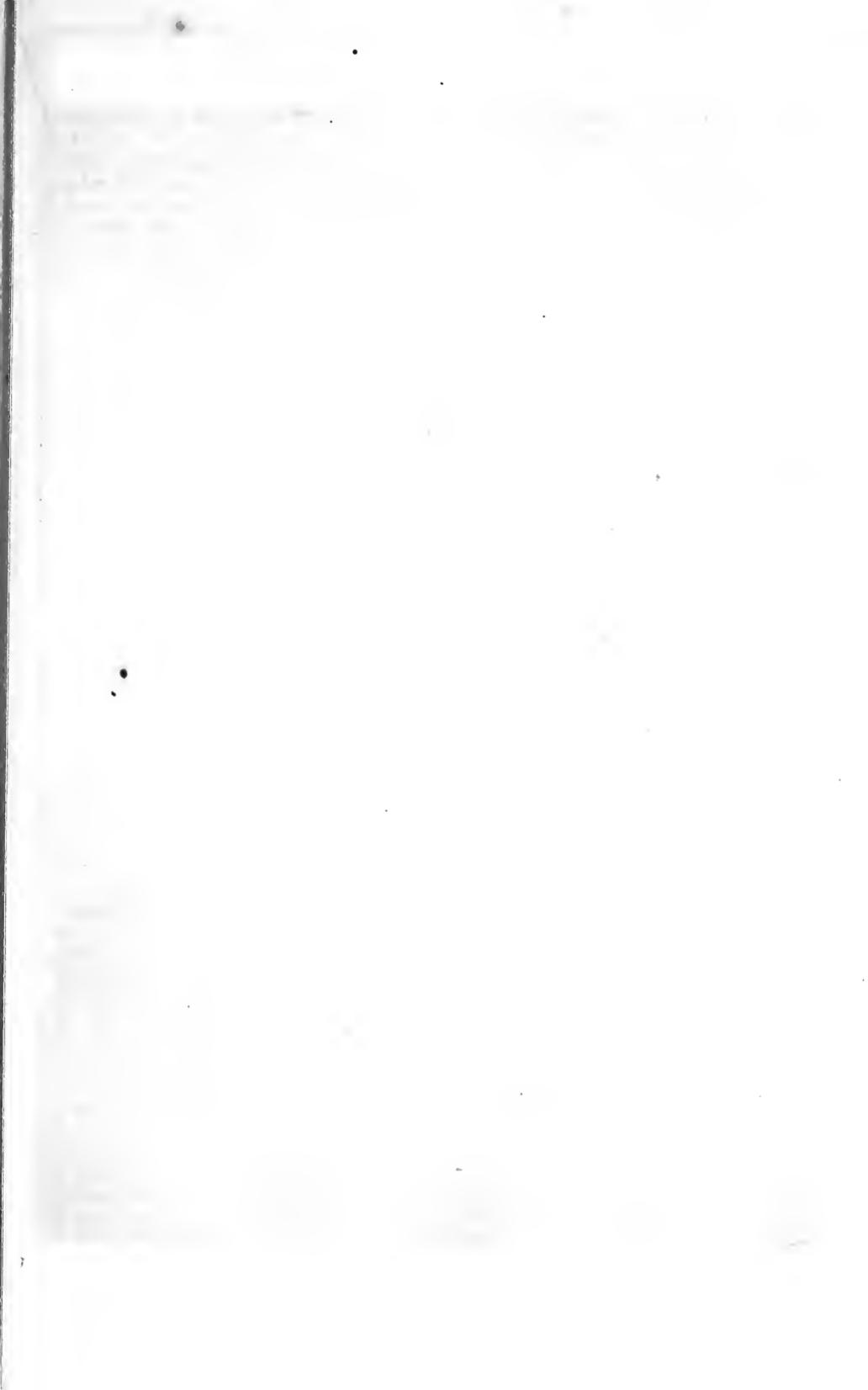
A second class of lakes includes all those which neither receive nor form a stream of water. With these we must include the marshes and fens, as well as ponds.

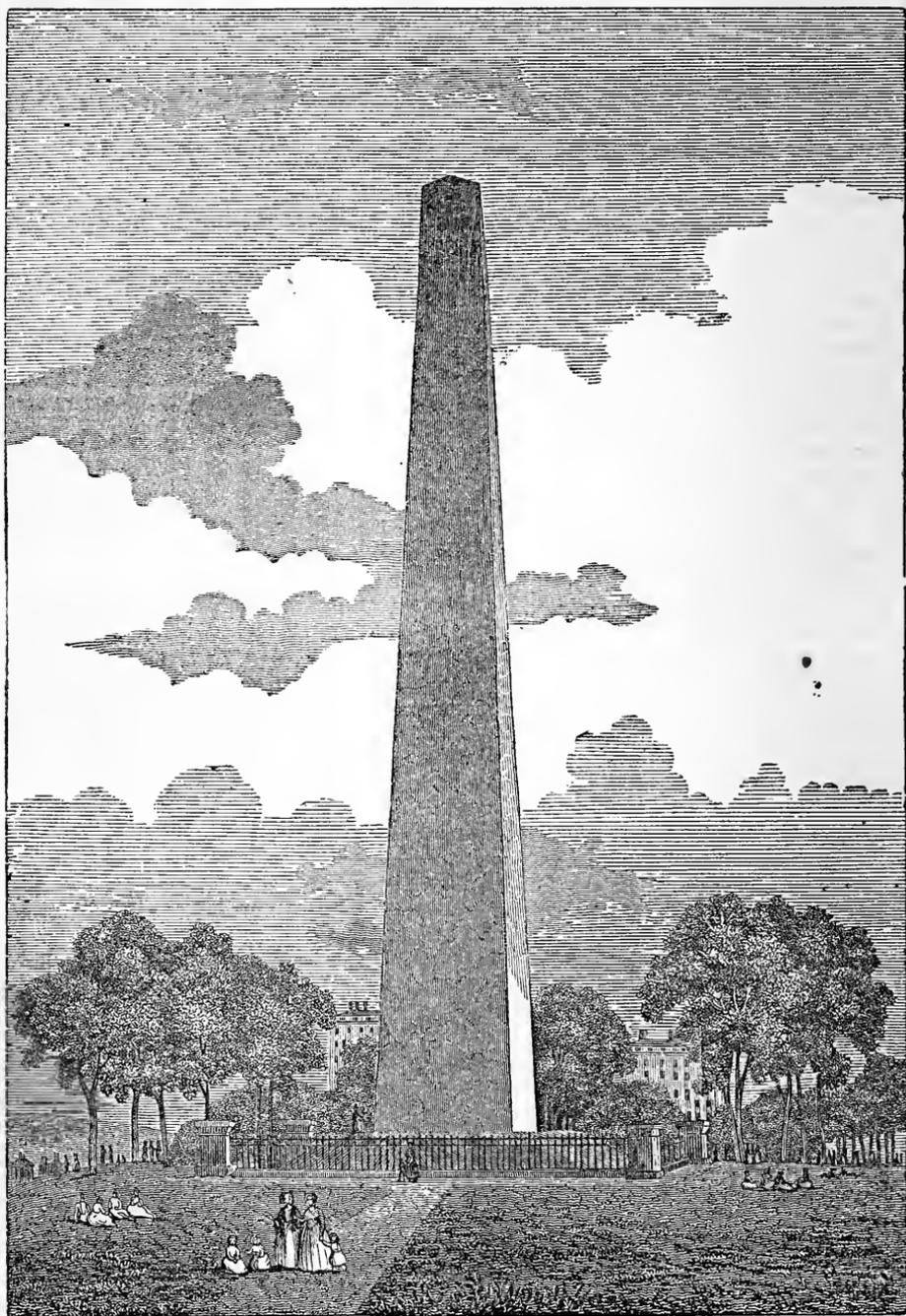
The third class of lakes consists of all those which both receive and form streams. Lakes of this kind are by far the most numerous, and some of them are of immense extent; as, for instance, those of North America. We may, possibly, be able to account for their formation as the result of the rivers which flow into them. Let us, for instance, imagine two or more rivers to meet, in their progress to the ocean, with a deep depression or valley; beyond this they can not flow, for it will receive all the water they bring, and must continue to do so until filled. Some opening will then be found or made for the discharge of all the water above a certain level; and a lake will be produced which both receives and discharges streams.

But there is still a fourth class of lakes, comprehending all those which receive

streams, but discharge none of the water they receive by any perceptible channel. The largest and most remarkable of these is the Caspian sea. This extensive lake is supposed to receive, from the river Volga alone, five hundred and eighteen millions four hundred thousand cubic feet of water every hour, and yet it has no perceptible means of discharging it, nor rises, in any degree, above a fixed level. Several attempts have been made to account for this most curious phenomenon, but there is no certainty in any of the theories with which we are acquainted. Some persons state that there must be a communication between the lake and the ocean, so that the waters which are received from the streams that flow into it are carried away by some subterranean channels; but we have no proof that any such channels are in existence. Other writers maintain that the bed of the lake is porous, and that the water is constantly carried off by filtration. Another theory is, that evaporation being very great, is sufficient to account for the phenomenon. It is possible that all these causes are operating in some degree, but no certainty can be, at present, attached to any one theory. The Lake Asphaltum, frequently called the Dead sea, belongs to this class of lakes; but is not only curious, from the circumstance that it receives no water and parts with none, and does not receive any apparent increase of volume, but, also, from the most remarkable quality of its waters, and the frequent rise of bituminous matter to its surface.

These are some of the most remarkable phenomena connected with the sea and large bodies of water. There are appearances which, although chiefly observed on the water, are, in their origin, connected with the atmosphere. Of this character are the influence of the wind, which is the main cause in producing waves and storms: and some electrical phenomena. There are many interesting and important inquiries to which we have not, in any way, referred; but we have endeavored to select those appearances which are most calculated to attract the attention of young persons, and to introduce the reader into a course of careful thought and investigation.





BUNKER HILL MONUMENT.

BUNKER HILL MONUMENT.

THIS monument, an accurate view of which is represented by the annexed engraving, was erected in commemoration of the battle fought upon the ground upon which it is located. It is an obelisk, two hundred and twenty-one feet in height, thirty feet square at the base, and fifteen feet at the top, having a spiral staircase within of two hundred and ninety-four steps, and at the top an elliptical chamber, eleven feet in diameter, lighted by four windows, whence is a glorious prospect of earth and sea. Visitors, however, that prefer it, can be conveyed to the top of the monument by means of a car inside, connected by machinery with a steam-engine placed near its base.

Its material is of beautiful granite from the quarry at Quincy; its construction is simple and imposing, wholly divested of ornament, being rather modelled upon the plan of the renowned obelisk of Luxor, and, like it, seemingly destined to bid defiance to the ravages of time. Near the site of the monument still remains some fragments of an ancient breastwork. The foundation stone was laid by General Lafayette, the 17th of June, 1825, on the fiftieth anniversary of the important battle it commemorates, in the presence of some of those who took active part in that memorable struggle: pecuniary difficulties prevented its final completion till the 23d of July, 1842, when the last stone was reared; and on the 17th of June, of the following year, the sixty-seventh anniversary of the battle, was made the occasion of another public celebration of deep national interest, a recital of which it is needless here to present to the reader, as it must be fresh in the memory of all.

FALSE POSITIONS.

MAN is never an isolated or independent being; he is in every case connected by unseen, but powerful and tenacious ties, with thousands of surrounding things, with which it is necessary for him to be in harmony, in order that he may have a fair chance of being happy. He may

in this respect be likened to a plant, which must be in certain circumstances of soil, climate, and exposure, in order that it may thrive: alter but one of these, and the plant at once finds itself in a false position, and soon shows symptoms that all is not well with it. Should the unharmfulness or falsity of position be of sufficient moment the poor plant perishes. And so, also, in certain extreme cases, false social position will nip human existence. One law presides over all these matters, however diverse they may appear, namely, that every phenomenon of animated nature depends on certain appropriate conditions, without which its perfect development and healthy being are not to be expected. A northern exposure for a tender shrub, a low temperature in the nursery of an infant, and a biting sorrow in the heart, are all strictly analogous things, not more to the fancy of the poet, than to the reason of the philosopher.

Such being the case, it becomes evident that a true position forms an important consideration in the economy of human life, and that to attain or to retain this advantage, is an object entitled to our utmost care. This is a fact of which few are cognizant: indeed, the idea of truth or falsity of social position is a novelty to a vast majority of even the reflecting part of mankind. But however unperceived, the principle operates not the less powerfully; and it is the fate of many who seem to have all the grosser elements of well-being, to pine from this 'cause, like children who know not their ail. Let us endeavor, as far as our limited space and abilities permit, to give an indication of the subject, adding a few hints which may be serviceable for practical guidance.

A false position in society may be defined as consisting in a discrepancy between some of the chief conditions of the social being. The position, for example, may be one which, according to the customs of the world, demands the keeping up of good appearances, while there are no adequate means of doing so. Whether it is the native rank of the party, or his official character, or the style in which he has originally pitched himself, which calls for these appearances; and whether the inadequacy of means may be owing to mis-

fortune, or an undue pressure of temptation, or a want of care and prudence, it is all one as far as the effect is concerned, which is invariably a dire struggle between wants and wishes, a forfeiture of all the true comforts of life for the sake of the show only, a reduction of existence to the character of a shabby drama, tending, of course, to a fifth act of ruin and misery. Acts of economy, which persons of well-assured circumstances readily adopt when they think proper, are beheld with dread by the "poor gentleman;" to him the idea of a saving is as alarming as a compulsory expense would be to most other men. Everything is considered by him with reference to the besetting evil of his life, the disparity between his pretensions and his powers; at one moment he is devising plans for skulking from positions where his professed equals are to appear; at another he is frantically overdoing what he does not enter into, in order to avoid the suspicion that he has the least thought of economy; see him afterward, and he is groaning in spirit over a recollection of the unenjoyed expenditure. What vexations will men incur, rather than confess an honest truth! How true, that many of our evils arise less from what we are, than what we wish to appear to be!

A sudden reverse of fortune, which there is no concealing or denying, and which it is impossible immediately to remedy, is usually productive of very decided falsity of position. It may be said to set the whole social man ajar. A week ago, he was the pleasantly-received equal of many resembling himself in worldly circumstances; was esteemed and respected; had frank greetings in the marketplace, and more invitations than he could well accept. Now, he is rather shunned than sought, and the best feeling which his old friends entertain for him is pity for his misfortunes, which neither relieves nor soothes, perhaps is only offensive. The circumstantial man being entirely changed, he is no longer what he was, but a new being, appropriate to some totally different grade of social life. The falsity of position hence arising makes it almost impossible for the unfortunate person to live any longer agreeably in the same place. He is not perhaps unwilling

to move in a lower social sphere, but it is painful to do so within view of that from which he has declined. He is not perhaps unwilling to make some humbler ventures in industrial life, conformably to his reduced means; but it is painful to do this under the immediate observation of those who have known him in his better days. If he make the attempt, constant distraction and uneasiness of mind is the almost certain consequence. But in a different place, and amid new associates, he may be as humble as is necessary without any such discomfort. This is well exemplified in the British colonies, where men and women, accustomed to elegance and delicacy of living at home, find they can readily adapt themselves—there being no onlookers—to drudgeries which they would have shrunk from at home. They are in a true position, and are consequently happy. Change of scene may therefore be prescribed as a specific for the whole of this class of false positions. In a new field, among new associates appropriate to the new circumstances, let renewed exertions be made, without one moment's reflection on the past prosperity, except to indulge in the hope of renewing it—this is the conduct of a wise and virtuous man of the world, and the only course which is likely to save him from complete ruin.

The same remedy may be prescribed for a large class of false positions in which natural qualities are concerned. It often happens that a very good intellect is dwarfed and stunted by its too near neighborhood to others which are superior. There are even instances of highly endowed minds which are prevented from taking their proper course of action, by being placed in connexion with certain others of narrower scope, which exercise an undue influence over them, "freezing the genial current of the soul." From the troubles hence arising there is no cure but flight. Such persons may be counselled to emigrate to Australia—New Zealand—anywhere—rather than dwindle out a wretched life of restraint, with a denial of all the happiness arising from a harmony with circumstances.

The evils of false position are also seen to beset the man who takes an upward course in life. In this case, the newly

affluent and dignified circumstances are perhaps irreconcilable with homely manners too long practised to be readily changed. He is in a false position, because often expected to make a show of refinement and taste which it is not in his nature to exemplify. There is always, too, an uncertainty about his conduct toward his new associates; every act and manifestation being liable to be estimated with a regard at once to his present position, and that out of which he has emerged. He is expected at once to be now what he actually is, and yet to have a large infusion of his original self; a requirement which unusually-constituted men may be able to fulfil, but which must be quite beyond the reach of most of the children of Adam. Supposing him a person of average sensibility, he is liable to still greater perplexity from the old associations. Here, too, he must be two men in one—at once the man he now is, and the same man which he once was; that is to say, with the improved tastes of affluent circumstances and an extended intellectual nature, and with the habits which change of position in a manner forces upon him, he must also preserve all the sympathies, and retain all the tastes and feelings, proper to the state in which he no longer lives, in order to be all that his old friends expect of him, and which his own benevolence would prompt him to be. The fact is, no man can be two things so different; and one or other of them must, therefore, be in a large measure fictitious—a part sustained with difficulty and a constant sense of uneasiness. This can not but be productive of a considerable subtraction from the advantages supposed to attend the smiles of fortune.

False positions, it will be seen, are sometimes voluntarily incurred; in other instances, they arise in the course of providence. In the former class of cases, there is generally good intention, but an absence of foresight and knowledge of the world. It would be well if the possibility of falling into a false position, and the extent of misery to be thereby incurred, were more generally seen and understood, and if the unbending nature of the laws which govern our social economy were at the same time fully appreciated. Thus

relations or predicaments calculated to embitter a whole life might sometimes be avoided, at the expense of a submission to slighter existing evils. Where fortune forces poor mortals into false positions, it must of course be left to the good sense and good feelings of individuals—their eyes being opened to the nature of their trouble—to make their way out of it as well as they can.

PROVIDENCE.

A FIRM persuasion of the superintendence of Providence over all our concerns is absolutely necessary to our happiness. Without it, we can not be said to believe in the Scripture, or practise anything like resignation to his will. If I am convinced that no affliction can befall me without the permission of God, I am convinced likewise that he sees and knows that I am afflicted; believing this, I must in the same degree believe that, if I pray to him for deliverance, he hears me; I must needs know likewise with equal assurance, that if he hears, he will also deliver me, if that will upon the whole be most conducive to my happiness; and if he does not deliver me, I may be well assured that he has none but the most benevolent intention in declining it. He made us, not because we could add to his happiness, which was always perfect, but that we might be happy ourselves; and will he not in all his dispensations toward us, even in the minutest, consult that end for which he made us? To suppose the contrary, is (which we are not always aware of) affronting every one of his attributes; and at the same time the certain consequence of disbelieving his care for us is, that we renounce utterly our dependance upon him. In this view it will appear plainly that the line of duty is not stretched too tight, when we are told that we ought to accept everything at his hands as a blessing, and to be thankful even while we smart under the rod of iron with which he sometimes rules us. Without this persuasion, every blessing, however we may think ourselves happy in it, loses its great-

est recommendation, and every affliction is intolerable. Death itself must be welcome to him who has this faith, and he who has it not must aim at it, if he is not a madman.

MELROSE ABBEY.

THE establishment of Melrose originated, in the seventh century, in a Saxon monastery, placed on a peninsula, formed by a bend of the Tweed, about two miles below the present village. In 1136, David I. founded the present abbey. It was burnt, in the reign of Bruce, by the English, but soon after repaired, the king granting two thousand pounds toward that object. In 1385, the army of Richard II. destroyed it; and it was again rebuilt at a great expense. The present beautiful building proves by its style, that it chiefly attained its present shape at a period subsequent to its last catastrophe. The abbey and church underwent another repair in the reign of James IV., whose arms containing his name and the date 1505, are still to be seen in one of the buttresses.

The abbey church, which now alone remains, is entire, excepting in the nave and central tower. The nave, which lies due east and west, is, in length, two hundred and fifty-eight feet, and in breadth, seventy-nine feet; the transepts are, in length, one hundred and thirty feet, and in breadth, forty-four. The attention of strangers is chiefly directed to the east window, the window and doorway of the south transept; the beautiful ornamental work connected with the niches in the buttresses; and the shapeliness and highly decorated capitals of the pillars within. At the place where the high altar formerly stood, are shown some flat monumental stones, beneath one of which, Alexander II. is said to have been buried. In the same place was interred the heart of Bruce, after the unsuccessful attempt of his friend, Sir James Douglas to convey it, according to the monarch's dying bequest, to Jerusalem. There are other monuments and inscriptions, of less note and more recent date.

FOSSIL REMAINS IN AMERICA.

It has been a favorite theory of some naturalists, and among others of Buffon, the contemporary of the still greater Swede, that the climate or soil of America was unpropitious to the existence of the larger and more ponderous of terrestrial animals; and they pointed to Asia with its elephants, rhinoceroses, and tapirs; and to Africa with its elephants, rhinoceroses, and hippopotami. They urged that, whatever the cause or causes might be, the fact was palpable, namely, that those gigantic quadrupeds which tenant the hotter region of the old world, do not exist, and have no representatives in the parallel latitudes of the new.

It must indeed be confessed, that the absence of large living quadrupeds in America is calculated to surprise us: two species of tapir, are the only existing representatives of the colossal pachydermata, or thick-skinned animals of Asia and Africa, and two species of peccary, of the formidable wild boars of the forests of the old world, throughout the greater portion of its extent.

Yet, even while this feeling of surprise is felt, the philosophical zoologist can not help entertaining a lurking suspicion, that though the facts be as stated, yet the deduction that, with the existence of such animals, the soil, air, temperature, vegetable productions, or similar influences, are uncongenial, is altogether fallacious. And this suspicion becomes the stronger when he reflects for a few minutes on the *balance of power*—if we may so express ourselves—between the new and the old world, as respects the other classes of the animal creation. Let him look at the feathered tribes—high on the summit of the frowning precipice, where the cordillera of the Andes towers above the clouds, the condor rears her brood; on some dead branch of a tree, in the steaming forest, slumbers the king of the vultures; quick through the glades of the same forest dashes the tremendous harpy eagle, "ready to strike, never to spare." Turn we northward: high over the lakes soars the white-headed eagle, ferocious and overbearing, of powerful flight, and of determined courage. There, too, soars in



Melrose Abbey.

"pride of place," the golden eagle, the range of which extends throughout Europe, Asia, and America. In the plains of Patagonia, the rhea emulates the ostrich, the cassiowary, and the emu. We might allude to many more, thereby proving, that, as it respects the feathered tribes, the balance of power between the old and the new world is at least equal.

If we turn to reptiles, the same observations equally apply. The savage matamata and fierce trionyx haunt the lakes and marshes; the shores of the sea are visited by enormous turtles; huge alligators and crocodiles make the deep river hoary as they lash its waters. The terrible boa lurks in the dark recesses of the primeval forest, or rears aloft his glistening length. We might extend our comparison to fishes, insects, and other tribes of living creatures, but it is needless. The question then reverts—How is it that the American continent affords no gigantic quadrupeds parallel with those of the old world? In answer to this subject, we would say, that the assertion is not quite correct; the regions of the north produce the huge bison, and the dreaded grizzly bear; and in South America there are two species of tapir. But, setting all this aside, and considering the subject in a general sense—though the assertion may be partially true—we shall find, by taking a more expanded view of creation, that there is reason to regard it as founded upon a narrow basis. In surveying the forms of life at present extant on the surface of our globe, true philosophy will lead us, not to limit our attention to such as are now extant, but to take into the account such forms as are known only from their relics, and which are more or less immediately related to, beings still existing—often indeed presenting us with intermediate links in the chain of organic life, which, but for their discovery, would have remained abruptly separated.

Of some of the most colossal creatures that ever trod the land, America presents us with abundant relics; and that these huge animals existed up to a comparatively recent period, in the regions where their bones are now found, various circumstances sufficiently attest. They occur in the most superficial strata, and are often little

changed in their character, being replete with animal matter. Among those to which we may more particularly allude are the mammoth and the mastodon, both belonging to the pachydermatous order of Cuvier.

With respect to the mammoth, or huge extinct elephant (of which there are four or five distinct species), its bones occur in Europe and Asia, as well as in America, and are indeed very widely distributed. In America, they are found in its northern division very extensively spread and often mixed with those of the mastodon.

Of the mastodon there are also several species, of which abundant remains may be seen in the British museum. One species, however, the great mastodon or animal of the Ohio (*mastodon giganteus*), appears to be peculiar to America. It is indeed calculated to strike the beholder with awe and astonishment, yet gigantic as it is, there are to be seen the bones of a much larger specimen, proving that the animal to which the skeleton belonged was by no means one of the mightiest of its own race.

Like the elephant, the mastodon had tusks; those in the skeleton are enormous; the form of the head, the shortness of the neck, the position of the tusks, and the structure of the jaws, are indisputable proofs that it had also a proboscis. In the structure of the molar teeth, however, the mastodon differs both from the living and fossil elephants; instead of the surface being flat and marked by parallel ribs or transverse laminæ, the crown presents a series of bold conical elevations, with deep chasms between them, and as these broad-based conical elevations become worn down by the oft-repeated action of masticating twigs, branches, leaves, and coarse herbage, the crown presents a series of lozenge-shaped marks of thick and hard enamel. Of these molars, there are generally two on each side, above and below, in both jaws; and it would appear that, as in the elephant, they were successively renewed when worn quite down, fresh teeth pushing up behind, and gradually advancing forward as they developed; hence, though the teeth differ in form from those of the elephant, they were subject to the same laws and mode of renewal.

In certain localities, the bones of this gigantic quadruped are very abundant, but nowhere more so than in a saline morass, well known as the Big-bone Lick; here they are found buried in the saline mud, to the depth of four feet and upward, mingled with the bones of deer, oxen, &c. They have no appearance of having been rolled, nor indeed is this the case with those found on the great Osage river, though, in some places, they may appear to have been carried away by torrents.

Nor is it only the bones of this animal that have been discovered; portions of the flesh, and also of the proboscis, have occasionally been seen. Barton states that in 1762, five skeletons were noticed by the natives, and that the skull of one was still furnished with what they described as a long nose, under which the mouth was situated. Kalm speaks of one found in Illinois, which had the form of the trunk or proboscis very apparent, though half decomposed. The Indians are reported to have vague traditions respecting these animals; or rather, perhaps, they have invented rude theories, in accordance with their ideas, relative to their powers and formidable nature, and their ultimate destruction. According to some of the tribes, at a remote period, a troop of these animals ravaged the country, destroying bisons, deer, and other animals of the chase; the Great Spirit, to stop their devastations, hurled lightning against them, and so destroyed them all, except the "big bull," who undauntedly received the bolts upon his enormous forehead, and shook them off, till at length he received a wound in the side, whereon he turned and fled to the great lakes, where he still remains, lurking in the depths of some retreat impenetrable by man.

Besides the great mastodon, two other species, if not more, are also American, namely, *Mastodon Andium* (Andes), and *M. Humboldtii* (Chili). The relics of several other species are found in Europe and Asia.

But let us leave these extinct colossal representatives of living giants, and turn to a group of quadrupeds, termed by naturalists Edentata, and which includes two distinct sections, the *leaf-eaters*, of which the arboreal sloth is an example—and in-

sect-eaters, of which the armadilloes, the manis, the ant-eaters, the aardvark, and others, are existing examples.

After alluding to the living animals, of which the edentate order is composed, it need scarcely be added that none are of large stature, none of ponderous bulk. America is the special abode of the edentata; the aardvark is African; and the genus manis is divided between Africa and India, including the islands, but the rest are all natives of South America; and it is in America that we find the colossal relics of extinct animals of the same order.

Of these, first in magnitude is the stupendous megatherium. Who, when for the first time he contemplates the massive bones of this animal, would dream of its affinity to the puny sloth! yet such is the case: this animal, compared with the bones of which those of the elephant seem of trifling bulk, was of the same order as the sloth, and, in the more essential parts of organization, closely allied to that arboreal leaf-eater. "The inspection," says Cuvier, "of a skeleton (of megatherium), fortunately so complete and well preserved, enables us to form plausible conjectures as to the nature of the animal to which it belonged. Its teeth proved that it lived on vegetables, and its forefeet robust, and armed with trenchant claws, lead us to believe that it was principally their roots that it attacked. Its magnitude and its talons must have given it sufficient means of defence. It was not rapid in its course; nor was this requisite, for it needed neither to pursue nor to escape by flight." It may be here observed, that, till recently, the megatherium was supposed to be covered with a tessellated cuirass, the remains of which have been, at various times, discovered in the same beds as the bones of the megatherium. To this opinion, M. de Blainville gave his authority, affirming that the megatherium had the habits and manners of the armadilloes, and consequently fed on flesh, and perhaps on roots, and that it dug up the earth with its enormous claws, if not for concealment, at least in order to obtain ants.

Professor Weiss also attributed the osseous armor in question, to the megatherium, regardless of the caution expressed

by the editor of the posthumous edition of the "ossemen fossiles" of Cuvier, against too hastily attributing to the megatherium the fragments of the gigantic bony armor found in the same formations of South America, for that among the fossils transmitted to England by Sir Woodbine Parish, were the remains of the foot of a great armadillo, to which the armor might have belonged. It is indeed to this great armadillo (*Glyptodon clavipes*), and not to the megatherium, that it is now proved to belong. Relics of the glyptodon, and its bony armor, complete from the banks of the Pedernal, near Monte Video, are to be seen in the museum of the royal college of surgeons, and also bones of the mighty megatherium.

Dr. Lund, after a close examination of the bones of this quadruped, came to the conclusion that, like the sloth, it climbed trees, in order to feed upon the leaves; but as no trees in the Brazilian forests of the present day could support the weight of such massive beasts, he supposes that the trees, when the megatherium existed, bore the same proportion to those now clothing the hills of South America, as the megatherium does to the sloth; that is, they were of giant growth, and adapted for their gigantic climbers. Now, the megatherium measured at least eighteen feet in length, from the fore part of the skull to the end of the tail; the fore limbs are ten feet long, and the expanse of the hip-bones is five feet one inch; that of the hip-bones of the largest elephant being only three feet eight inches. One would think that such colossal proportions (the bones being surprisingly thick and massive for their length), to which those of the elephant are not even comparable, would make any observer pause before he pronounced the animal to have been a climber, even if the trees had been a thousand feet high and a hundred feet in circumference. No; the megatherium resorted to far different means of obtaining its leafy food with its huge trenchant claws it dug around the roots of the trees, loosening the earth, and undermining the trunk, then rearing itself, somewhat bear-like, on a tripod formed by its hinder limbs and tail, it grappled the tree, and, exerting its mighty energies, rocked it to

and fro, till at last the tree came crashing down and lay prostrate before its destroyer. In this view of the subject the proportions and organic peculiarities of the megatherium and its allies, the mylodon, the megalonyx, &c., became beautifully harmonious. The enormous expanse of the haunch-bones proclaim themselves as the centre whence muscular masses, of unwonted force, diverged to act upon the trunk, the tail, and hind legs; these muscles, indeed, have left the most marked evidence of their size and energy, in long crests and rugosities on the bones, betokening enormous contractile force. Nor are the fore limbs less adapted for their work; the forces concentrated upon them from the broad posterior basis of the body, are manifestly adequate, and are precisely such as might be expected to have co-operated in the act of uprooting the tree, or wrenching off the branch so seized. We might here follow Professor Owen through a most elaborate analysis of the osseous structure of these animals, replete with proofs of their habits, deduced from the most rigid anatomical scrutiny, but we forbear.

Of the liability of the mylodon, megatherium, and their allies, to accidents from the fall of the trees prostrated by their efforts, no reasonable doubt can be entertained, and that the blows received by the individual in question were not fatal, was owing to a special provision in the structure of the bones of the skull; and this very provision against destruction from such accidents, is confirmatory of the habits of the animal, to be observed from the general organization.

If the blows which this mylodon received, and which must have rendered it senseless for a time, had been inflicted in contest with any gigantic beast, the victor would have followed up his advantage, and destroyed his adversary; and the skull, if by chance preserved, would have shown the fracture as it was when first produced, and not healed, and thereby attesting the existence of the individual after such a stroke. Every circumstance, in fact, and even the form and characters of the fractures, seem to indicate that the blow was from a torn-off limb, or falling trunk of a tree; from some inanimate

force, and not from the claw of an enraged combatant.

The mylodon, from the fore part of the scull to the end of the tail, measures eleven feet; the length of the anterior extremity is four feet six inches, and the breadth of the haunch bones is three feet five inches. This admeasurement refers to the *M. robustus*; the relics of two other species are known, namely, *M. Harlani*, from North America, and *M. Darwinii*, from Patagonia.

To another allied gigantic form of this order, the name of *megalonyx* has been applied. The fossil relics of these extinct animals occur both in North and South America, but no perfect skeleton has yet been obtained. A genus distinct both from *megatherium* and *megalonyx* has been established by Professor Owen, for an extinct animal of this order, of which a great proportion of the skeleton was discovered by Mr. Darwin in the bay called Bahia Blanca, in Patagonia. The bones were embedded in the cliff, so nearly in their proper relative positions, as to lead to the belief that the carcass had been drifted into the spot in an entire state.

Here, then, we have positive proofs of the existence in America, at a former period, of gigantic quadrupeds of the pachydermatous and edentate orders; but if we push our scrutiny into other orders, we shall find parallel instances. Mr. Darwin discovered, in Patagonia, the relics of a species of llama, as Professor Owen has proved, but which must have equalled a large camel in size. The animal, says Mr. Darwin, to which the bones belonged, must have lived at a period long subsequent to the existence of the shells now inhabiting the coast. We may feel sure of this, because the formation of the lower terrace or plain must necessarily be posterior to those above it, and on the surface of the two higher ones, sea-shells of recent species are scattered. From the small physical change, which the last one hundred feet elevation of the continent could have produced, the climate as well as the general condition of Patagonia probably was nearly the same at the time when the animal was imbedded as it now is; this conclusion is, moreover, support-

ed by the identity of the shells belonging to the two ages.

The scull of another huge animal brought by Mr. Darwin from the banks of the Sarandis, about one hundred and twenty miles northwest of Monte Video, proves the existence of huge aquatic pachydermata. The animal, to which the scull in question belonged, has received from Professor Owen the title of *toxodon platensis*, and we can not doubt but that it, in some respects, resembled the hippopotamus in habits, or perhaps was a link between the latter form and the *Lamantins* or *Dugongs*. Unfortunately we have no evidence respecting the structure and number of the limbs, and therefore we can not say how far they were modelled for aquatic progression. Perhaps they were exclusively so; yet it is far from improbable, that as in the case of the seal, walrus, &c., they might have been modified for frequent visits to land. So fresh, however, were the remains, that, as Mr. Darwin says, it is difficult to believe that they have lain ages underground. The bone contains so much animal matter, that when heated in the flame of a spirit-lamp, it not only exhales a very strong animal odor, but likewise burns with a slight flame.

There is, moreover, we may add, reason to believe that, although the present race of horses is of modern introduction, species of that genus, at a former period, were contemporary with the *toxodon*, and fed perhaps on the banks of the river, in the waters of which the *toxodon* revelled at his ease. Fossil relics of horses, apparently of more than one species, and varying in size, are found throughout the whole of Europe and Asia, nor do we know that any of our domestic breeds are their descendants. One thing is certain, there is no aboriginal wild horse on the surface of the globe; the troops so called, are the offspring of the domestic breed, which circumstances have enabled to assert and maintain a state of liberty.

But we must close our discursive observations. We have sufficiently demonstrated that, till a recent period, races of gigantic quadrupeds have existed in the vast regions of the American continent, that its plains were trodden by their hoofs,

its forests devastated by their prodigious strength, nay, that, like the athlete—"he who of old would rend the oak" and "dreamed not of the rebound"—they were sometimes smitten prostrate by the falling trunk, or wrenched-off limbs—and that, as a provision against such accidents, the brain was doubly protected. What, it may be asked, has caused their total annihilation—and why do not similar giants of creation still tread our mighty forests? Such questions are more easily asked than answered. A combination of causes quietly operating through a series of years, connected with the elevation of the land by volcanic agency, according changes in vegetation, long and great droughts, periodically recurring, and other influences yet to be appreciated, may have gradually thinned their numbers, and at length terminated the line of their race. To ask why gigantic animals do not now exist there, is idle—they do not; and that, we believe, not because soil, atmosphere, or vegetable productions, militate against their well-being, but because for purposes, beyond our limited comprehension, the Great Creator, in whose hands are "the issues of life" and death, has appointed it otherwise.

THE CASTES AND TRIBES OF INDIA.

NO. III.

THE Bheels are the original inhabitants of the western parts of India: at some remote period, beyond the reach of historical records, they were driven from the plains, and now inhabit the wild tract of country which separates Malwa from Nemaour and Guzerat. According to the traditions of their conquerors, the Bheels were the founders of many of the cities and towns of central India. The history of such a people is always impressive, often mournful, and almost every part of the world has presented instances of similar vicissitudes of the human race produced by brute force and the power of numbers over right and justice. Sometimes the extermination of races has been

a just punishment for their vices and wickedness; but when they have nobly struggled for independence, it is impossible to regard their fate without sympathy. Generally a remnant of the vanquished has found refuge in the fastnesses of the mountains, where for ages afterward may be traced a language, manners, and usages, long since obliterated in the more accessible parts of the country. These characteristics of national life are preserved amid the seclusion of mountain districts, and are often found after the plains have been the scene of many successive changes. The Bheels are quite a distinct race from any other in India, though their manners are described as resembling the Puharrees, another or perhaps the same aboriginal race, inhabiting the eastern parts of India, and whose fate has been similar. Bishop Heber describes them as "less broad-shouldered, and with faces less Keltic than the Puharrees," who, he says, very much resemble the Welsh. While the history of the Bheels naturally excites curiosity, their dispersion over rugged tracts of country, and their ignorance and prejudices, are obstacles to intercourse; and little is known concerning their habits, customs, and forms of worship, except that they are different from those of other races of India. The word "Bheel," which signifies a robber or plunderer, is applied generally to the people who dwell in the mountains of central India, and amid the thickets on the banks of rivers; but used comprehensively in this manner, it includes many who are not real Bheels, though they have adopted their predatory habits.

Sir John Malcolm divides the Bheels into three classes—those who live in villages, the agricultural Bheels, and the wild Bheels of the hills. "The first," he says, "consist of a few who, from ancient residence or chance, have become inhabitants of villages on the plain (though near the hills), of which they are the watchmen, and are incorporated as a portion of the community. The cultivating Bheels are those who have continued in their peaceable occupations, after their leaders were destroyed or driven by invaders to become desperate freebooters; and the wild or mountain Bheel comprises all that part of



Rheeds.

the tribe, who, preferring savage freedom or indolence to submission and industry, have continued to subsist by plunder."

It is interesting to remark, that in proportion as surrounding governments were well ordered and strong enough to protect the country, numbers of the mountain Bheels were accustomed to abandon their predatory habits and join their more peaceful brethren; but the weakness and disorganization of the supreme power was again the signal for them to resume their wild life, and once more the terror which they inspired added to the confusion and disorder of society.

The wild Bheels, according to Sir John Malcolm, are a diminutive, ill-fed, and wretched-looking people, though, he says, they are active and capable of great fatigue. They are much addicted to excesses in spirituous liquors, and frequently assemble for drinking bouts, which generally end in quarrels. The village Bheels are faithful and honest, and those who live by cultivation are industrious, but rude in their manners, easily assimilating to their wilder brethren. Heber, who writes several years later, speaking of the Bheels, says, "Thieves and savages as they are, the officers which whom I conversed thought them on the whole a better race than their conquerors. Their word is to be more depended on; they are of a franker and livelier character; their women are far better treated and enjoy more influence; and though the Bheels shed blood without scruple in cases of deadly feud or in the regular way in a foray, they are not vindictive or inhospitable under other circumstances." When Sir John Malcolm exerted himself to reform the habits of the Bheels, he found his efforts heartily seconded by the women, whose interests indeed are everywhere improved by whatever diminishes crime, and substitutes industry and steady habits for a life of violence and disorder. The rude religion of the Bheels bears some resemblance to that of the Hindoos, but they excite the horror of the latter by eating the flesh of the cow. Their ceremonies are chiefly propitiatory, consisting of offerings to the minor infernal deities of the Hindoo mythology.

SMILES.

NATURE is smiling around—pleasant emotions are gathering in the heart: let smiles be the subject of our thoughts.

There are times when we look on the dark side of humanity; when the mind led on by moodiness, passes through increasing shadows to midnight blackness: there are others, when, in the joyousness of our spirits, we see the heavens and the earth lit up with sunshine.

Different as mankind may be, one to another, in form, feature, disposition, and desires, there are many things in which they all agree. We all like health better than sickness, sunshine better than shade, riches better than poverty, sweet things better than sour, praise better than blame, and smiles better than frowns.

Pleasant as a smile is, it does not follow, as a matter of necessity, that he who wears a smile is either happy himself, or desires to communicate happiness to others. A smile may be sweet or bitter, agreeable or ghastly, as the case may be: a man may smile in derision, or when "the iron is entering into his soul;" and he may also

"Smile, and smile, and be a villain."

None but pleasant and true-hearted smiles will suit our purpose.

There is the smile of the author as he pens down happy thoughts; the smile of the reader interested in the book that engages his attention; the smile of the kind-hearted are as he gazes on children at play; and the smile with which friends and acquaintance meet and greet each other. We love to see them all, and never can see them on the faces of others without their calling up a smile into our own.

You have seen the sunny smile of the school-boy as he leaps with joy and holiday in his heart. It is no languid expression of commonplace pleasure, but a glowing, irrepressible manifestation of delight. With a sister in his embraces, a father hastening to meet him, a fond mother, with tearful eye, awaiting his approach; old Jonas carrying his trunk in at the door; Pompey barking and jumping around him in the wildness of his delight; and

with a midsummer month of happiness before him, no common smile would suit his dancing spirit. Truly this is a sunny, glowing smile.

There is the maiden smile of her who is walking, in the gayety of her heart, with that worthy young friend who has gained her affections; he who is more to her than father or mother, ay! than all the world, is at her side; and she is all to him, as he is all to her. Well may she smile! there is a thankfulness in her spirit to the Father of mercies that heightens her other charms.

There is the approving smile of a father when he looks exultingly on the child walking in the way in which he should go; when he sees in his son a generous spirit, an eagle-eyed soaring in quest of knowledge, a yearning after all that is really great and truly good, and a love of holy things: or when he gazes on a daughter that is dear to him, whose obedience and ardent affection and piety bind her to his heart.

There is the smile of a mother as she fondly looks on the baby features of her first-born; nor is there anything like it in the world. How unbounded is a mother's love! what matchless affection! what a thrilling sensation of delight gathers round her heart as she gently presses her darling to her bosom! With maternal tenderness her eyes are bent upon his brow: and now she is toying with her infant treasure:—

“With cheerful voice, and playful wiles,
How smiles she when her baby smiles!”

This is but a poor copy of a beautiful original; but there are some things in creation that neither poets nor painters can fully depict, and this is one among them—a mother's smile.

How fleeting, how fickle, how changeable, are our emotions! We said there were other smiles besides those that yielded us pleasure.

There is the silly smile of self-conceit; it is hardly worth mentioning, and we might as well, perhaps, have passed it by as a thing unworthy of regard. There is the haughty smile of the proud, and the insulting smile of successful knavery—unlovely smiles are they both. A time is

coming when the proud will cease to smile, and when the knave will see with dismay how much he has outwitted himself.

There is the smile of the fawner, and a hateful one it is, as he panders to the folly of the great, and writhes himself into the favor of those who are above him; and there is the smile of the deceiver, who smiles only to betray. This is even worse than the former, and far more deadly than the darkest frown. How many are there who eat the bitter bread of destitution and remorse, who may date their downfall to a deceitful smile!

There is the bitter smile of him who has been supplanted by a wealthier wooer, and forsaken by her for whose welfare he would have yielded up his life. The world is a desert to him now, his heart is desolate. And there is the bitter smile, too, of him who has sinned and sorrowed, and been visited with merciless severity—

“Whose erring heart the lash of sorrow bore,
And found no pity when it erred no more.”

Such a smile has much in it of agony; pity that it should ever be seen on a human face!

We have not yet spoken of the sarcastic, scornful smile of the proud skeptic, as in the supremacy of his fancied wisdom he pours derision on the supposed ignorance of the meek-minded follower of the Redeemer. Nor on his ghastly smile, when his philosophy fails him in the hour of dissolution—but do we rightly call that a smile, which is only an outward sign of inward “weeping, and wailing, and gnashing of teeth.” Such a smile is terrible; let us hurry back again from its withering influence to smiles that gladden the spirit of man.

There is the smile of hope; and oh! what a burden it takes from the oppressed heart! A dark night of fear is dawning into brightness—clouds of despair are scattered by beams of expectation—a long absent one is about to return—a beloved invalid, whose sickness was thought to be unto death, is reviving—or the heavy ears that have been drinking in dolorous sounds, have caught the delightful accents. As mid-day brightness after midnight gloom, so is hope after despondency. The smile of hope is beautiful!

The smile of sympathy is sweet; it comes from the heart, and goes to the heart, and blends with the very being. The smile of pity and compassion makes its wearer look as we fancy angels do; and we hardly know whether the smile of forgiveness or of commendation is the lovelier of the two. Certain it is, that all these smiles do much to raise and endear humanity in our estimation. What sunbeams would be taken from the world were smiles to be abolished!

Though we have said so much already about smiles, there is yet to be described the crowning smile of all; the last on this side the grave. We have seen it, gazed upon it with joy, and felt its grateful influence on the heart. It is not the smile of pity, sympathy, kindness, friendship, or affection; but the glowing exultation of an almost enfranchised spirit, lingering for a moment on the confines of eternity. We will not call it the smile of a saint about to die, but rather the smile of one that is lit up by the glory of heaven. Fears have been felt, conflicts have been sustained, but they are over now; and faith in Him who died for sinners on the cross is triumphant—"Death is swallowed up in victory." Sickness and sorrow are banished by that smile; fear has fled before it; pain is overcome by it; and the very presence of death is disregarded. The languid face lighted up with that smile is more than beautiful; and hark! while the closing orbs are lifted upward, the lips, the tongue, and the heart, give utterance to the joyous exclamation—"Lord, now lettest thou thy servant depart in peace, according to thy word; for mine eyes have seen thy salvation."

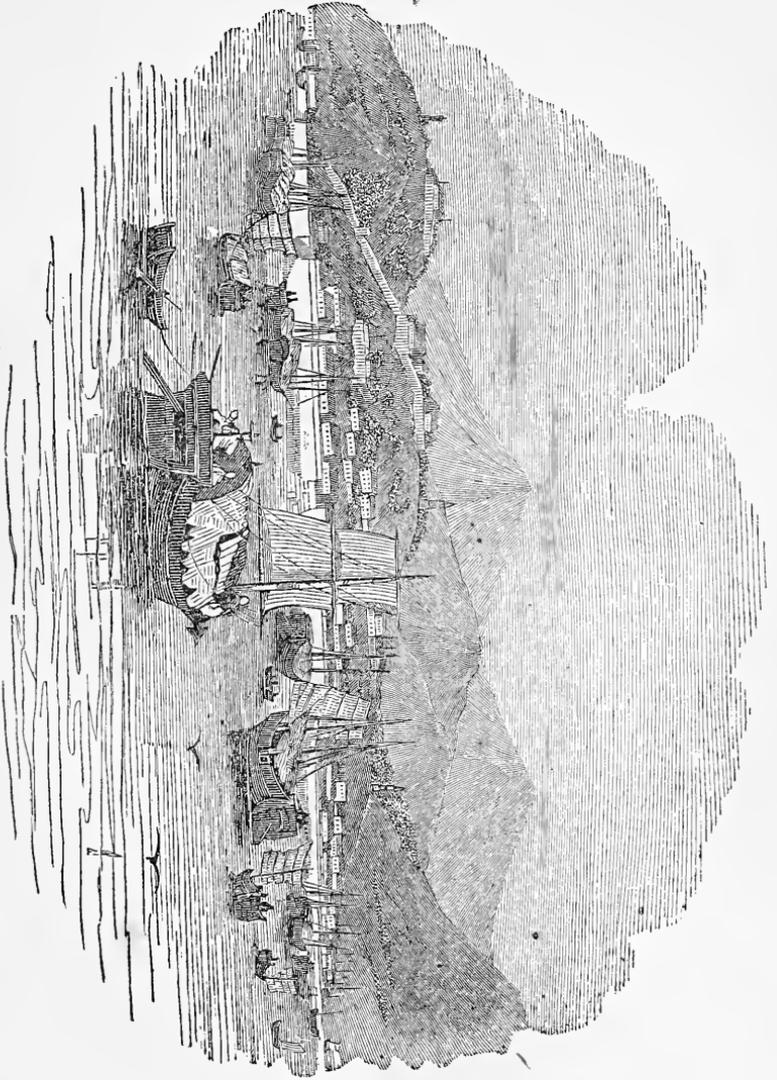
SHANG-HAE.

SHANG-HAE, in the province of Kiang-su (which, with Anhoi, or Ngan-hoei, forms what was, and still is often considered as the one province of Kiang-nan), is the most northerly of the five ports of China opened by the late treaty to foreign commerce. It is situated in about 31° N. lat. and 121° E. long., and is built on the

left bank of the river Woo-sung, which is properly only the channel by which the waters of the Lake Tahoo or Tai (the great lake) are discharged into the sea. Though the course of the river probably does not exceed fifty miles, it brings down a great volume of water, and is very deep. Opposite the town of Shang-hae, which is sixteen miles from its mouth, the depth in the middle of the stream varies from six to eight fathoms, so that the largest vessels can come up to the harbor, and unload alongside of the commodious wharfs and warehouses which occupy the banks of the river. At this place the river is nearly half a mile wide.

The town is very large. The streets are narrow, and many of them are paved with small tiles, similar to Dutch clinkers, which make a more agreeable footing than the slippery granite with which other towns in China are paved. The shops in the city are generally small, but wares of all descriptions are exhibited for sale; many of them contain foreign goods, especially woollens. Du Halde, in his "Description of China," says, that in this town and its neighborhood two hundred thousand weavers are occupied in making plain cottons and muslins; and Lindsay adds, that the nankeen cloth from Shang-hae is said to be the best in the empire. Sir Hugh Gough, in his despatches after the capture of the town, says, "as a commercial city nothing can exceed it;" adding that ships of large burden can ascend the river for several miles above the town: but though he says it appears a rich city, with "good walls in perfect repair," he states the population to be only from sixty to seventy thousand, the circumference of the walls being about three miles and a half. One of the officers of the expedition here observed some pretty public tea-gardens, with grottoes and labyrinths, constructed of real and artificial rocks piled curiously one above the other.

Previous to the late expedition little was known of a place which appears to be the principal emporium of eastern Asia, and whose commerce is as active as that of any other place on the globe, not even London excepted. It is certainly a very remarkable circumstance that such a commercial town had only once been vis-



Shang-Hae.

ited by a European vessel, and that not before 1832, when the Amherst, under the command of Captain Lindsay, entered the Woo-sung river. Capt. Lindsay states—“On our arrival at Woo-sung (a small town only a mile above the mouth of the river of that name), I was so struck with the vast quantity of junks entering the river, that I caused them to be counted for several successive days. The result was, that in seven days upward of four hundred junks, varying in size from one hundred to four hundred tons, passed Woo-sung, and proceeded to Shang-hae. During the first part of our stay most of these vessels were the north-country junks with four masts, from Teen-tsin (Thian-tsin on the Peiho) and various parts of Manchow Tartary; flour and peas formed a great portion of their cargo. But during the latter part of our stay, the Fokien (Fukien) junks began to pour in to the number of thirty or forty per day. Many of these were from Formosa, Canton, the eastern Archipelago, Cochin-China, and Siam.” Now if we suppose that the commerce of Shang-hae is as active the whole year round as Capt. Lindsay found it to be in the month of July, we come to the conclusion that this port is annually visited by shipping to the amount of five million tons.

It certainly excites some surprise to find that so active a commerce is carried on in a place which has hardly any commercial relation with foreign countries. But our surprise will cease if we consider that there is no other harbor on the Chinese coast between 30° and 37° N. lat., or between the bay of Ningpo on the south, and the peninsula of Shantung on the north. On this tract of coast the two largest rivers of China, the Yellow river and the Yang-tse-kiang, enter the sea, and they bring great quantities of earthy matter, which they deposite along the coast, and thus render the whole tract inaccessible to boats beyond the size of a fishing-barge. The Yang-tse-kiang discharges itself into the Yellow sea by a broad estuary, in the centre of which is the island of Tsong-ming; the Woo-sung falls into the Yang-tse-kiang near its embouchure, on its southern side, and being the first river which is deep enough for the purposes of navigation, the whole maritime

commerce of this tract is concentrated at Shang-hae. The country which lies at the back of the coast is the most populous part of China, and contains very many large towns, among which those of Soo-choo-foo and Hang-choo-foo probably contain a million of inhabitants each, and there are others which may vary between one hundred thousand and five hundred thousand, among which is the ancient capital of China, Nankin, to all of which they have ready access by the Yang-tse-kiang, which the tide ascends for more than two hundred miles, and the great canal.

Nankin is the capital of the province, seated on the south bank of the river, near 32° N. lat., and 117° E. long., and one hundred and twenty miles from its mouth. This town was the capital of the empire to the end of the thirteenth century, and at that time the largest town on the globe. To give an idea of its then extent, the Chinese historical records say, that if two horsemen were to go out in the morning at the same gate, and were to gallop round by opposite ways, they would not meet before night. This is certainly an exaggeration. The Jesuits, when surveying the town for the purpose of making a plan of it, found that the circuit of the exterior walls was thirty-seven *lies*, or nearly twenty miles. This agrees pretty well with the description given by Ellis, who estimates the distance between the gate near the river and the porcelain tower at about six miles, and says that an area of not less than thirty miles was diversified with groves, houses, cultivation, and hills, and enclosed within the exterior wall, which forms an irregular polygon; and is confirmed by Sir Hugh Gough in his despatches, who says, “It would not be easy to give a clear description of this vast city, or rather of the vast space encompassed within its walls. I shall therefore only observe that the northern angle reaches to within about seven hundred paces of the river, and that the western face runs for some miles along the base of wooded heights rising immediately behind it, and is then continued for a great distance upon low ground, having before it a deep canal, which also extends along its southern face, serving as a wet ditch to both. There is a very large suburb on

the low ground, in front of the west and south faces, and at the southeast angle is the Tartar city, which is a separate fortress, divided from the Chinese town by high walls. The eastern face extends in an irregular line for many miles, running toward the south over a spur of Chung-san, a precipitous mountain overlooking the whole country, the base of which commands the rampart. In this face are three gates; the most northerly (the Teshing) is approachable by a paved road, running between wooded hills to within five hundred paces of the walls, whence it is carried along a cultivated flat; the next (the Taiping) is within a few hundred yards of the base of Chung-san; and to the south (the Chanyang) enters the Tartar city. There is a long line of unbroken wall between the Teshing gate and the river, hardly approachable from swamps and low paddy (rice) land, and the space between the Teshing and Taiping gates is occupied by rather an extensive lake. The extent of the walls is about twenty miles in circumference, and their height varies from seventy to twenty-eight feet."

The present town consists of four principal streets running parallel to one another, and intersected at right angles by smaller ones. Through one of the larger streets a narrow channel flows, which is crossed at intervals by bridges of a single arch. The streets are not spacious, but have the appearance of unusual cleanliness. The part within the walls which is now only occupied by gardens and bamboo-groves is still crossed by paved roads, a fact which tends to confirm the statement that the whole area was once built upon.

None of the buildings of Nankin are distinguished by their architecture, except some of the gates, and the famous Porcelain tower, which is attached to one of the pagodas or temples. This building is octagonal, and of a considerable height in proportion to its base—the height being more than two hundred feet, while each side of the base measures only forty feet. It consists of nine stories, all of equal height, except the ground floor, which is somewhat higher than the rest. Each story consists of one saloon, with

painted ceilings; inside, along the walls, statues are placed. Nearly the whole of the interior is gilt. It is porcelain in nothing but the tiles with which it is faced. At the termination of every story, a roof built in the Chinese fashion projects some feet on the outside, and under it is a passage round the tower. At the projecting corners of these roofs small bells are fastened, which sound with the slightest breeze. On the summit of the tower is an ornament in the form of the cone of a fir-tree: it is said to be of gold, but probably is only gilt: it rests immediately upon a pinnacle, with several rings round it. This tower is said to have been nineteen years in building, and to have cost four hundred thousand taels.

According to the Chinese census, the country between 30° and 35° N. lat., extending from the sea about two hundred miles inland, and comprehending the ancient province of Kiang-nan, on a surface not exceeding seventy thousand square miles, has a population of more than forty millions, or about six hundred inhabitants to each square mile. Such a population can not subsist on the produce of the soil, even in the high state of agriculture by which this region is distinguished above all other parts of China. A considerable supply of provisions must be required every year. Such an inference must also be drawn from what is stated by Capt. Lindsay, namely, that the northern country vessels bring chiefly corn and peas; and though he does not mention the cargoes of the Fokien vessels, which come from the eastern Archipelago, Cochin-China, and Siam, it is a known fact that the principal article of export from these countries to China is rice. The immense quantity of grain which is carried into the port of Shang-hae is probably not consumed in that town and the neighborhood, but a part of it reaches the centre and even the western districts of China proper, by being conveyed on the numerous canals which are connected with the Imperial canal, or Yoon-ho, and the great rivers above mentioned. The exports probably consist of manufactured goods, and the inhabitants pay for the food which they obtain from other countries by supplying their inhabitants with cotton, silk, and

linen fabrics. The importance of the port of Shang-hae to foreign commerce can hardly be overrated as giving access to the northern provinces of China, whose wants are of a kind which that commerce is peculiarly able to supply, and a great part of which has been hitherto obtained through Russia, at, of course, most exorbitant prices, consequent on a land-carriage of two or three thousand miles.

NATURAL

APPEARANCES IN THE HEAVENS.

THE natural appearances presented to our notice in the heavens are too numerous to be fully considered in the few columns we are about to devote to the subject, but we shall endeavor to describe some of the most striking.

The heavenly bodies may be divided into four classes: the fixed stars, planets, nebulae, and comets—all of which will be, at least, casually noticed.

The Fixed Stars may be always distinguished by the scintillating or twinkling appearance they present, and by their apparent immovable position in relation to each other. To the human eye they are but specks of light, and, the majority of them, of inconceivable minuteness; but, when we come to a consideration of their distances from us, we are convinced that they must be worlds of immense diameter; many of them, perhaps, hundreds of times larger than the sun of our own system. To the unassisted eye they also appear few in number, but when the heavens are examined with a powerful telescope, they are found to be far too numerous to be calculated—passing over the field of vision too rapidly to be numbered. Another fact worthy of notice, is, that they appear to us of different sizes, or magnitudes, and have, consequently, been so arranged by astronomers. The cause of this we do not pretend to determine—it may be from their relative magnitudes or distances, but, in all probability, sometimes from the one, and sometimes from the other.

Astronomers have thought it advisable,

for the purpose of distinguishing the several parts of the heavens, to divide the fixed stars into groups, which have been called constellations, twelve of which form the zodiac. These constellations consist of stars, some visible, some invisible to the naked eye. When the telescope is applied to many parts of the heavens, an immense number of stars, before unseen, are brought to view; and many of these present most curious appearances. No celestial phenomenon, however, is perhaps more interesting than the resolving of an apparently single star into two or three distinct bodies, as is often done by the telescope; and no discovery more wonderful, than that these double stars compose a system, and revolve round each other, or, rather, some common centre of gravity.

Instances have been recorded of very remarkable and sudden changes among the fixed stars. Accounts have been delivered by astronomers of the sudden disappearance of stars long known, as though their lights had been in a moment extinguished; and we are also informed that new stars have sometimes appeared shining with great brilliancy, but have after a few days or months been lost sight of. The fixed stars are supposed to shine by their own light in the same manner as the sun which illuminates the system to which the earth belongs.

Nebulae.—In examining the heavens with powerful telescopes the astronomer has discovered in many places distinct masses of cloudy or nebulous matter in different shades of condensation. From a very careful examination of these, and a comparison of one with another, a theory has been suggested which may possibly be found true at some future period. It is supposed, by many astronomers, that these nebulae are in the process of condensation, and, as it were, being fitted by a change of state for all the purposes of fixed stars or planets. It is only by a long-continued series of observations that the truth of this hypothesis can be accurately decided; but the nebulae are, independent of this, most interesting celestial phenomena.

Planets.—The planets, or wandering stars, are those which do not maintain the same relative position to each other, and

to other classes of the heavenly bodies. Though we observe fixed stars, in one sense, constantly changing their positions by rising in the east, and after performing the circuit of the heavens, setting in the west, this is only an apparent motion occasioned by the diurnal revolution of the earth upon its axis. But the planets, with a similar apparent motion have one altogether different, and one which is real, for they have a progressive motion in the zodiac, performing their revolutions in their appointed curves, and with their regulated velocities in fixed periods. These planets have received different names from the heathen gods, whose qualities they were said to represent.

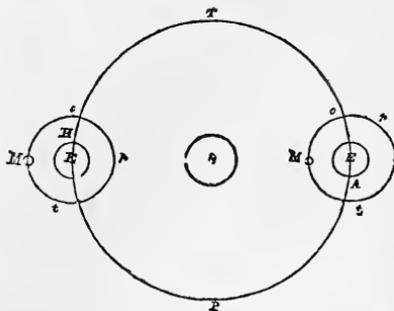
The Moon.—Of all celestial bodies none are more interesting to us than the moon, on account of her proximity, and her being, as is usually supposed, an attendant on the earth during her annual progress round the sun. From her nearness she comes within the range of our telescopes, and we are able to discover upon her surface mountains and valleys, and many traces of a physical character not altogether distinct from that of the earth we inhabit. The earth is also remarkable as a celestial body from its presentation of phases; not that it is the only body which is observed to change the appearance of its disk, for Venus has a similar alteration in figure, but being larger, it is better and more commonly observed.

The moon has a great influence upon the earth, and we may also remark a very singular one. In the first place it has some control over the weather, a fact now acknowledged by all meteorologists: its chymical effects in hastening putrefactive fermentation has long been acknowledged, and also its power in producing the tides. The moon is not less interesting to us as being the lesser light that rules the night, but it is a singular fact now well established, that although the moon has a powerful light, she does not communicate any sensible heat.

Comets are not frequently visible to us, but we must not therefore suppose that they are few in number. The probability is that those within the range, and belonging to our own system, are exceedingly numerous. They appear under a variety

of forms: sometimes as a mere brush of luminous matter, sometimes with scarcely any radiation around an apparently condensed head. They move in curves of great eccentricity, are but a few weeks visible to us, and for years absent on their long and far wandering journey. The effect they produce in the system, and the objects for which they were created are quite unknown, but there is sufficient evidence to convince us that they much disturb the physical conditions of the planets when they approach their places.

Eclipses.—An eclipse is the temporary obscuration, or partial obscuration, of one of the great luminaries; and there may therefore be an eclipse of the sun, or moon. When the sun is to us eclipsed, the moon intervenes between that luminary and the earth; when the moon is eclipsed, the earth passing between it and the sun intercepts the light by which it is rendered luminous, and casts its own shadow upon her disk. When, therefore, we have an eclipse of the moon, the inhabitants of the moon, if there be any, must observe an eclipse of the sun; and when we see an eclipse of the sun, they must observe an eclipse of the earth. This curious celestial appearance may be easily demonstrated by a single diagram; for when the nature of an eclipse is once understood, there will be no difficulty in changing the places of the bodies, or even in supposing one's self to be observing celestial appearances from the surface of the moon, instead of from the surface of the earth.



Let us now imagine *s* to represent the sun, and the circle *P A T H* the orbit of the earth; *o r t* may be considered as the orbit of the moon, in which she is distin-

guished by the figure μ . Now we have represented the earth and its satellite the moon, in two different parts of the earth's orbit, for the sake of exhibiting the two bodies in a different position with regard to the sun, the only real source of light.

Let us first consider the appearance that would be presented on the surface of the earth when the bodies are in the position shown at A . The moon here is placed immediately between the sun and the earth, and being a dense body, must intercept the rays of the great luminary. The moon having no light of her own, but merely reflecting that which she receives from the sun, is of course invisible, for her light side is turned from the earth. Hence, then, it follows, that when the moon is in the position here shown, the inhabitants upon a large portion of that part of the earth turned toward the sun, and having daylight, must observe an eclipse of that body.

If we suppose the earth and moon to be in the position shown at H , an entirely different appearance will be observed from the earth, situated between the two luminaries. In the first place, it must be remarked that whereas in the former instance the phenomenon was seen from the enlightened, it is now seen from the darkened hemisphere. The moon, as before stated, is a body illuminated by the sun, and therefore, as in all other cases, if a dense body comes between the source of light and the illuminated surface, the latter must be darkened. Hence it is, that an eclipse of the moon is produced, which may be partial, or total, according to circumstances.

Many other interesting particulars concerning eclipses and the other astronomical appearances might be mentioned, but our only object is to explain in the most general manner phenomena which are commonly observed, and are likely to attract the attention of the student.

SKILL OF THE ANCIENT EGYPTIANS.

IF the Thebans, eighteen hundred years before Christ, knew less in some of

the departments of useful knowledge than ourselves, they also, in others, knew more. One great proof of the genius of that splendid line of potentates, entitled the eighteenth Theban dynasty, and the extent of civilization under their rule, was that the practical, chymical, astronomical, and mechanical knowledge which they shared with the priestly (scientific) colleges, was in some respects equal to, in some respects greater than our own. They made glass in great profusion, and burning-glasses. They must have cut their delicate cameos by the aid of microscopes. Ptolemy describes an astrolabe; they calculated eclipses; they then said that the moon was diversified by sea and land; that one lunar day was equal to fifteen of the earth; that the earth's diameter was a third of the moon's; and that the moon's mass was to that of the earth as 1 to 72. All these things show good instruments. They made gold potable. Moses did so, who was a scribe brought up by the sovereign pontiff, and nursed in the "wisdom of the Egyptians;" an "art lost," till recently recovered by a French chymist. Their workmanship in gold, as recorded by Homer, their golden clockwork, by which thrones moved, must be exquisitely ingenious. They possessed the art of tempering copper tools, so as to cut the hardest granite with the most minute and brilliant precision. This art we have lost. We see the sculptors in the act of cutting the inscriptions on the granite obelisks and tablets. We see a pictorial copy of the chisels and tools with which the operation was performed. We see the tools themselves. There are sculptors' chisels in the British museum, the cutting end of which preserves its edge unimpaired, while the blunt extremity is flattened by the blows of the mallet. But our tools would not cut such stone with the precision of outline which the inscriptions retain to the present day. Again, what mechanical means had they to raise and fix the enormous imposts on the lintels of their temples at Karnac? Architects now confess that they could not raise them by the usual mechanical power. Those means, must, therefore, be put to the account of the "lost arts." That they have been familiar with the principle of

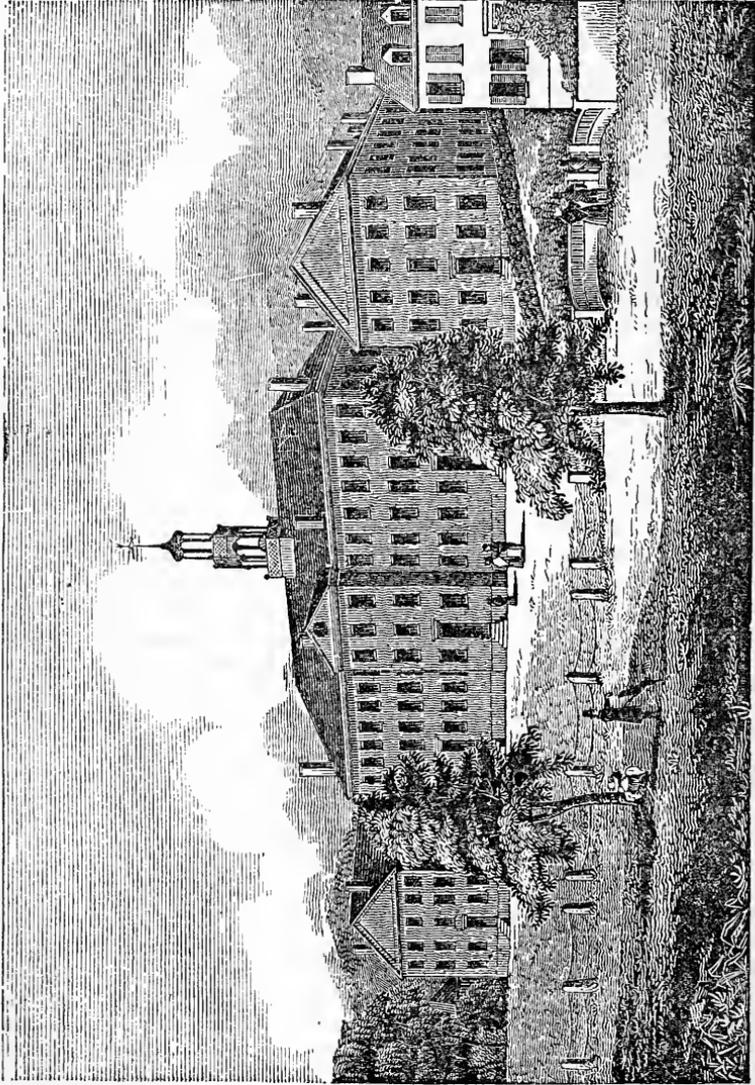
Artesian wells, has been lately proved by the engineering investigations, carried on while boring for water in the Great Oasis. That they were acquainted with the principle of the railroad is obvious—that is to say, they had artificial causeways, level, direct, and grooved—the grooves being anointed with oil—for the conveyance from great distances of enormous blocks of stone, entire stone temples, and colossal statues of half the height of the monument. Remnants of iron, it is said, have lately been found in these grooves. Finally, M. Arago has argued, that they not only possessed a knowledge of steam power, which they employed in the cavern mysteries of their pagan freemasonry, but that the modern steam-engine is derived through Solomon de Caus, the predecessor of Worcester, from the invention of Hero, the Egyptian engineer. The conduct of the Egyptian *sophos* with Moses, before Pharaoh, pays singular tribute to their union of “knowledge and power.” No supernatural aid is intimated. Three of the miracles of their natural magic, the jugglers of the east can and do now perform. From the whole statement, one inference is safe, that the daring ambition of the priestly chymists had been led from the triumphs of embalming and chicken hatching (imitating and assisting the production of life), to a Frankenstein experiment on the vital fluid, and on the principle of life itself, perhaps to experiments like those (correctly or incorrectly) ascribed to Mr. Crosse, in the hope of creating, not reviving the lowest form of animal existence.

DARTMOUTH COLLEGE.

THIS institution is located about half of a mile from the Connecticut river, in Hanover, Grafton county, New Hampshire. Its immediate site is the easterly side of a large and beautiful plain, around which stands the village—elevated, and commanding an extensive and agreeable prospect of the highly picturesque scenery of the adjacent country.

Its history is singular and curious. It

owes its existence to the philanthropic exertions of the Rev. Eleazar Wheelock, D.D., of Lebanon, in Connecticut, for the improvement and education of the Indians. This gentleman, observing the distrust and dislike with which the English were received among them, formed the design of establishing a seminary for the preparation of teachers from among the natives themselves, who might, therefore, return to them qualified for all the duties of instructing, while they would be free from the difficulties, which their prejudices and enmities threw in the way of the English missionary. His representations were favorably received by the community, and his efforts assisted by donations from many individuals who regarded with pity the unhappy condition of the unfortunate aboriginals. The school was first opened in Lebanon, and from the name of the most liberal of its patrons, called Moor's school. After an experiment of some years, however, during which that part of the country had become thickly settled, its founder took the resolution of changing its location for one nearer the frontiers, where its immediate object might be more successfully prosecuted, and the natives more easily induced to avail themselves of its privileges. When his purpose became generally known, very liberal proposals were made by several of the then colonies to induce him to locate it within their limits. That of Governor Wentworth, however, appeared to combine most of the advantages which he sought, and accordingly its present site was selected in the province of New Hampshire. Together with about twenty students he set off for Hanover, then an entire wilderness. For the purpose of enabling him to receive donations, as well as of rendering it more permanent and more extensively useful, he solicited, and, through the influence of the governor, obtained a charter for the establishment of a college with all the usual privileges and immunities—thus presenting the singularly curious and anomalous spectacle of an incorporated literary institution, in the midst of the forest, remote from civilized society, where instruction was to be given in the polished compositions of the Greek and Roman languages, in log-huts, and amid the lairs



Dartmouth College.

of wild beasts—and affording a striking though an extremely interesting contrast between the condition of its earlier students and that of those who resort to that pleasant village and throng its spacious and convenient halls of the present day. Perhaps, indeed, no institution now combines more conveniences for the student and means of acquiring an education, with fewer of the causes which discommode and interrupt its pursuit. The seclusion and retirement of its situation, its remoteness from large cities and towns, and consequent freedom from many of the temptations to the neglect of study, and the allurements to dissipation and vice, render it one of the safest and most advantageous—while the salubrity and beauty of its location—

“*olim sylvestribus horrida dumis*”—

the variety of the surrounding scenery render it one of the most agreeable residences for the young in New England. As its establishment and its object were entirely novel, it attracted much of the attention of the community, and received many donations from philanthropic individuals both in this country and in England, the most liberal of whom was the Right Hon. William Leggee, earl of Dartmouth, from whom the embryo institution derived its name. Instruction was given for many years in the buildings which were erected by the first president and his students. In 1796, nearly twenty years after the incorporation of the college, Dartmouth hall was erected, a large and convenient edifice in which, besides rooms for students, are a beautiful chapel, the libraries, lecture rooms, &c. In 1829-'30, by the liberality of its friends, two new buildings were erected solely for the use of the students—the whole presenting a pleasing and elegant appearance.

THE RELIGION OF CHINA.

THERE are instances of nations where uncultivated nature has been left to itself, without the help of letters, and discipline, and the improvements of arts and sciences. But there are others to be found, who have

enjoyed these in a very great measure, and yet, for want of due application of their thoughts this way, want the idea and knowledge of God. This is strictly applicable to the state of religion in the Chinese empire.

Without retreating into the mists of antiquity, and laboring to discover a clue to the labyrinth of fable where true history is now inevitably imprisoned, we must still assign a high antiquity, and pay some respect to the early records and even traditions of the Chinese. They are unable to give any distinct or probable account of their original country; but the presumption is that they were a colony from Egypt, that separated, at an early period, from the first family of mankind. That they do not observe a sabbath-day has been explained by the supposition, that they migrated before its institution on Mount Sinai, in the wilderness; or, if this point be itself doubtful, that its observance became neglected in the journeyings of the separatists themselves through so many lands—besides that human nature is unhappily most prone to forget those practices and duties which impose upon it the wisest restraints. Let it, therefore, be allowed, as a goal in Chinese antiquities, that they were originally Egyptian colonists or emigrants—a statement that has never been contradicted—and a multitude of seemingly inexplicable difficulties in their history, customs, and manners, will be at once resolved, and themselves at the same time reduced from their childish celestial origin to the common parents and great family of the universe. It was a problem to discover the source of the Nile, and from the mysteries of its rise and fall, a miraculous character was readily ascribed to its fountain; it was another problem to detect the mouth of the Niger, and evaporation, subsidence, and more mystic modes of its waters escaping, were gravely spoken of. Investigation, perseveringly and philosophically conducted, has shown that the one collects and the other discharges its waters according to the well-known and invariable laws of nature. As soon as historic witnesses can be assembled, the Chinese will be found to be derived from the same parent tree as all the other offshoots that are planted in

the various habitable regions of our globe.

Before any regular form of worship was established in China, that is, any of which we have record, it is supposed that polytheism prevailed, and was the primitive, indigenous religion. Idolatry—a disease that had infected the Israelites, Egyptians, Grecians, and Romans—was widely and deeply sown and implanted, and gross and palpable objects alone received the homage of the people. It was when this debasement had closed its reign, 550 B.C., that Confucius appeared; and an extraordinary concentration of means and advantages in his individual person rendered him a well-qualified minister of knowledge and amelioration. A native of Loo, or Keo-few-Hien, in the province of Shan-Tung, of royal descent, and possessed of shining abilities, he united every qualification for the founder of a sect or leader of a great section. Having shown a repugnance to the amusements of boyhood, Koon-foo-tse devoted himself from his earliest years to study and contemplation, the result of which was a disgust for the whole scheme of religion and morals then existing. The king having declined to encourage his predilection, the philosopher at once withdrew from court, retired to the principality of Sum, and there became a teacher of morals. Resigning the dignity that belonged to his high birth, he traversed the northern provinces, and by his self-denial and enthusiasm evinced a sincerity of character that soon drew the well-disposed and intelligent around him. At length he had the happiness of seeing three thousand disciples hearkening with attention to his discourses, and filled with an attachment and devotion that no terrors of punishment could influence. The virtuous tendency of the precepts he inculcated becoming known to the many petty potentates, who then ruled the countries now incorporated into the vast empire of China, he was solicited to visit their respective courts, and accept of honor and preferment; all these invitations he respectfully but resolutely declined. Convinced that the glories of this world are but glittering, and that the acceptance of political authority would militate much against his ministry, he determined upon

pursuing closely and strictly the objects of his early ambition—the introduction and foundation of a system of morals that should long be cherished by his grateful countrymen.

If he abstained from political interference, he was not less scrupulous in avoiding anything that could offend the religious prejudices of the multitude; and the subjects of sacrifice, and the nature of the gods, he enjoined his disciples to abstain from touching on. Having published his moral code, and instructed his chosen disciples in the mysteries of his philosophy, he retired from public life, and, during his closing years, devoted himself to the amendment and completion of those celebrated works which have rendered his name immortal in China, and his character respected by many civilized nations.

It is a common mistake to consider Confucius as the founder of a religion: so far from introducing any new system of faith in matters of this sort, he cautiously respected popular prejudices, confining himself to the propagation of a moral philosophy: and when compared in history to Mahomet and Zoroaster, it is not in unity of pursuit, but in similarity of success; Mahomet being the founder of a religion, Zoroaster a lawgiver, and Confucius a moralist—so that although we commence our sketch of the religion of China, with an account of the labors of Koon-foo-tse, or Confucius, it is in accordance with vulgar error, and not with the accuracy of history. Confucius laid down first principles of philosophy, which he expected no one would be able to refute, or unable to comprehend: “That out of nothing there can not possibly be produced anything—that material bodies must have existed from all eternity—that the *cause* of things must have had a co-existence with the things themselves—that therefore the Cause is also eternal, infinite, indestructible, unlimited, omnipotent, omnipresent—that the central point whence the cause (or strength) principally acts is the firmament (heaven), whence its influence spreads over the universe—that it is therefore the duty of the supreme prince, in the name of his subjects, to present offerings to Heaven (Tien), particularly at the equinoxes, the one for ob-

taining a propitious seed-time, the other a plentiful harvest." From this first cause, Heaven, two principles were evolved, designated existence and decay, or good and evil, or light and darkness, so that at the first beginning of the system, we have a species of sacred *Triad*, a circumstance that will hereafter, *i. e.*, in speaking of Bhuddism, be particularly alluded to.

Without, therefore, any reference to dominant creeds, or any attention to the political feeling of the people, Confucius proceeded to the institution of mysteries to be observed by his followers, in which the prejudices of his high birth exerted an insensible influence over him, for he selects the highest places for his altars, and the highest personages for his priests. Confucian sacrifices were offered to Heaven (*Tien*) on a rude cairn of stones, or on a large tabular one erected on the summit of some conspicuous mountain. This early and universal practice appears perfectly natural among all unenlightened people, especially those who look to heaven, the sun, moon, and stars, as the origin or dwelling of creative power. The Persians, according to Herodotus, considered the circle of the heavens as the great ruling power of the universe, the fountain of heat, and light, and life, and which was represented in their books by a circle enclosing a waving line, and the mountain pinnacle was the altar of their sacrifices. Tacitus writes "that the nearer worshippers can approach to heaven, the more distinctly can their prayers be heard;" and certainly in the Roman temples the people always strove for the nearest seat to the tutelary deity, with precisely a similar object. So also, when Noah quitted the ark, he built an altar on the mountain where it rested, and made a burnt-offering, whose smoke ascending to heaven was pleasing to the Lord. The sacrifice of Isaac was appointed to be made on a high mountain in the land of Moriah. Balak carried Balaam to the top of Mount Pisgah to sacrifice there, and curse Israel; and the Redeemer used to retire to a mountain to offer the sacrifice of prayer. It appears, therefore, that this custom has prevailed, not only in the infancy of all nations, but at later periods, and under examples worthy of all honor.—What is the

origin of the sect called Jumpers in our own age?

It was the custom of such nations to mark with a great stone the burial-places of their kings or warriors, particularly of those who fell in battle, or subdued a rival power; superstition having generally placed those heroes in the catalogue of the gods, these tombs became the altars at which offerings were made to their *manes*, or the aid of their spirits invoked. Sometimes a heap of loose stones served the purpose; and for this custom, one that prevailed also among the ancient Britons, the tombs of the great, and the cairn of stones, and the mountain's summit became the scene of supplication to the Power of heaven. Taking advantage of this ancient prejudice, Confucius improved the cairn and the pillar-stone into an area enclosed by four upright stones (*Tau*), and every altar in China at the present day is ornamented with four loose stones placed at the four corners, like the horns of the Jewish altar. He *extended* the principle of *spirit-adoration*, by requiring the most constant offering of prayer and sacrifice at tombs of relations and parents; and, although the mountain has been deserted for the shelter of the vale, his injunction and the eternal invocation of departed spirits still prevails. We must not here omit to notice that our term *altar* is derived from the Latin *altus*, signifying high, and when applied to a Christian church, is synonymous with *high-place*, although the Romans applied the term *altare* to a structure dedicated to the high or superior gods. The city of Pekin, the metropolis of China, stands on a sandy plain, but its *three altars*, of heaven, earth, and agriculture, are elevated on artificial mounts within the precincts of the imperial palace.

Gentle habits and the space over which the increased number of votaries is spread, rendering the mountain-altar no longer convenient, this article of the Confucian doctrine is partially abandoned, but the aristocratic maxim of excluding all save princes, or rather the king alone, from the office of *pontifex maximus*, is still observed: "So great is the distance," says the philosopher, "between the Creator and the creature, that the king, or ruler of the people, is alone worthy to offer sacrifice

on the altar of heaven. This creative power also is best satisfied when man performs all the moral duties of life—the principal of which consists in *filial piety*, and the most entire submission to the reigning prince."

The metaphysical sentiments and moral precepts of Confucius are contained in nine volumes, known as "The Four Books," and "The Five Canonical Books:" our readers may remember, that nine was also the number of the Sibylline books offered for sale to Tarquin, king of Rome. These miscellaneous writings treat of self-government, of social intercourse, of æconomics, of public instruction, of politics—generally. The style is terse and sententious, if not dictatorial; their moral and religious precepts are honorable to their author, but his metaphysics, like some of Aristotle's, so obscure and often unintelligible, that he has been suspected of employing ambiguous language and introducing studied difficulties into this part of his labors. These difficulties have given employment to commentators; and the explanations of his meaning, which possibly the philosopher himself did not perfectly comprehend, while it has multiplied literary occupation infinitely, has impressed the Chinese people with an ardent admiration of the splendid genius of that man, whose doctrines were so difficult to be understood even by the most learned of his followers. But the immortality of Confucius should be limited to his country, of which he has certainly deserved well, for among the cold climates of the west he will meet with but few proselytes. A modern traveller, acquainted with the Chinese written and spoken languages, and in other respects eminently qualified to pass sentence on the philosophic labors of Confucius, says, "The compass of his intellectual researches was narrow: the stock of his theology and his philosophy scanty; and for this reason he was easily tempted to lay an embargo on every kind of inquiry. All questions touching the existence and creation of celestial beings, and the share they take in the economy of the universe, were excluded. To hold father and mother in everlasting veneration was the sum of religion. Sages, and the instructors of mankind, however, rank

with father and mother, and are worshipped by such as choose to admire their character;" and such is the extraordinary mixture, the *olla podrida*, which forms the guide of the wealthy, and learned, and high-born in China.

Although his praises are celebrated without the accompaniment of altar, or priest, or temple; yet those whose wealth enables them have temples, or halls of ancestors, in which they sometimes address the spirit of the national philosopher. In every city, however, there is a great public building, or college, called the hall of Koon-foo-tse, wherein literary examinations are held, and degrees of office granted; there men of letters meet together, on appointed days, to discuss philosophic questions, like the ancient Stoics and Peripatetics, and pay public respect to the memory of the founder of Chinese ethics. On a large tablet affixed in the most conspicuous place in each hall, and in letters of gold, is inscribed, "O Koon-foo-tse, our revered master, let thy spiritual part descend, and be pleased with this our respect which we now humbly offer to thee!" Perfumes, flowers, fruits, and wine, are laid before the dedicatory tablet, while various kinds of scented gum, frankincense, tapers of sandal-wood, and gilt paper, are kept burning. This ceremony is analogous to the offerings made in all public cemeteries in China to the spirits of departed relations; it has prevailed from immemorial time in Persia; was practised by the Romans, who presented gifts to the *genii* of the dead; and the decking of graves at certain seasons, a custom of catholic countries, is an obvious relic of this ancient ceremony. No divine honors are paid to Confucius, no effigy or statue, or palpable emblem of adoration is erected to his memory, or in his halls; his followers, the Stoics of the country, consider the universe as one *animated* system, composed of one material substance and one spirit, of which every living thing is an emanation, and to which, when separated by death from the material part, every living thing again returns:—

"All are but parts of one stupendous whole,
Whose body Nature is, and God the soul."

The most contemptible part of the philosophy of Confucius is, that which relates

to predestination, or to prophecy, or astrology, according to the means employed to attain the simulated end. The Chaldeans, Arabians, and Egyptians, as well as the Chinese have always been addicted to the study of the stars, and the decision of *numerical* fates; and Confucius, yielding to this weakness, adopted the mystical lines of Foo-shee. By the help of these lines, and the prevailing element at the commencement of a reign, he pretended to foretell coming events, but so ambiguously were his oracles worded, that they might admit of many and different interpretations. The mystic lines of *Foo-shee*, and the binary arithmetic of Leibnitz, are the materials of imposition now worked up by the fortune-tellers, or astronomers, as they are generally called, of China, whose cheats are practised under the sanction of a government license. The Chinese almanac, regulated by these impostors, undertakes to predict events, changes of weather, lucky and unlucky days. To some of these prognostics, however, more enlightened people have laid claim; and, in the almanacs of Moore, Vincent, Wing, Partridge, and Murphy, weather-wisdom is most unblushingly professed.

The Greeks used pebbles, the Romans dice, the Franks cards, the Germans and Chinese little pieces of wood, "sticks of fate," which they are permitted to throw three times if the first be not satisfactory, when seeking their destiny. The learned in many countries, even those who despised the sticks of fate, have lent themselves to the various objects of their adoption—only employing books instead of cards, or dice, or sticks, or pebbles. Lord Napier, the inventor of logarithms, predicted the day of judgment from a passage in the Apocalypse of St. John, but had the mortification to survive the appointed day, and be compelled to blush at his own weakness and credulity. Kung-Ming, a person of distinction in the civil wars of the three kingdoms, was a believer in astrology, and foretold his own death. Desirous, however, of still serving his royal master, when the predicted hour drew near, he lighted a certain number of lamps within his tent, corresponding with the appearance of the stars in the sky, and, placing them in order, addressed a supplication to

Heaven to arrest his approaching fate. As he was then in the last stage of a wasting malady, and as he prostrated himself upon the cold earth, resolving to await in that situation the answer from above, it is not to be wondered at that he expired about the time he had himself foretold.

The expectation of Confucius to found a system of moral government, not connected immediately with any religious theory, was illusory and contrary to historic experience. The fallacy of such an attempt is proved by a reference to the history of any nation upon earth. 'Tis true, he did not command idolatry, but he did not prohibit that practice, although he did not attach any idea of a personal being to the great First Cause; and he pursued the same wary policy with respect to temples of worship and an attendant priesthood; but such views were too sublime, abstract, and metaphysical, to preserve their purity for any length of time, among a people unprepared by education for their reception; and, scarcely had the philosopher himself paid the debt of nature, when the multitude relapsed, like the Israelites of old upon the absence of Moses, into the gross idolatry which now prevails among the disciples of Buddha and Laoutsze.

It has been before observed, that the doctrine of Confucius being purely a code of moral philosophy, requires neither temple, nor priest, nor altar; that the rich, and educated, and elevated, alone pay ceremonial respect to his memory, either in halls erected at their private expense, or in a public literary theatre; and, that there is but one high priest, the emperor, authorized to offer sacrifices to the spirit of the sage. Yet his disciples assemble in upward of 1600 public buildings, and in those, as well as in the halls of ancestors, where the shadows of great men are appeased, it is said, that 30,000 pigs, 30,000 rabbits, 60,000 sheep, and many bullocks, are annually slain as sacrificial offerings to the spirits of Confucius and his seventy faithful disciples.

To cure our prejudices, every man should let alone those that he complains of in others, and scrupulously examine his own.

BUTTERFLIES.

IF, having never seen or heard of a butterfly, one were to meet our gaze, as on winnowing wings it danced through the summer air from flower to flower, should we conceive it possible that it had ever been a crawling and voracious worm, and then a torpid being enveloped like a mummy in a case—whence it sprung forth in newness of life, light-winged and graceful in every movement, and arrayed with beauty? And though we know this to be the fact, when we look at the sluggish leaf-eating caterpillar, and contrast it with what it will be, when on broad wings it traverses garden and meadow, extracting from the flowers their nectar for food, we feel involuntary emotions of wonder, so striking is the contrast. Well might the Greeks, elegant even in their mythology, apply the term *Psyche* to the soul—and to the butterfly, the latter being the mystical emblem of the former.

All know what a caterpillar is; there are few who are not familiar with the caterpillars of many of the more common butterflies, so destructive to the esculent vegetables of the kitchen-garden; but still some points in their structure and economy may not be so generally understood.

The caterpillars of the butterfly tribe have hard horny jaws; a body consisting of segments, to the number of twelve, exclusive of the head. They are furnished with legs of two kinds: of these, the first three pairs, attached to the first three segments of the body respectively, are *true*, or persistent, being the rudiments of the legs of the perfect insect; these are horny. The other legs, termed *pro-legs*, are soft, short, and conical; they vary in number in different species; the larva or caterpillar of the common cabbage butterfly has five pairs: these feet are furnished with a set of minute, slender, horny hooks, alternately longer and shorter, by means of which the animal is enabled to lay a very firm hold on the leaves of plants or other objects, and also to move along with tolerable despatch. It is to be observed, that when five pairs of these limbs are present, none are found on the fourth, fifth, tenth, or eleventh segments, but a pair re-

spectively on the sixth, seventh, eighth, ninth, and twelfth segments. In some caterpillars there are only two pairs of these limbs—one pair on the last segment, one on the ninth; such are the geometrical larvæ.

Many caterpillars are covered with long stiff hairs, others with short harsh fur or bristles; some are furnished with tufts: others are naked.

A very important organ possessed by the larvæ of butterflies and moths is the spinneret for the production of silken threads, by means of which some merely suspend themselves during the pupa stage, while others envelop themselves as in a shroud. Many caterpillars, moreover, weave tents of network or houses for themselves in hawthorn, apple, and pear-trees, in which, on returning from their foraging excursions, they cluster by hundreds. The spinneret is seated beneath the horny lower lip, or labium, as entomologists term it, and the first two legs; and appears in the form of a conical protuberance, whence two long tortuous tubes extend down the body of the larva: these tubes separate the silk from the juices of the body in the form of a gummy fluid, which, as it is drawn through the aperture of the spinneret, hardens into a thread: such is the silk of the silkworm.

On its exclusion from the egg the caterpillar is of very small size; its growth, however, soon commences, and is as rapid as its appetite is voracious. As, however, it is clothed in an outer skin which is not extensible; this investment, like the armor of the lobster, must be repeatedly changed. Beneath the old outer skin, or epidermis, which soon begins to be loosened, a new one is formed; a rent takes place, from the swelling out of the animal, down the back of the old skin, and this rent gradually increases, till the animal, with a brighter epidermis, frees itself from its discarded weeds, and appears of larger dimensions. During this process, which is often repeated, the caterpillar is sluggish and inactive, and refuses food; but when the process is over, it recovers its former voracity. During all this time the caterpillar is laying up an accumulation of fat to serve the wants of the system during the time of its torpid pupa

state, which it is now preparing for. Beneath the last cuticle assumed, the vital energies of the system have developed wings, antennæ, a slender proboscis, and all the parts of the perfect butterfly, or moth that is to be. This last cuticle, or epidermis, is, however, yet to be cast off, and another is formed to clothe the pupa (or chrysalis, as the pupa of the butterfly is often termed), which in its turn is to be broken open for the exit of the perfect insect. Previously, however, to the pupa stage being assumed, it secures itself by means of its silk in a position varying according to the species. Suppose it merely suspends itself by the tail: in this case the first care of the caterpillar is to cover the spot to which it is about to suspend itself with successive layers of silken threads, which readily adhere, till at last a little silken cone is produced, into which the caterpillar pushes its hinder pair of pro-legs (those on the last segment), which become entangled, and so fixed, amid the threads; it then permits itself to hang down with the head lowest. In a short time it begins to bend its back, bringing the head near the attached feet; and, after continuing for some time in this attitude, it straightens itself, and repeats the same action. In about twenty-four hours the outer skin begins to split down the back, and the fissure is enlarged by the swelling and pressure of the chrysalis, till at length the head and lower portion of the suspended being become disengaged, the skin shrivelling up into a bundle surrounding the tail. This, however, has to be thrown off, and at the same time the chrysalis has to avoid disengaging itself from its mooring of silken threads from which it hangs; for, be it remembered, it was by its hind legs that it attached itself. To effect this, instinct-guided, it seizes on a portion of this shrivelled skin between two segments of its body holding it as with a pair of pincers, and thus, destitute of limbs, supports itself, till it withdraws the tail from the old useless skin which sheathed it: it then, still clinging, elongates the rings of its tail as much as possible, and seizes a higher portion of the skin, and in this manner, climbing backward as it were upon its exuviae, it repeats the manœuvre till the extremity of the tail presses the silk,

to which it immediately adheres by means of a number of hooks provided for the purpose. Still these exuviae encumber it, and hang in contact with it; curving its tail in such a manner as partly to embrace the shrivelled skin, it whirls rapidly round, jerking violently, and at length succeeds in disengaging it from its fastenings and throwing it to the ground. Other caterpillars attach themselves closely to the wall or other objects by bands of silk round the body, as well as by a little cone of silk at their extremity; and some envelop themselves completely. In a short time the chrysalis hardens (for at first it is very soft), and shows through the outer case the wings, antennæ, eyes, and legs of the perfect insect. It now passes into a sort of torpid state, till the time arrives for the exit of the perfect butterfly from its case.

The duration of the pupa or chrysalis stage of existence varies in different species, and even in the same, being retarded by cold and abbreviated by warmth—a wise provision, as it respects the safety of the matured insect. The butterfly, when ready for exclusion, bursts the skin of the chrysalis, now to be thrown off, which covers the thorax, and emerges, feeble and languid, with wings crumpled up into small bundles. Soon, however, the body acquires strength; the fluids circulate through the nervures of the wings: these gradually unfold, and the creature quivers them, as it feels its growing powers; at length, in the perfection of strength and beauty, it leaves its sordid mummy-case behind—soars aloft, seeks the flowers of the garden, and commences a new existence.

Such is the sketch of the progress of the caterpillar from the egg to the butterfly; from

“The worm, a thing that crept
On the bare earth—then wrought a tomb and slept,”

to the hovering “Psyche.”

The rest of the story is soon told; bright things must fade: the butterfly enjoys a brief summer, deposits its eggs on the plants which instinct teaches it are the appropriate nourishment of the future caterpillar, and passes out of existence.

Of these interesting creatures, children of summer, a beautiful group is on the



Butterflies—1, *Argynnis Paphia*; 2, *Hipparchia Paphilus*; 3, *Melitæa Athalia*; 4, *Melitæa Cinxia*; 5, *Nemeobius Lucina*; 6, *Lycæna Phleas*.

opposite page: we shall give a brief description of them seriatim.

1. The Silver-washed Fritillary (*Argynnis Paphia*). This beautiful butterfly, sometimes called the great fritillary, is generally spread over our country, appearing in June about the sides of woods, and flitting on rapid wings. The upper surface of the wings is of a bright orange-brown, with three rows of black marginal spots, and with several black marks near the centre. The anterior wings are paler beneath, and the hinder wings beneath are brassy green, with four transverse fasciæ of silvery white. The wings are ample.

2 The Pearl-bordered Likeness (*Melitæa Athalia*). This species, also termed the heath fritillary, is not uncommon in more southern parts. It appears in June, and is found in the open glades of woods, and about heathy commons. It is subject to several variations of coloring, a circumstance which has led to some confusion of names. One variety is the papilio pyronia of Hübner. The ordinary coloring is orange above, with undulatory lines of black. The fore wings beneath are pale yellowish, with a few transverse lines of black at the anterior margin. The hinder wings below, with several black-edged spots near the base, and a curved band of whitish across the centre, and edged with narrow lines of black; the fringed margin of the wing is yellowish.

3. The small Heath butterfly (*Hipparchia Pamphilus*), Golden Heath-eye. This species is common throughout short-grassed hills, upland pastures, and dry heathy grounds, and appearing in June; a second flight occurs in September. The wings above are of a pale orange or ochre yellow, with a fringe of long white hairs; underneath, the fore wings are clouded with ash color, and have near the tip an ocellated spot of black with a white centre. The hinder wings below are clouded with greenish brown and gray, with two or three indistinct ocellated spots.

4. The Glanville Fritillary (*Melitæa Cinxia*). Its color above is orange-red, marbled and spotted above with black and yellowish; a row of black points runs parallel with the posterior margin of the hinder wings. The color of the wings is paler below than above.

5. The Small Fritillary (*Nemeobius Lucina*). This species is somewhat rare. Its wings are dark brown, the anterior pair having three transverse bars of irregular pale yellow spots, the marginal series being dotted in the centre with black. The hinder wings are almost similarly variegated. Underneath the wings are pale brownish yellow, the anterior pair having light spots interspersed with black in the centre, and a row of light spots, with a dusky mark in the centre of each, along the margin; the hinder wings are similarly ornamented, but have two bands of oval spots of a whitish tint, those forming the outer row being edged with black.

6. The Common Copper butterfly (*Lycæna Phlæas*). In every part of our land, and on the European continent, this pretty butterfly is tolerably abundant. It is light, quick, and active in its movements; and makes its appearance in June, July, and August. The anterior wings, which are not indented at the edge, are of a rich copper color, spotted with black, and broadly margined with the same. The hinder wings are brownish black, with a copper band posteriorly, spotted along the margin with black. Under surface of the wings paler. This species is subject to considerable variations of color.

We need scarcely observe that the varied colors of the wings of butterflies are produced by the minute plumes or scales with which they are covered, and which, beneath a microscope, present very beautiful objects. These scales are of different forms, and variously arranged, but mostly in an imbricated style, with more or less regularity. They are inserted into the membrane by a short footstalk or root, but their attachment is comparatively slight, whence they are brushed off by a touch. Not only are they often richly colored, but they are marked with striæ, and often crossed by finer lines, and these striæ by the reflexion of the light at different angles produce varying tints of brilliant or metallic effulgence. Some idea of the almost endless variety of form and markings which the scales of butterflies and moths assume, may be conceived when we state that Lyonnet nearly fills six quarto plates with crowded delineations of the scales of one species of moth,

viz, the bombyx cossus. Such is their minuteness, that they appear to the naked eye like a fine powder, and their numbers on the wings of a large butterfly almost defy calculation. Leeuwenhoek counted upward of 400,000 on the wings of a silk-moth, and it is calculated that in one square inch of surface of a butterfly's wing the number of scales will amount to about 100,740. When these scales are rubbed off, the wings are found to consist of an elastic, transparent, and very thin membrane; and when examined by means of a microscope, it will be found marked with indented lines, exhibiting the arrangement of the scaly covering.

It is scarcely necessary to add that our accompanying plate affords but a few specimens of the numerous classes which might be cited.

BLOSSOMS.

THE uncertainty of life, so frail is the tenure it is held by, is a theme seldom duly considered. The Christian and the philosopher are the only ones who take such under their consideration, and who strive, by their faith, actions, and principles, to prepare themselves for that world "eye hath not seen." This earth is truly a scene of probation and trial: we are placed here for high and holy purposes, and well is it for him who, as far as he can, does follow them out. To aid him in this endeavor, man needs that wisdom which Solomon declares is "better than rubies;" by this precious boon he can bravely stem every difficulty—he can resist opposition and temptation—he can bend meekly to affliction and sorrow—and he can, by its blessing, calmly and willingly yield into his hands who gave it, his never-dying soul. Many instances of persons in the possession of this wisdom, early snatched to their "last home" could be given; but such is not the purport of this paper exclusively; however, we will consider a few. That the wise and young are the first taken from our embrace is verified by many an early remo-

val: than this there is no subject more worthy the contemplation of the sensitive and feeling. The heart that is keenly alive to sympathy, is agonized, as far as its earthly tendency has sway, when it learns that the old and gray-haired man—the wearied peasant or the aged statesman—is snatched from the circle of friends: but neither by the death-bed of beauty, age, or friendship, is the heart so powerfully affected, as by that of the young and wise. The universality of this is acknowledged by many; but by none more warmly than the poor, whose fondness for their children is so strong and lasting. How many a village church-yard displays upon its monuments the epitaph ending—

"God takes them first whom he loves best,"

reminding us of "whom the gods love, die young." Though the parent mourns her dead child, and sadly preserves in the heart "recollections fond;" yet a pleasure reigns within, assuring that one more angel has entered heaven. In Transylvania, the people mourn not over those who die young, inasmuch as they will not have so many crimes to answer for; they rejoice and feast—they scatter garlands of flowers, and offer to Heaven praises for the act of mercy, in so early removing from earth the child of their love. How beautiful are such things—having connexion with others more lofty and pure—depriving charms from a better and more enduring world!

Among the young, talented, and wise, endeared for their knowledge and manners, for being alive to every sentiment of beauty and sublimity at an early age, none are more worthy to be registered than Porson, Keats, and Shelley: they were in life's best time torn from revelling amid the riches of nature; from learning lessons from the earth, "whose poetry is never dead;" and upon shedding upon the pathway of others a joy and a benefit, making them more closely held in the memories of the heart. I would not omit the names of Kirke White, and Wood, or that of Mrs. Maclean (L. E. L.), who early died upon a foreign shore.

"She died—so young—so beautiful—
Her fleeting life was sped;
She died, and not a friend was nigh
To soothe her dying bed.

Alone—within a foreign clime,
 Around no weeping throng;
 That gentle spirit drooped and died
 Alone—that child of song.”

These were all young inheritors of genius, richly blessed with a keen perception of love for everything bearing the impress of the Godhead. The tender and beautiful productions that have emanated from their youthful pens will prove the means of handing their names to posterity, bound with the wreath of fame, as examples for the youth of future ages to admire and imitate. On a recurrence to the past, we find no character more interesting, or fraught with utility, than that of Edward VI. Called at a very early age to be the crowned one of a land, at that period not the most easy to rule; called to mingle amid the splendors and the allurements of a court, where all were to do him homage, and pay respect; called to exercise a power that required tact and judgment to direct and employ, he looked on all with an eye and with a heart steeled against every blandishment and enticement of royalty, pomp, or wealth. He loved retirement rather than publicity; and healthful study rather than sharing the pleasures of the gay and giddy. An old historian, writing at the time of the restoration, says: “Though the tree was not yet come to the maturity of bearing fruit, yet it was come to the forwardness to bear plenty of buds and promise. The hour before his death, he was overheard to pray thus by himself, ‘Oh! Lord God, deliver me out of this miserable and wretched life. Oh! Lord, thou knowest how happy it were for me to be with thee; yet for thy chosen’s sake, if it be thy will, send me life and health, that I may truly serve thee. O! Lord God, save thy chosen people of England, and defend this realm from papistry; and maintain thy true religion, that I and my people may praise thy holy name, for thy son Jesus Christ’s sake.’ So turning his face, and seeing some by him, he said, ‘I thought you had not been so nigh.’ ‘Yes,’ said Dr. Owen, ‘we heard you speak to yourself.’ ‘Then,’ said the king, ‘I was praying to God—oh! I am faint—Lord have mercy upon me, and receive my spirit!’ and in so saying, he died.” Cardan saith of him, that “he was extraordinarily skilful in languages and politics;

well seen in philosophy and in divinity, and generally indeed a very miracle of art and nature. He would answer ambassadors sometimes upon the sudden either in French or Latin:” and the former, from whom I quote, says further, “He knew the state of foreign princes perfectly, and his own more. He could call all gentlemen of account through his kingdom by their names; and all this when he had scarcely yet attained to the age of fifteen, and died before sixteen; that from hence we may gather, it is a sign of no long life when the faculties of the mind are ripe so early.” A journal kept by Edward VI. is preserved in the British museum, containing a faithful register of all the important transactions of his reign. Returning to more recent times, we may not perhaps err in selecting from among royalty, the princess Amelia, as a bright example of early genius, struggling against the strong and ruinous attacks of prolonged disease, which removed her from the world, November, 2, 1810. An interview of a most peculiar and pathetic tendency, took place between the dying princess and her venerable father, George III., which was so sad in its results, as to cause a return of that mental indisposition, under which the monarch had previously suffered. Prevailing circumstances suiting not the tenor and inclination of the princess’s heart; and her viewing things in a far different light than the unthinking, amid whom she moved, produced her many a sorrow and pang; and, to find comfort, she indulged in the gentler and more welcome beauties of poesy. The subjoined is from her pen:—

THE WORLD.

“Unthinking, idle, wild, and young—
 I laughed and talked, and danced and sung;
 And proud of health, of freedom vain,
 Dreamed not of sorrow, care, or pain:
 Concluding in those hours of glee,
 That all the world was made for me.
 But when the days of trial came,
 When sickness shook this trembling frame,
 When folly’s gay pursuits were o’er,
 And I could dance and sing no more;
 It then occurred, how sad ’twould be,
 Were this world only made for me!”

Were the annals of human life deeply and accurately searched, we should find many who have early perished like summer buds, their spring being remarkable

for some expressive talent, gradually developing itself; and not for precocity, since that, as one remarks, "seldom implies a high order of intellect." The early manifestation of genius and ability—rich in its appreciation of surrounding beauty, and inspired with a love of healthful study, heightened by a rational retirement, must ever be a source of joy to the reflective man; for he traces in the uttered sentiments of these young and highly-gifted ones—in their thoughts so beautifully and pathetically expressed—in the yearnings of their well-toned hearts, a glimpse of that heavenly wisdom which the child Jesus exhibited when he confronted the Jewish Sanhedrim.

MIGRATION OF FISHES.

THE following is an interesting description of the periodical passage of fish from the Black sea through the Bosphorus, or channel, above Constantinople.

The wind continuing for two or three days from the north, we were surprised at beholding a singular rippling appearance in the midst of the waters of the Bosphorus, forming a dark serpentine line about a mile and a half in length. Over and all around this rippling were assembled a prodigious concourse of aquatic fowls, swans, cormorants, pelicans, penguins, solan geese, ducks, quails, divers, &c., which shrieked in hoarse concert as they dived upon the myriads of pelamydes (for such they were) which floated down in mid-channel. While we were beholding this singular phenomenon from the windows of the palace, the boats from Constantinople and the adjoining villages began to arrive, and then commenced that ancient fishery which has been so much celebrated in the golden verses of Appian.

But this shoal proved only the advanced guard of the grand army of pelamydes, which were coming down from the Palus Mæotis, terrified by the first approach of the bleak northern blasts and equinoctial gales.

Before mid-day, some hundred boats having arrived, the numbers of fish cap-

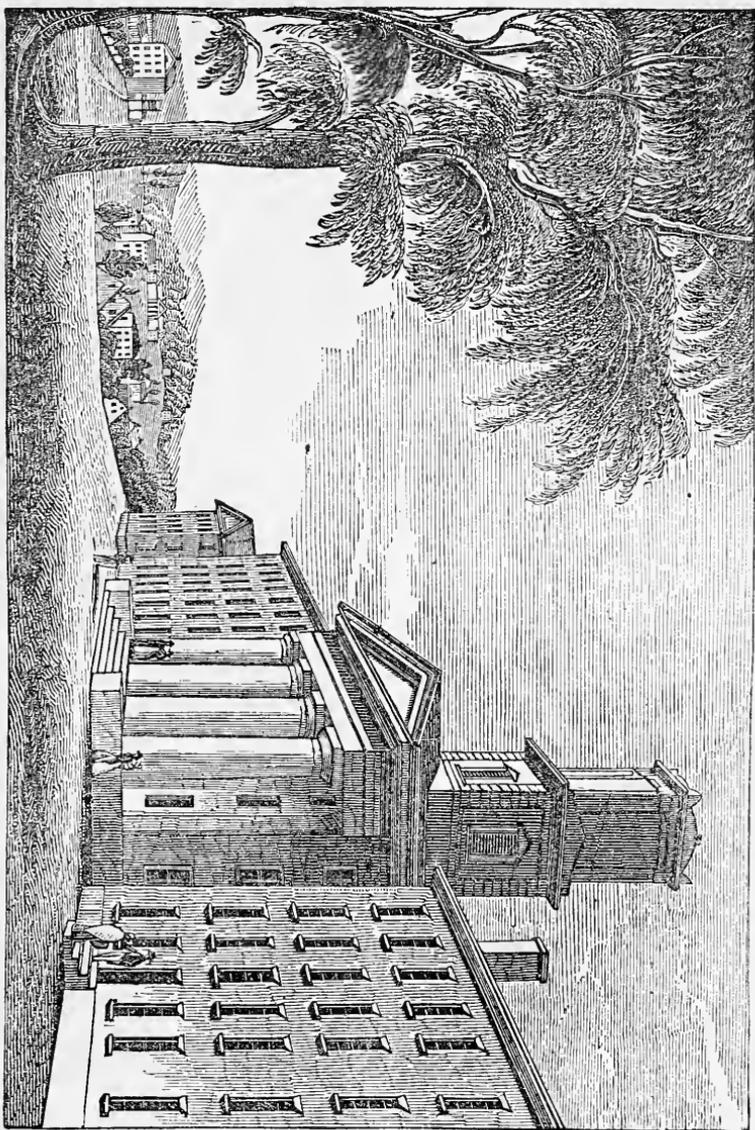
tured were prodigious. The boats were navigated by Turks, Albanians, and Greeks, habited in the diversified and richly-colored costume of their respective nations, throwing their seines, and pulling against the rapid current, bawling, shouting, and wrangling for the prize, which they were even forced to contest with the fowls of the air, who intrepidly descended to seize the fish when struggling amid the meshes of their nets. They gave a life and animation to the picture, which, surrounded by the sublime scenery of the Bosphorus, constituted, as a whole, one of the most superb and impressive spectacles I had ever beheld. This occupation continued without ceasing, day and night, till the fourth morning, when the last of the shoal passed Terapia.

Pelamys is the term given by the ancients to the young tunny when under a year old. The tunny is the same with the Spanish mackerel, a large fish of the scomber kind—the scomber thynnus of Linnaeus, the arcynus limosa and pelamys of others writers. It has eight or nine fins in the hinder part of the back, which, as well as the abdominal fins, rise from a deep furrow. The tail is of a semi-lunar shape.

The tunny was a fish well-known and highly prized by the ancients, having constituted, from the earliest ages, a great source of riches and commerce to the nations inhabiting the shores of the Mediterranean, and in fact being the principal food of the people of Bithynia. The periods of its arrival in the Mediterranean sea were observed, and stations for taking the fish were established on the capes and inlets most favorable to that occupation.

AMHERST COLLEGE.

THIS institution is situated in the town of Amherst, Hampshire county, Mass., and was established in 1821. Its resources were comparatively limited at first, and its success by some considered doubtful. But it is now in a highly prosperous state. It has a fund of fifty thousand dollars, made up from the contributions of individ-



Amherst College, Mass.

uals. This fund is invested under the direction of five trustees, chosen by the subscribers, and the interest is annually appropriated toward the support of the college. There are seven or eight professors, including the president, besides tutors and other officers, and about two hundred students. There are three vacations per annum; the first for four weeks from commencement, which takes place from the fourth Wednesday in August; the second, for six weeks, from the fourth Wednesday in December; the third, for three weeks, from the third Wednesday in May. The libraries connected with the college contain about ten thousand volumes.

CARBON.

CARBON acts an important part in the mineral, vegetable, and animal kingdom. In the mineral kingdom it is found in a pure state in that valuable gem the diamond; in an impure state, that is, united to other substances, it is found in anthracite, graphite, and charcoal. It is, also, the most considerable element of the solid parts of both animal and vegetable substances. It exists in a small proportion in the atmosphere, in the shape of carbonic acid.

Charcoal possesses the remarkable property of absorbing the odoriferous and coloring substances of animals and vegetables; hence foul water may be purified by filtration through it, and tainted flesh may be restored by the application of charcoal in a small powder, with the addition of dilute sulphuric acid. Charcoal (and especially that made from the cocoa-nut, or sugar, by the addition of sulphuric acid, and afterward several washings) and pure chalk, kino or rhatony root, form the best tooth-powder for spongy gums or fœtid breath.

Carbon unites in three proportions with oxygen: viz., carbonic oxide ($C O$) one equivalent of each; carbonic acid ($C O_2$) one equivalent of carbon and two of oxygen; oxalic acid ($C_2 O_3$) two equivalents of carbon and three of oxygen. During the process of fermentation, carbonic acid is produced in large quantities. It was

discovered by Dr. Black, in 1757, and called by him *fixed air*. At common temperatures carbonic acid is gaseous, yet it may be reduced to a liquid and even to a solid state, as Mr. Faraday and M. Thilorier have shown, by means of a proper apparatus; water is often impregnated with this gas to imitate the mineral waters. In a natural state water will absorb its own volume of carbonic acid gas: under the pressure of two atmospheres it will absorb twice its volume, and so on in proportion to the pressure. Water thus impregnated will lose all the carbonic acid by boiling. In spring water this gas is in solution, and in mineral waters to a considerable extent; in solid combination it is found in the greatest abundance in limestones, marbles, and in other earths and metallic oxides. An atmosphere containing much of this gas would be very injurious; and were there not some means to purify it, it would become poisonous, large quantities being generated by the respiration of animals, by combustion, and by the decomposition of animal and vegetable substances. By the decomposition of those substances soils are rendered fertile, as plants take up carbonic acid by means of their roots, as well as absorb it from the atmosphere; during the action of light plants possess the power of decomposing this acid, the carbon of which they appropriate to their own use, and evolve that part of the oxygen which is not required for their sustenance. Thus the air is purified by vegetation. During the absence of light, in the night-time, a wholly different, but true chymical process is carried on; the leaves, flowers, and fruit, undergo oxidation by means of the action of the oxygen of the atmosphere upon them; and this oxidizing process differs in degree according to the composition of the organic parts; this composition being known, it is a matter of ease to ascertain what kind of plants absorb the most oxygen.

A volatile oil, exposed to the action of the air, absorbs oxygen and changes into resin; hence, the leaves which contain that substance, as the pine, will absorb a considerable portion of oxygen; those which contain tannic acid, as the common oak, absorb it also. The leaves thus acid

by oxidation, are deprived of that property by the action of the sun and light, as may be proved by tasting "the leaves of the cotyledon calycinium, and the cacalia ficoides, which are sour, like sorrel, in the morning, tasteless at noon, and bitter," from the excess of hydrogen, "in the evening." (Liebig.) The common currant has also a greater acid property in the morning than it has at noon.

It has been already remarked, that in the absence of light the process of the decomposition of the carbonic acid is arrested; it follows, that this gas, then, derived from the atmosphere and soil, is not assimilated by the plant, but escapes through the pores of the leaves and flowers: hence, the unhealthiness of sleeping in a room in which plants are growing. In spring-water an oxide of iron is often held in solution by carbonic acid, which being evolved by the application of heat, the oxide of iron will fall.

The specific gravity of carbonic acid gas is to common air as 1.5 to 1; hence it will not readily escape from the receiver. Introduce into this gas a lighted candle, it will be immediately extinguished. A small animal being introduced, respiration is prevented.

This gas, in consequence of its weight, may be poured from one vessel to another, as may be proved by the introduction of a burning substance; or it may be poured upon a burning candle, which it will extinguish.

Upon these results depend the usual practice of introducing a candle into a beer cask, or other place where the air is suspected to be impure; but according to Christison (on poisons), it may be in a quantity sufficiently small not to extinguish a candle, yet sufficiently large to act as a narcotic poison on the system. Should any person inspire this gas, as quickly as possible remove him into the pure air: pour cold water upon his face; rub his chest; bleed him; and, if conveniences are at hand, infuse into his nostrils oxygen gas.

Although to inspire carbonic acid gas is dangerous (causing a contraction of the glottis, and hence suffocation), yet, being mixed with atmospheric air and other substances, it is applied medicinally, both in-

ternally and externally; in cases of phosphatic diathesis, water charged to a considerable extent with carbonic acid is of considerable utility, as its dissolves and holds suspended the phosphate of lime, and thus prevents it being deposited in the bladder.

Limestones burned in a kiln lose all their carbonic acid, and become quicklime.

Carbonic Oxide.—This gas was discovered by Priestley, who supposed it to be hydrogen mixed with carbonic acid gas: its true nature was pointed out by Cruickshank. It will not, like carbonic acid gas, make lime-water turbid, nor is it dissolved to so great an extent in water as that gas.

A mixture of carbonic oxide 100 parts, and oxygen 50 parts, may be made to explode by means of a flame, a red hot iron, or an electric spark; the result will be carbonic acid gas, if they be inflamed in a proper apparatus. From this it is evident that carbonic oxide contains as much carbon and half as much oxygen as carbonic acid.

Chlorine.—This gas was discovered by Scheele, in 1774, who considered it a compound body. In 1809, Gay-Lussac and Thénard showed that it might be considered a simple substance; but the establishment of its elementary character is owing to the investigations and powerful advocacy of Davy. He named it chlorine, from its green appearance. For all substances, excepting those of its own class, as bromine, iodine, fluorine, &c., it possesses great affinity; and so powerful is this that to it is given the character of extraordinary chymical activity: the compounds of the chlorine class (except fluorine) are remarkable for their extraordinary solubility; uncompounded, it is of rare occurrence, and seldom found in the mineral kingdom; it is found in the saline constituents of sea-water as chloride of sodium.

Chlorine possesses little affinity for oxygen, in no circumstance uniting with it directly; nor does it combine directly with carbon or hydrogen; a mixture of chlorine and hydrogen may, without uniting, be preserved in the dark; but the electric spark, or exposure to the direct rays of the sun, determines combination with explosion; under the diffuse light of day, com-

bination gradually takes place, but without explosion; so great is the affinity of chlorine for hydrogen, that it decomposes most bodies containing that element, and unites with the hydrogen, and forms hydrochloric acid gas.

Upon this decomposing effect of chlorine depends its bleaching qualities; if dry chlorine gas be passed over dry colored calico, the colors are not affected; but if the calico be steeped in water, and, according to the general bleaching process, boiled in lime-water, then in a caustic alkali, to remove all resinous substances, afterward put into a solution of chlorine, the chlorine decomposes the water, unites with the hydrogen, and the oxygen is set free to act upon the coloring matters.

Chlorine may be recognised by its green color, and by its very irritating effect on the glottis; and if a little be conducted into a solution of nitrate of silver, a precipitate of chloride of silver will be deposited, which first appears white, afterward, by exposure to the light, it becomes dark.

Into a jar containing chlorine throw some powdered antimony, arsenic, or phosphorus; spontaneous combustion will ensue, in consequence of the affinity of the gas for these substances.

Having corked the bottle containing the gas at the tepid water trough, introduce the neck into cold water, and having withdrawn the cork, the gas will be absorbed by the water; move the bottle about, taking care to keep the mouth under the water; the whole of the gas will be absorbed, and the bottle filled with water.

Chlorine gas is poisonous, causing severe constriction of the glottis, and a sensation of suffocation; afterward, if death do not ensue, inflammation of the larynx, and pneumonic inflammation. The treatment usually resorted to after an injurious inhalation of this gas, is to inhale the vapor of hot water containing carbonate of ammonia, bleeding, and the usual means to reduce inflammation.

This gas is advantageously used to disinfect the wards of hospitals; for this purpose it may be readily evolved from chloride of lime by the addition of muriatic acid.

THE HUMAN VOICE.

In treating of the economy of the human voice, there is one fact which has been very much neglected. It is this—that the exercise of the organs produce weariness, hoarseness, and pain; much sooner in delivering a discourse from manuscript, than in talking or even in extemporaneous discourses.

In this case it is evidently not the loudness of the voice which produces the unpleasant effect, because, in general, every man reads with less force of utterance than he speaks; and extemporaneous speakers are always more apt than others to vociferate. The phenomenon demands an explanation upon some principle, and, in our opinion, admits of an easy reference to laws of our animal economy, which are already settled.

Every organ of the human body has a certain natural mode of action, and in this performs its functions with the greatest ease. When pressed beyond definite limits, or exercised in an unaccustomed way, it lapses into weariness or pain. By instinctive impulse we are led to give relief to any member or organ, when it is thus overworked, and whenever such remission is rendered impracticable the consequence is suffering, if not permanent injury. Thus, when the limbs are wearied with walking, we naturally slacken the pace; and the perpetual winking of the eyes is precisely analogous. Let either of these means of relief be precluded, and the result is great lassitude and pain. The voice likewise demands its occasional remission, and this in three particulars. First, as it is exceedingly laborious to speak long on the musical key, the voice demands frequent change of pitch, and in natural conversation we are sliding continually through all the varieties of the concrete scale, so that nothing of this straining is experienced. Secondly, the voice can not be kept for any length of time at the same degree of loudness without some organic inconvenience. Here also we give ourselves the necessary remission at suitable periods. Thirdly, the play of the lungs demands a constant re-supply of air, by frequent inspirations; and when this is prevented the evil consequences are obvious. More-

over, this recruiting of the breath must take place just at the nick of time, when the lungs are to a certain degree exhausted, and if this relief be denied, even for an instant, the breathing and the utterance begin to labor. Let it be observed that in our ordinary discourse nature takes care of all this. Without our care or attention we instinctively lower or raise the pitch of the voice, partly in obedience to the sentiment uttered, and partly from a simple animal demand for the relief of change. Precisely the same thing takes place, and in precisely these two ways, in regulating the volume and intensity of the vocal stream. So, also, and in a more remarkable manner, we supply the lungs with air just at the moment when it is needed. The relief is not adequate if the inspiration occurs at stated periods, as any one may discover by speaking for some time, while he regulates his breathing by the oscillation of a pendulum, or the click of a metronome; and still less, when he takes breath according to the pause of a written discourse. But the latter is imperatively demanded whenever one reads aloud. Whether his lungs are full or empty, he feels it to be necessary to defer his inspiration until the close of some period or clause. Consequently there are parts of every sentence which are delivered while the lungs are laboring, and with a greatly increased action of the intercostal muscles.

If we could perfectly foresee at what moments these several remissions would be required, and could so construct our sentences as to make the pauses exactly synchronous with all the requisition of the organs, we might avoid all difficulty; but this is plainly impossible. In natural extemporaneous discourses on the other hand, whether public or private, there is no such inconvenience. The voice instinctively provides for itself. We then adapt our sentences to our vocal powers, the exact reverse of what takes place in reading. When the voice labors we relieve it; when the breath is nearly expended we suspend the sense or close the sentence. And when from any cause this is neglected, even in animated extemporaneous speaking, some difficulty is experienced.

The mere muscular action in speaking

tends to a certain degree of weariness. Hence the utterance which is in any measure unnatural is in the same proportion injurious. The use of the same set of muscles for a long time together is more fatiguing than a far greater exercise of other muscles. We are constantly acting upon this principle, and relieving ourselves by change even where we can not enjoy repose. Thus the equestrian has learned to mitigate the cramping influence of his posture, in long journeys, by alternately lengthening and shortening his stirrups. Thus, also, horses are found to be less fatigued in a hilly than a plain road because different muscles are called into play in the ascents and descents. Now there are, perhaps, no muscles in the human frame which admit of so many diversified combinations as those of the larynx and parts adjacent; ranging as they do in their confirmation with the slightest modifications of pitch and volume in the sound. These organs, therefore, to be used to the greatest advantage, should be allowed the greatest possible change.

A perfect reader should be one who should deliver every word and sentence with just that degree and quality of voice which is strictly natural. The best masters of elocution only approximate to this; and the common herd of readers are immeasurably far from it. Most of the reading which we hear is so obviously unnatural, that if the speaker lapses for a single moment into a remark in the tone of conversation, we feel as if we had been let down from a height; and the casual call of a preacher upon the sexton is commonly a signal for the sleepers to wake up. We all acknowledge the unpleasant effect of this measured and unnatural elocution, but few have perceived what we think undeniable, that in proportion as it contravenes organic laws, it wears upon and injures the vocal machinery.

But the most perfect reading would provide only for the last-mentioned case. Reading would be still more laborious than speaking, unless by the violent supposition that the composition were perfectly adapted to the rests of the voice. We must therefore seek relief in some additional provisions. One of these is the structure of our sentences, and it is suffi-

cient here to say that they should be short, and should fall into natural and easy members; for no train of long periods can be recited, without undue labor. But there is another preventive which is available, and which escapes the notice of most public speakers. Any one who has witnessed the performance of a finished flute-player, has observed that he goes through the longest passages without seeming to take breath. He does indeed take breath, but he has learned to do so without any perceptible hiatus in the flow of melody. The same thing may be done in speaking and reading. Without waiting for pauses in the sense, let the speaker make every inspiration precisely where he needs it, but without any sinking of the voice. That the lungs admit of education in this respect, will be admitted by all who have ever acquired the use of the blow-pipe. In this case, the passage at the back of the mouth being closed, and the mouth filled with air, the operator breathes through his nostrils, admitting a little air to the mouth in expiration. There is this peculiarity, however, that the distension and elasticity of the cheek afford a pressure into the blow-pipe, with the occasional aid of the buccinator muscle. In this way the outward stream is absolutely uninterrupted.

If there is any justice in our remarks, we may expect to find that they apply in a good degree to the delivery of discourses from memory. We have found this to be the case, in every particular, except, perhaps, that from more careful rehearsal, the speaker is able, in a great measure, to suit his utterance to the tenor of the composition.

Diseases of the vocal organs have prevailed in America to so alarming an extent among ministers, that nothing which throws light on the economy of the voice can be without its value. It is a great mistake to suppose that these diseases are to be prevented by a timid suppression of sound. The lungs are best preserved when they are kept in full and active play. Every one who is familiar with the Latin writers, as well on medicine as on oratory, knows that they constantly enumerate reading and declamation among exercises conducive to health. Seneca, in his seventy-eighth epistle, in advising his friend

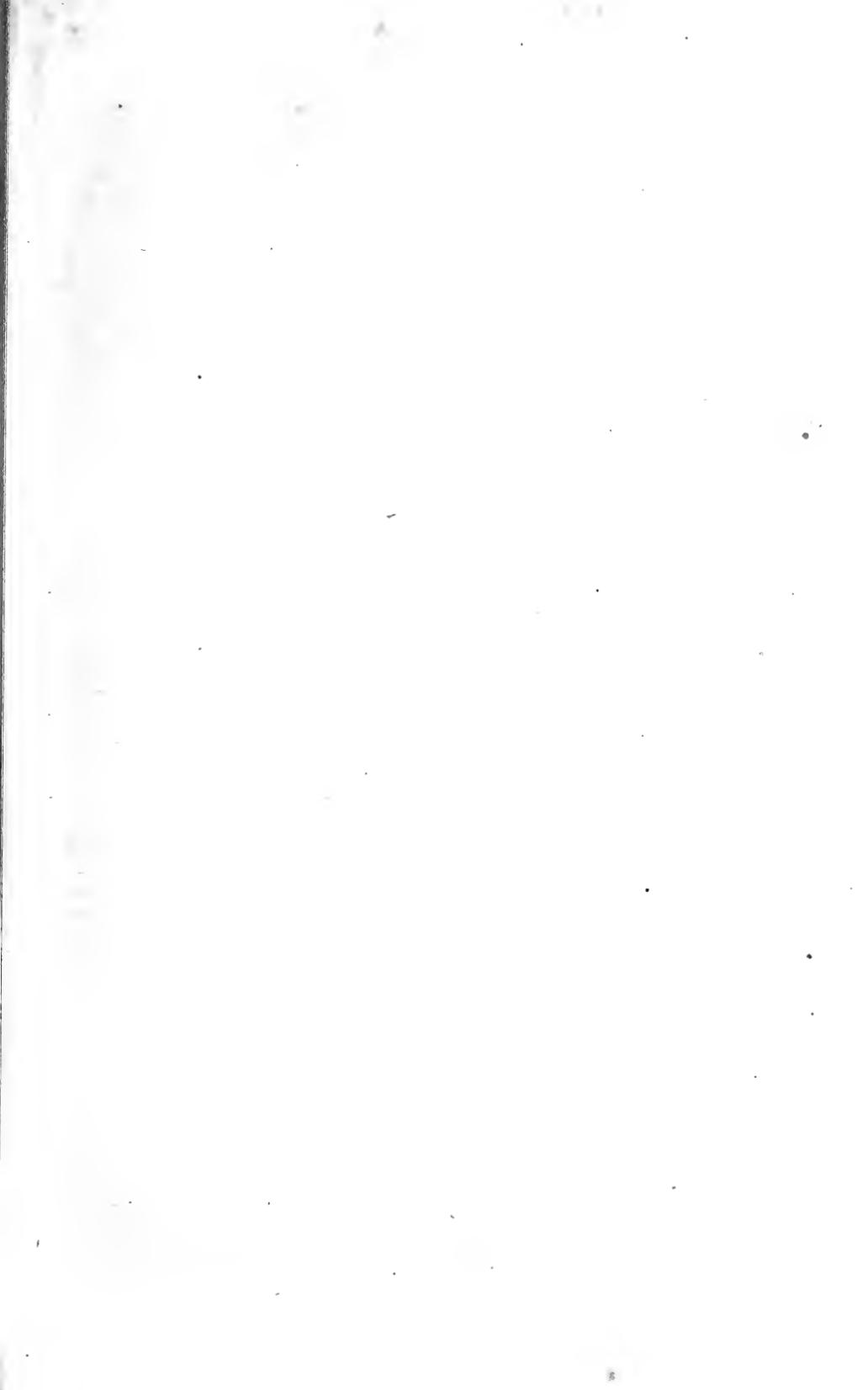
Lucilius, who was of a consumptive habit, distinctly urges on him the practice of reading aloud. Pulmonary disease in ministers is attributed by Dr. John Ware to infrequency and inequality in the exercise of the lungs. "It should," says he, "be a first object with one who engages in the clerical profession, especially if he has any of the marks of weak lungs, if he is constitutionally liable to pulmonary complaints, if he is subject to disorders of the digestive organs, or has a tendency to it, to accustom himself gradually to that kind of exertion, which will be required by the duties of his future profession. This is to be attempted by the *constant, daily practice of loud speaking or reading.*"

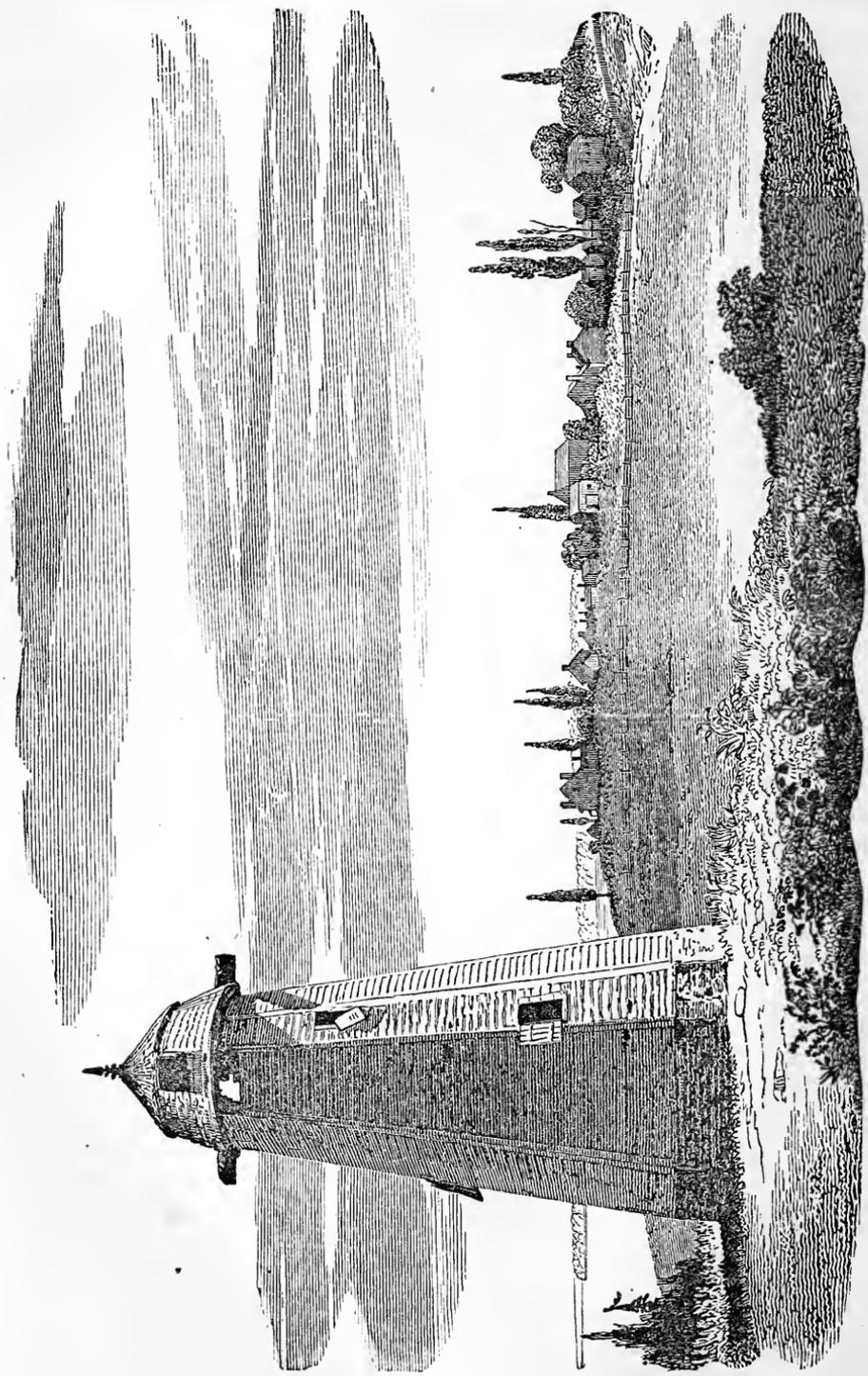
DISCOVERIES MADE BY ACCIDENT.

MANY of the most important discoveries in the field of science have been the result of accident. Two little boys, sons of a spectacle-maker in Holland, while their father was at dinner, chanced to look at a distant steeple through two eyeglasses placed one before the other. They found the steeple brought much nearer the shop windows. They told their father on his return; and the circumstance led to a course of experiments which ended in the telescope.

Some shipwrecked sailors once collected some sea-weeds on the sand, and made a fire to warm their shivering fingers and cook their scanty meal. When the fire went out, they found that the alkali of the sea-weed had combined with the sand, and formed glass—the basis of all our discoveries in astronomy, and absolutely necessary to our enjoyment.

Sir Isaac Newton's most important discoveries, concerning light and gravitation, were the result of accident. His theory and experiments on light were suggested by the soap-bubbles of a child; and on gravitation by the fall of an apple as he sat in the orchard. And it was hastily scratching on a stone a memorandum of some articles brought him by a washerwoman, that the idea of lithography first presented itself to the mind of Stenefeldter.





VIEW OF YORKTOWN, VA.

YORKTOWN.

OUR frontispiece presents a view of Yorktown, Virginia, as seen from the Williamsburgh road. It is situated in York county, upon a river of the same name, and is noted in history as the scene of an important victory to the American troops, during the war of independence. Situated only five miles from the mouth of the river, and accessible by vessels of heavy burden, it is a place of considerable trade. But we introduce it here more for its interest as consecrated ground, than to present a portraiture of its present growth, and commercial and trading character.

During the American revolution, Yorktown was made the theatre of one of the most important events which characterized that struggle for independence. In 1781, Lord Cornwallis, with a large portion of the British army, had taken possession of several places at the south, and among them Yorktown and Gloucester: the latter is situated upon the banks of the York river, opposite to Yorktown. Lafayette, with an inferior number of troops, was at this time at Williamsburgh, but was unable to make successful engagements with the superior force of the British. Seeing the importance of checking the progress of Cornwallis at the south, Washington determined to unite the American and French forces, then in the neighborhood of New York, and join Lafayette at Williamsburgh. This junction was effected on the 14th of September—Washington at the head of the American troops, and the Count de Rochambeau at the head of the French forces. At the same time the Count de Grasse with his fleet entered the Chesapeake after a slight engagement with Admiral Graves off the capes, and was joined by the squadron of the Count de Barras from Newport. At the same time three thousand men under the Marquis St. Simon joined Lafayette. These combined forces then moved toward Yorktown and Gloucester, where Cornwallis was stationed.

The British general had been expecting aid from Sir Henry Clinton at the north, but so adroitly had Washington withdrawn his troops, that Sir Henry scarcely suspected his design till it was too late to

frustrate it. Cornwallis at once began to fortify the town by throwing up redoubts, and, on the 30th of September, the siege commenced. Yorktown was completely invested—the American army occupying the right, and the French the left, forming a semi-circle, with each wing resting upon the river. Gloucester was at the same time invested by Lauzun's legion, marines from the fleet, and Virginia militia.

The siege commenced with the usual manœuvres of throwing bombs, hot shot, &c., and the besieged sustained themselves bravely. Two redoubts were stormed and carried at the same time—one by the American light infantry under Lafayette, the other by French grenadiers under Baron de Viomenil.

The conflict continued for seventeen days, when, no longer able to abide the vigorous attacks of the combined armies, Cornwallis sent a note to Washington proposing a cessation of hostilities and a capitulation for surrender. To this Washington acceded; and Cornwallis surrendered upon the following terms:—

1. All troops in the garrison to be prisoners-of-war.
2. Artillery, arms, military chest, and stores, with shipping, boats, and all their furniture and apparel, to be given up.
3. The officers to retain their side-arms, and the soldiers to retain their private property.
4. Surrendering army to receive the same honors as were awarded to the Americans at Charleston—with a few other requisitions of less importance.

This treaty was signed on the 19th of October, 1781, and in the afternoon of that day, the garrisons of Yorktown and Gloucester marched out and surrendered their arms. The whole number of prisoners exclusive of seamen, was over seven thousand: the British loss was between five and six hundred. The combined army consisted of about seven thousand American regulars, five thousand French, and four thousand militia. Their loss was about three hundred. The land forces surrendered to Washington, the naval to the French admiral.

This event was hailed throughout the country with the greatest demonstrations of joy. It had completely destroyed Brit-

ish power at the south, and a speedy conclusion of the war was looked for. Congress passed special thanks to each commander engaged in the siege, and presented to Washington two stands of colors taken from the enemy, and to Counts Rochambeau and De Grasse two pieces of field ordnance. Congress also resolved to commemorate the event by rearing a marble column, to be adorned with devices emblematical of the alliance between France and the United States, and to inscribe on it the record of incidents pertaining to the siege and the surrender.

PHENOMENA IN THE ATMOSPHERE.

THE phenomena observed in or connected with the atmosphere are exceedingly numerous, and must appear to the uneducated man most complicated as to their cause of action. They may all, however, be traced to the influence of electricity, light, or heat; these agents, if indeed they be separate agents, sometimes aiding each other in the production of the effect. In the remarks we are about to make, it may be desirable to bear this fact in remembrance, and we shall endeavor to follow the classification as nearly as possible.

Lightning.—Among all the wonderful and striking appearances in the atmosphere, none are more brilliant or so awfully grand as lightning. This is a phenomenon familiar to every one. Lightning is produced by the accumulation and discharge of electricity in the clouds. But the reader will probably ask how is it accumulated there, and how discharged? To this question we will endeavor to give a brief reply. All bodies contain electricity, but this fluid, agent, state, or by whatever other name it may be called, is changed, or, in other words, "set free" by friction, chymical action, heat, and other means. By the activity of these causes electricity may be communicated from the earth to the clouds, or the clouds may be charged *per se*, for this subject is one of great difficulty, although philosophers are for the most part satisfied that they know

all that can be ascertained. From this statement, however, it must follow that any body may be in either a negative or positive condition, having more or less than its natural electricity. But when two bodies, one being positive, the other negative, meet, there will be a discharge, the accumulation of the one passing to make up the deficiency of the other. It is just thus in the atmosphere: one cloud having positive electricity meets one in a negative state—a discharge is made, and bright flashes of light, called lightning, are the result; or the clouds may be in one state and the earth in another, and then the fluid will pass between them.

Electricity is a powerful and dangerous agent, when employed in large quantities, and with a strong intensity. This is a truth easily proved on our laboratory tables by the use of the common electrical machines, but what must be its energy when developed and collected in the laboratory of nature, with the apparatus that the great Author of all has established? Some of these effects we see in the destruction of animal life and the burning of buildings, but we only know a part of what it is able to do; there are effects which are in the present day only subjects of conjecture, and others which are not even imagined.

Thunder is an attendant of lightning, and is but the sound produced at the time of the electric discharge reverberated from cloud to cloud, thus having that rolling sound by which it is so commonly distinguished from all others.

Summer-Evening Lightning, so denominated, from its appearance at the verge of the horizon on summer evenings, is the reflection of lightning which is occurring at some place beneath the horizon. Its appearance is that of a faint light, flashing upward, and is best observed when the ocean forms the horizon of the spectator.

The Aurora Borealis is a most splendid natural appearance. It is presented to us in the form of brilliant but soft coruscations and streamers of light. In northern regions it is so bright during the long winters under which the inhabitants suffer, that it in some measure supplies the deficiency of solar light. It has been long supposed that electricity was the cause of

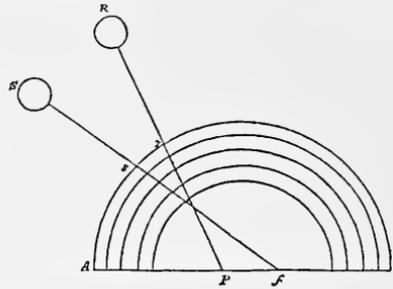
its production, but is now proved without doubt, for by passing electricity from a point into an exhausted flask, a precisely similar appearance is produced. Hence we are led to believe, that the aurora is but a circulation of electricity in a state of small intensity, through an attenuated atmosphere.

The *Shooting Star* is another phenomenon which may be traced to the action of electricity, and also that curious appearance observed on the topmast of vessels, and called by the sailors *St. Elma's fire*.

These are the most remarkable phenomena resulting from the action of electricity, or at least those which most attract the attention of persons in general. But this mighty and universal agent plays a much more important part in the establishment of physical conditions than we generally imagine, or perhaps can even conceive of. In the process of evaporation and condensation it is present, in all chymical changes, and in the subtle operations of caloric. By electricity magnetic polarity is given to the earth, and the same property is, as it were, condensed in the magnet. It is not for us to say where it is, but we may ask, where is it not? All material existence is supported by its agency, and it is probable that all changes in physical condition are more or less dependant on it. But we must now proceed to explain the next class of phenomena connected with the atmosphere, those which result from the action of, or change produced by light.

Refraction.—As to the origin of solar light, men entertain different opinions, and it is not necessary for us to inquire which is right, and which wrong. All are agreed, that when uninfluenced by the presence of any other substance it moves in right lines. But the solar light in passing from the sun to the earth has to pass through the atmosphere, and its rays are consequently bent out of their course, in the same manner as when passing through water. If, however, the medium through which it has to pass had the same density throughout, the ray would merely change its direction, and in that direction continue to move in a right line, but at an angle to that which it pursued before it reached the at-

mosphere. But the atmosphere increases in density the nearer it is to the earth, and the light is therefore more and more bent, and assumes the line of a curve. Let $A T$



be a plain, and the concentric circles $A s r T$ the various strata of the atmosphere increasing in density from the highest to the lowest: s is a fixed star, and the line $s s$, a ray of light proceeding from the luminary toward the plain $A T$. Now as soon as it reaches the verge of the atmosphere s , it begins to be refracted, or in other words turned out of its course, and this happens more and more, so that instead of reaching the point f , as it would have done if there had been no atmosphere, it impinges on the point P .

An interesting question arises here, which is, in what direction would a person standing at P observe the sun? It has been discovered that we always see a body in the direction in which the rays of light impinge upon the eye. The direction which the light has when it falls on P is represented by the line $P r P$, and hence it follows that the sun will appear to be situated at R . This fact leads us to the conviction that we do not see any of the stars in their proper places, they have a greater apparent than real elevation. It is this effect upon the rays of light that causes us to see the sun before it has actually risen, and after it has set, and is the proximate cause of twilight.

Twilight is that period which is intermediate between day and night. If there were no atmosphere this period could have no existence, but in consequence of refraction the rays are brought to the surface of the earth before the sun has risen. But not only so, for the solar rays are first thrown upon the atmosphere itself; and although these are not brought to the

earth by refraction, they are by reflexion, so that before any place receives the direct and more powerfully luminous rays of the sun, it has the reflected rays producing twilight.

Mirage.—Before we leave the subject of atmospheric refraction we must mention a curious appearance called mirage, seldom seen, and usually connected in the mind of an observer with superstitious feelings. All that class of phenomena which appear to be supernatural, as ships sailing in the air, are of this class. There are upon record many instances of the appearance of ships in the air, none being seen on the water. The cause of this is evidently that the atmosphere is in some peculiar state of refraction, and the image of some ships below the horizon is cast upon the clouds.

The Rainbow is another phenomenon resulting from refraction, but differing from all other appearances in the splendor of its colors, which are produced by the decomposition of light when passing through drops of water.

It may be here desirable to mention that the atmosphere is also a conductor of sound, and that to great heights. If there were no atmosphere there would be no sensation of sound. Three things are required for the production of sound, a sounding body, an organ of hearing, and a good conductor—one without the others is useless. That it is the air which conducts sound may be proved by a great variety of experiments, and by none better than an attempt to make a bell ring in a receiver exhausted of its atmosphere, for no sound will be heard.

The power of the atmosphere in conducting sound varies with the condition of the medium. It is a common remark that sounds are heard better over the water than on land, and still better over ice. Sounds are also more distinct during the night than the day—in fact, when the atmosphere is least burdened with vapors, and is most pure, sounds are best heard. On a dark, cloudy day, sounds familiar to the ear appear to be stifled in their passage through the atmosphere; whereas on a clear, cold, frosty morning they have a peculiar sharpness, which renders them remarkably distinct

It has already been observed that the atmosphere is able to conduct sounds at an elevation much greater than might be imagined. This is known from the loud noises which have been frequently heard at the moment of the explosion of meteorites. The large meteor of 1719 is supposed to have been sixty-nine miles above the earth, and yet a noise was heard like that produced by firing a large cannon.

Meteorites.—Of that remarkable class of phenomena called meteorites, but little can be said. All that we know of them is that they fall from the clouds, but how they came there we can not determine. Sometimes showers of stones have fallen, sometimes masses hundreds of pounds in weight. Men have, as in all cases, speculated on their origin and the means of their accumulation. We have met with theories in which it has been maintained that they are lunarites, and having been thrown beyond the attraction of the moon, and within the sphere of the earth's attraction, are brought to a new planet. But where no statement can be in any way proved, we prefer pleading our own ignorance.

The influence of heat upon the atmosphere is the next subject for our investigation, and we must first allude to its action in the production of winds.

Winds.—Wind is air in motion, and the only question for the philosopher to determine was, how by natural causes it was put into motion. Heat is found to be the great agent, and without entering fully into the inquiry how all the several kinds or classes of winds are occasioned, we shall refer to the principle of the communication of heat, for when this is thoroughly understood the reader will easily trace the origin of all the varieties.

The sun, by the heat of its rays, raises the temperature of that part of the earth's surface exposed to its action: what changes are produced in the atmosphere which surrounds it? The air immediately in contact with the earth is first heated, and being then lighter, bulk for bulk, than it was before, rises; its place is then occupied by another stratum of air, which in its turn also rises, and another rushes in. It must, therefore, be evident that wind is produced by the continued motion of cold

air to occupy that spot which is vacated by the hot.

If this principle be understood, it will be a physical reason sufficient to explain all the changes of the atmosphere, whether in regard to the peculiar periods of certain winds, or the violence of their action. Thus with a knowledge of climate the student may satisfy himself, as to the cause of the trade-winds, and the prevalence of particular winds at certain seasons.

The power of the wind upon the earth is very great, and frequently awful. By its motion it acts for the most part as a conservative force, carrying away noxious vapors, and causing their condensation over the mighty waters to which it gives motion. Were the atmosphere stationary its heat would be not only oppressive but also most insupportable. But when the air is put into rapid motion its effects are most horrific, producing storms and hurricanes. When these happen, which are fortunately but seldom, much injury is done both on sea and on land.

Clouds are the combinations of vapor which rise from the earth into the heavens, and assume different forms and states according to their condition. They have received from meteorologists different names, and are found to be attended with different phenomena, so that from the presence of one or the other we are able to foretell the weather.

The cirrus is an attenuated net-formed cloud, beautifully pencilled as it were on the sky, and is generally formed at great elevations.

The cumulus is a dense heavy cloud, sometimes appearing as a large hemispherical mass, like mountains indistinctly seen, and sometimes as small irregular clouds. This modification of cloud is peculiar to fine weather.

The stratus includes all those clouds which hang over the surface of the earth or water, and are seen in the evening, after a fine day, creeping over the valleys and the surface of lakes and rivers. It is universally considered as the harbinger to fine weather.

The nimbus is the storm cloud, dark and threatening, the sure forerunner of storms and tempests. It is generally

charged with electricity, and from its discharge thunder and lightning proceed.

The changes in the forms of clouds are frequently very rapid and surprising, a few moments causing an altogether different appearance, whereas at other times the same cloud may be seen for hours and even days together. The philosophy of clouds is but little understood by scientific men, nor is it probable that our information will be much increased until the electrical condition of the atmosphere be better understood.

RAIN.

But few of the most common appearances of nature are more than partially understood by the generality of persons, and yet with this unsatisfactory amount of information they are so well pleased, that it seems to them quite unnecessary to make further inquiries. When we become satisfied with our knowledge upon any subject, curiosity ceases, and every motive for thought and investigation is lost. The most illiterate man, he who thinks least of the phenomena of nature, believes himself to be thoroughly acquainted with the origin of rain, snow, dew, and many other common appearances; but if he were questioned by one who had devoted himself to the study of natural appearances, he would be found to have a very inaccurate notion of the subject which he believes himself to understand.

Rain, we are told, is produced by the condensation of vapor in the atmosphere. The heat of the sun's rays causes the water on the surface of the earth to take the vaporous form, and as it is lighter than the atmospheric air, it rises. In this state it remains, forming clouds, until condensed by cold, when it falls in drops of water to the earth again. This is the only explanation of the phenomenon of rain that can be given by the majority of persons, who are satisfied that they are thoroughly acquainted with the subject. But we might ask them—"why does it not always rain?" for there is always vapor in the air, and it is always colder at a great height above the surface of the earth than on the surface itself. "Why does it sometimes rain on one field and not on any other round about it?" or, in other words, "Why

does rain fall from one cloud and not from any other?" These, and many other questions, can not be answered by an individual whose information is limited to the facts we have just stated. It is, indeed, a subject of great difficulty, and one upon which philosophers themselves are by no means unanimous.

Dr. Hutton's theory of the formation of rain is that most commonly adopted. According to this eminent philosopher, rain is occasioned by the mingling of distinct masses or strata of air, containing vapor, and having different temperatures. How this can cause the condensation of vapor, and the fall of rain, is not self-evident, but will require some illustrations.

Atmospheric air may be charged with humidity, but there is a limit to its capacity, it can not be made to contain more than a certain quantity, it may, in fact be saturated. In a similar manner water may be made to take up a considerable quantity of salt, but it will not do so without limit. It has, however, been discovered that the point of saturation depends on the temperature of the air. All persons are aware that in cooling, air will frequently part with some of its humidity, from which circumstance it may be supposed that cold air can not retain so much humidity as hot air. In connexion with these facts the reader must bear in mind that the capacity for humidity does not increase in the same proportion. Thus, for instance, if two masses of air, having different temperatures, should mingle, they will necessarily have a mean temperature; the temperature of one will be raised, of the other diminished. Now, if the capacity for humidity changed in the same proportion as the temperature, all the water would be retained; but this is not the case, there will be some excess, and that must fall in the liquid state. Rain, then, is caused by the mingling of currents of atmospheric air charged with humidity, and the reader will be surprised at the easy explanation the theory gives to every variety of appearance attending this common but curious phenomena.

The clouds often look dark and threatening, and we expect an immediate shower, but they float over the heavens and no rain falls. They are perhaps nearly sat-

urated with humidity, and yet at such a temperature as enable them to retain it. Presently, however, they meet with a cloud also saturated, but having a much lower temperature; they instantly intermix, a mean temperature is the result, and a portion of the humidity instantly falls to the earth as rain.

Another case may be supposed. Two clouds, having different temperatures, may mingle, but neither of them being highly charged with vapor, saturation is not produced even when the temperatures are made equal, and consequently no rain falls.

When we come to consider the peculiar condition of the atmosphere, at different parts of the earth's surface, we are struck with the capability of this theory in accounting for the regularity of the fall of rain in one place, its irregularity in another, and its entire absence in a third. In some countries rain falls at all times of the year, though more commonly at some periods than at others. The atmosphere is in a constant state of change from the rapid alteration of temperature, and, at the same time always more or less humid, so that rain is of very common occurrence. In those regions where the state of the atmosphere is more uniform, and its changes periodical, rain falls only at certain seasons of the year. The heavy rains of India always occur at the shifting of the monsoons, when the atmosphere is constantly varying. Rain seldom if ever falls during the trade winds, in those places over which they pass. These winds are occasioned by the constant motion of heated air from the equator to the poles, and there is no intermixture with other currents having a different temperature, but beyond the limits of the trades the air is rapidly cooled, and mingling with other masses, rain is common and very heavy.

DEW.

WHO has not seen and admired the beautiful drops of condensed vapor, like well-formed globules of crystal, with which vegetation is covered, in early morning before the sun fully exerts its vaporizing influence? How refreshed and invigorated the delicate flowers appear to be by the drops under the weight of which they modestly bow their heads! How brightly

the dew-drops shine, reflecting the slanting rays of the rising sun! Of all the hours of nature's beauty and enchantment, none are more pleasing to her admirers than that of the dewy morn. It is not, however, our province to describe the appearance of the country when the dew hangs heavily upon waking vegetation, or to express the feelings with which the sight is observed by a mind alive to the varied beauties and deep interest of external existence, but to give a philosophical account of the origin of the phenomenon.

For many years, philosophers were undecided as to the origin of dew; some maintained that it rose from the earth, and some that it descended from the clouds. To support these opposite opinions the advocates on each side labored strenuously, and introduced arguments and experiments almost without end, to prove themselves right and their opponents wrong. A feeling of partisanship thus took the place of philosophical inquiry, and never are disputants so far from truth as then. Dr. Wells, a man of science and acute perception, commenced the investigation in a different spirit, and proved that both the contending parties were wrong and totally ignorant of the cause. It would be interesting to follow the course of investigation he adopted, and to urge the importance of inductive reasoning, the value of which was so clearly proved in this instance; but all that our space will allow us to do, is to explain the result of his experiments with as much simplicity as possible.

The drops of water formed upon plants, trees, and some other things exposed to the atmosphere, are neither thrown down from the clouds, nor are they produced by the condensation of vapor rising from the earth, but the vapor contained in the atmosphere is condensed upon bodies cooler than the air itself. Still it must have been observed that dew is not formed upon all substances, nor upon similar things in different situations. The explanation of these circumstances will illustrate the origin of dew under all its conditions.

There are two ways in which a substance may be cooled, or, in other words, lose a portion of its sensible heat, by conduction, and by radiation. The conduction of heat is a phenomenon so common-

ly observed, that it will not be necessary to make any remarks concerning it. When a poker is put into the fire, that part which is exposed to the immediate action of heat, will in a short time become red hot. But this is not the only part which receives an increase of temperature, for the portion most distant from the source of heat will also be hotter than it was previous to its being placed in the fire. The result is occasioned by the property of conduction, which all substances do not alike possess. Hence we are accustomed to say of one body that it is a conductor of heat, and of another that it is a non-conductor.

Another method of communicating heat is by radiation. By radiation is meant the throwing off in rays. Thus, the sun radiates both heat and light; and the same is true of a common coal-fire. If we stand at a distance from a fire we feel warmed; but this is not occasioned by the heating of the air by conduction; for, if this were the case, we should feel equally hot on every side; but, as is well known, we may be scorched on the side nearest to the fire, and frozen on the other.

The principles of radiation enables us at once to explain the phenomenon of dew, connecting, with what has been already said, the fact, that all bodies, whatever may be their temperatures, radiate heat. The clouds radiate heat to the earth, and the earth and every substance on it to the atmosphere. During the day, that is, during the hours when the sun is above the horizon, the earth receives more heat from the sun than it radiates; and, consequently, the temperature rises; but, at night, the radiation goes on, without an addition of heat from any source, and, consequently, the temperature falls. Thus it is, that the temperature of things upon the surface of the earth becomes lower than that of the atmosphere surrounding them; and the vapor, combined with the air, is condensed upon them, and forms dew.

There are now two questions which an intelligent reader would propose, and which we must answer. Why is not dew formed every night? and why is not dew formed on all substances?

The dew is not produced when the

night is cloudy: it is only under an open and clear atmosphere that it can be formed. When clouds are hanging over the heavens, there is a mutual radiation between them and the earth—a receiving and giving of heat; so that the temperature does not fall sufficiently low to occasion the condensation of vapor. For the same reason, dew is not formed under the shelter of a tree, under an open shed, or upon those plants over which a mat, or even a cambric handkerchief, has been thrown.

All substances are not dewed, because they are not all good radiators. Good conductors are bad radiators, and, consequently, lose their temperatures slowly, and receive no dew. This is especially the case when they are also reflectors. A polished piece of metal will not have on its surface one particle of dew, although exposed in a field completely covered with moisture.

The formation of dew, therefore, depends on the diminution of temperature by radiation; and there is scarcely an instance which may not be readily explained by a knowledge of the facts we have stated. The importance of dew in the vegetable economy is well known, but there are some countries where no rain falls, and the only moisture received by plants is from this source.

SNOW AND HAIL.

ON account of the extreme coldness of the atmosphere, at certain times, the aqueous vapor with which it is loaded, is not only condensed into a liquid, but is consolidated, and falls to the earth as snow or hail. It is exceedingly difficult to determine why, on one occasion, snow is formed, and on another hail; but we may risk the conjecture, that the electrical condition of the atmosphere, with which we are so imperfectly acquainted, has much to do with the production of the effect.

FROST AND ICE.

DURING the winter months, when the earth is cooled by radiation, the temperature of all things upon it is reduced, and even of the atmosphere which surrounds it. Hence we have cold and frosty weather, and water is converted into ice. We have already explained the circumstances

which always attend a change of form—the necessity of heat being acquired, in a latent state, before a liquid can take the vaporous condition, and the giving off of latent heat before a liquid can be frozen. It is not, therefore, sufficient that the temperature should be reduced to a certain point for the freezing of water, but the liquid must give out its constituent heat. This leads us to mention a curious fact connected with a *thaw*. It must have been often observed that the atmosphere is colder during a thaw than a frost, which can only be explained upon the principle of latent heat. When ice is assuming a liquid state it must obtain a certain amount of latent heat; and during a thaw, the sensible heat of the air is, as it were, stolen for this purpose, and its temperature is, consequently, lowered. Hence it is that the atmosphere is frequently colder during a thaw than when the ice is forming.

CAUSES OF CHANGE IN THE WEATHER.

MR. HALL stated before the British association, in 1836, “that long and carefully continued observation of the weather at Bristol, in England, had led him to the following theory, which was strikingly correspondent with facts:—

1. That the barometer, very generally, indeed, almost invariably, undulates at times, corresponding to the changes of the moon; and, at these times, it more frequently falls than rises.

2. That the weather is ordinarily unsettled at these periods, continuing so for about two or three days; and, for the most part, the wind continues high at these times.

3. That, as the weather settles (if it become settled at all—since it not unfrequently remains in an unsettled state), so will it continue until next change of the moon, or, rather, to the recurrence of its disturbing influences

4. That these variations occur as regularly at the quarters of the moon as at the new and full, and are then as fully-marked.

5. That the period, about five days, which determines the state of the weather, is derived from the spring and neap tides, or the full influence of the sun and moon upon them.

“The only origin of these rules,” he

stated, "was actual observation, residing on the banks of the river, and taking much interest in the operations of Professor Whewell respecting the tides, and his description of these. Mr. Hall stated that he had been led closely to compare them with the weather, but difficulties, to him insurmountable, had occurred, when considering the variations of the weather in different places at the same time; yet, regarding those in the neighborhood of Bristol, his conviction was unwavering. Perhaps, the varying time at which the tide reaches various places, so fully described by Professor Whewell, in his lecture, might assist in solving this difficulty; and, if the attention of others were directed toward it, his end would be attained.

Mr. Rootsey stated, that his observations fully confirmed the observations of Mr. Hall. In variable weather, the crisis of the day was always to be looked for at the change of the tide. The tide-wave, when of the enormous magnitude with which it reached Bristol (fifty feet), must alternately lift up and let down the atmospheric column which stood upon it, and thus give rise to changes in the barometric state of that column, which every person knew caused the other changes, or, at least, preceded them. Professor Stevelly stated, that if he understood Mr. Rootsey aright, the influence of the moon on the atmospheric column to which he referred, was not that direct one exercised in causing an atmospheric tide, but the indirect one of first causing a tide in the watery ocean, which, in its turn, lifted up and let down the atmospheric column, so as to cause condensations and rarefactions, very much removed from its mean state. Rarefactions and condensations, we well know, have much influence on many meteorological phenomena, and, therefore, he thought this a valuable hint. The great rapidity with which the tide-wave was propagated, and the direction in which it moved, would thus become a subject of interest to the meteorologist, when comparing changes of weather at distant places. That the moon and sun had an influence on the weather was so well known, that rules for anticipating the consequent changes had been given to the public, by

some person, in the name of the elder Herschel.

Mr. Harris stated, that, of the influence of the moon upon the weather he had no doubt, though rules for judging of its influence were still wanting.

The same gentleman has again had occasion to observe the correspondence between the changes of the moon and the height of the barometer.

This is a question upon which much careful and extensive observation is required. Men of science, have hitherto, we fear, been deterred from investigation, under the apprehension that they should be associating their names with a low class of persons. This, however, is not the course to be pursued by those who are seeking truth, and the question is one which ought long since to have been determined by modern science.

TRIBES AND CASTES OF INDIA.

RAJPOOTS.

THE Rajpoots are a warlike race, who, from pride of birth and superiority in arms, claim to be of a higher caste than any other Hindus. Rajpootana, the country which they inhabit, is so called because the principal part of it belongs to the Rajpoot princes. Rajast'han, or "the abode or country of princes," is another name for the same territory, which is for the most part a mountainous country, bounded on the north by Lahore, on the northwest by Mooltan, on the west by Scinde, on the south by Guzerat and Malwa, and on the east by Agra and Delhi; but the boundaries are very irregular and not distinctly defined. The area of Rajpootana is rather larger than that of Great Britain, and the number of inhabitants is thought not to exceed three millions, the greater part of whom are Hindus, though there is a considerable number of Mohammedans. The Rajpoots, including their various tribes and branches, form a large proportion of the population of Central India. Before the Mohammedan invasion, the

armies of the monarchs of Canoje and Delhi, which were chiefly composed of the Rajpoot tribe, had made partial conquests in this part of the country. They were employed to keep the turbulent in check; and to conquer the southern regions of India. On the appearance of the Mohammedan invaders, the warlike Rajpoots moved onward to the south, overwhelming the populations and taking the business of government into their own hands. Being of superior caste, the lower classes of Hindus regarded them with feelings which facilitated their usurpations.

The Rajpoot states enjoyed a sort of half independence under the Mohammedan emperors. They were compelled to pay a tribute and to furnish a military contingent, but their continual revolts led to the destruction of their principal cities. In 1748 they assumed independence, but the ruin with which they were threatened by the Mahrattas led them to seek the protection of Great Britain. An English garrison is now placed at Ajmeer, one of the principal Rajpoot towns; and although the Rajpoot chiefs are called independent princes, the military force of their country is commanded by an English officer. They have ceased to exist as a nation; their character also appears to have deteriorated, and indolence and sensuality have gained an ascendancy over them. They are too proud for industrious occupations, while their bards and chroniclers rouse their passion for war and plunder—a passion which happily can no longer be gratified. The Rajpoots are excessively addicted to the use of opium. Sir John Malcolm mentions a practice common at the "durbars," or councils, of some of the Rajpoot princes. The minister washes his hands, after which liquid opium is poured into the palm of his right hand, and the first in rank who is present approaches and drinks it up. Again the minister washes his hands and pours out another dose, which is drunk by the second in rank; and so until all have partaken. To drink opium from each other's hands is regarded as the most sacred pledge of friendship.

Four or five Rajpoot tribes, who, from their antiquity and their power, are considered the highest in rank, will not con-

descend to intermarry with those who are less distinguished, but they always marry out of the tribe. The Puar Rajpoots are celebrated in the ancient history of Central India, but their power was completely crushed by the Mohammedans, and they had long ceased to rule, when a chief of this race was restored in rank and power to the seat of his ancestors. The Puars came as the retainers of a Mahratta prince; and, what was worse, they had, while in the Decan, eaten and intermarried with Mahratta Sudras, in consequence of which the poorest of the Rajpoot chiefs among their dependants would have considered it a disgrace to eat with them or to give them a daughter in marriage. In cases of supposed illegitimacy, or where there exists any doubt respecting the rank of a person or family, the question can only be settled by some chief of high birth and character eating out of the same dish with those on whom the doubt rests. The pride of family among the Rajpoots is nourished by the Bhâts, or Rows, who are the chroniclers or bards of the tribe. The Rajpoots of Central India, although they pay respect to Bramins, do not make them their priests, this office being held by the Chârûns. Both they and the Bhâts boast of a celestial origin. The Chârûns are divided into two tribes; the Kachilee, who are merchants, and the Maroo, who are bards; but they do not intermarry. These two classes again are subdivided into one hundred and twenty other tribes. The Chârûns derive their power from the superstitious belief that any family who causes their blood to be shed is destined to certain ruin. The highest Rajpoot rises when a Chârûn enters or leaves an assembly. The term "Chandie" is given to their self-sacrifices. The Chârûn, for example, accompanies travellers as a protection from Rajpoot robbers, and warns them off by holding a dagger in his hand. If they pay no attention to him, he stabs himself, and casts the blood from the wound upon the assailants, threatening them with future ruin. If this be still ineffectual, he again wounds himself; and if this has not the desired effect, one of the Chârûn's relations, a female child or an old woman, is sacrificed. In extreme cases the Chârûn kills himself,

and this catastrophe is often followed by the voluntary death of his wives and children. Sir John Malcolm, in his work on Central India, says that "the aged and the young among Châruns are taught not merely to desire to part with existence whenever the honor of the family or the class to which they belong calls for the sacrifice, but, from the feeble female of fourscore to the child of five years of age, they are eager to be the first to die." The evil consequences of a Chârûn being driven to sacrifice himself are only to be averted by grants of land and gifts to his surviving relatives. The power of the Bhâts, protected as they are by the superstitious veneration of the people, is very great, as they are the dispensers of fame, and those who neglect or injure them are gibbeted in satires, and other means used to degrade them. The community of Chârûns and Bhâts is said to be governed by rules so as to constitute a regular hierarchy. They are the conservators of the purity of the different Rajpoot families, and are employed to arrange nearly all marriages. By their means only, with the assistance of bribes, can a Rajpoot of low caste make an alliance with a family of greater rank. Besides the military Rajpoots, there are Rajpoots cultivators of the soil, among whom are to be found individuals connected with the higher Rajpoot families. They are all armed, and the spirit of their race is kept alive by the recitations of their bards. In the towns also there are Rajpoots who are engaged in trade or employed as servants.

The Rajpoots are a fine-looking race, and Heber states that their complexions are the fairest which he saw in India. They have fine horses, but are scarcely such showy riders as the Mussulmans. The characteristic part of their costume is the turban, which is worn of extraordinary size. A mythological emblem in gold or silver, being an embossed figure of a horse and the sun, is worn round their necks, and Sir John Malcolm says that daily adoration is paid to it. This indispensable figure is the first present which a Rajpoot makes to his male offspring. They also wear a figure of a distinguished ancestor or relative, engraved in gold or silver, as a charm against evil spirits.

PHILOSOPHY OF VEGETATION.

How wonderful is Nature ! In the earth,
The tiny seed is sown, and from it springs
A tender plant that bends before the breeze,
And shivers in the blast. But mark it now
When years have passed, a mighty trunk has risen,
And giant limbs that stand unmoved, and dare
The lurid lightnings and the storms of Heaven.

COULD we but put aside the veil which is thrown over our senses, and could the untrammelled soul look forth upon the operations of nature, as they take place around us, how glorious would be the privilege, how ecstatic the enjoyment ! But on the contrary, we can view the wonders around us only as through a glass darkly, and the senses are continually imposing upon the judgment. The chymical workshops, or laboratories of nature, are almost entirely closed upon our senses, and we are compelled to gain our knowledge from the smoke which arises from her chimneys, and the occasional glimpses we can obtain through her windows. Yet the great Author of nature has given us insight enough to make us wonder at and adore his mighty power without our becoming vain and proud of our own acquisitions of knowledge.

Men generally are unaware of the fact that there are many things around us of which we know very little, though they are undergoing their changes, and working strange phenomena every day in our sight. Some of the loftiest sciences, and most abstract operations of nature, are often better understood than those which are immediately around us, and continually operating before our eyes. As an exemplification of this we will mention the phenomena which takes place in sowing the seed, and in the growth of the vegetable kingdom. There are very few, comparatively speaking, who know how the seed germinates, and the plant is nourished and grows, though they converse learnedly on the erratic disposition of comets, the attraction and gravitation of bodies, and the movement of the planets. Though they every day see them springing and growing around them, yet they are not aware that they are so absolutely necessary to human life, that the animal and vegetable kingdoms are reciprocally dependant upon each other, and

that the purity of the atmosphere is actually kept up by the oxygen which is wasted in the vegetable kingdom.

Nature is very simple in all her works. She requires but few ingredients, oxygen, hydrogen, and carbon, being the principal, out of which she manufactures so many varieties of forms. The earth it appears serves very little other purpose than as a matrix for the seed and plant, as very small portions of earth has ever been found in vegetable compounds. The earth is the channel or medium through which the plant receives its nourishment, and it also serves as a support to the roots of trees. All manures are good or bad in proportion as they contain the vegetable principle or food of plants, which is prepared by the decomposition of vegetable matter. Water is absolutely necessary to vegetable life, inasmuch as it takes up the saline and unctuous particles in the manure, and conveys them to the roots of the vegetable. If the soil is sandy it will not hold a sufficiency of water; if too solid with clay, the water will collect in too great a quantity, and produce decomposition of the roots. Calcareous soils, or those containing the carbonate of lime, are best adapted to the growth of plants, though it is often necessary to vary, as potatoes do best in a sandy soil, wheat in a rich, and rice in a moist soil. A ferruginous soil for fruit-trees, and a moderately rich sandy bottom for forest-trees.

In cultivating the Italian mulberry, and the *morus multicaulis*, we have experimented on the relative properties of animal and vegetable manures, and find that the former is the best, inasmuch as it contains more nitrogen, which renders it more complicated, and consequently more favorable to decomposition. Animal substances cause vegetable matter to ferment with greater facility.

But let us examine a seed of the mulberry, for example, and trace its progress from the earth. The external covering contains, beside the germ of the future plant, a substance, which is to serve it for nourishment in the early stage of its existence. This substance is called the *parenchyma*, and consists of fecula oil and mucilage. The seed is generally divided into two parts called *lobes* or *cotyledons*,

as may be observed in different kinds of beans. There is a dark-colored cord or string which divides the lobes, and is termed the *radicle*, from the Latin word *radix*, the root, as this string becomes the root of the future plant. Enclosed within the lobes is another part termed *plumula*, from which the trunk of the tree proceeds. All seeds have not the same number of cotyledons; barley, wheat, and oats, and the grasses, have but one. Some are found to have two, three, and others as many as six. When the seed is deposited in the earth, and the heat of the atmosphere is any degree above 40, the first operation it performs is to imbibe water. The seed softens, and the lobes swell. An absorption of oxygen then takes place, which unites with the carbon of the seed, and is returned in the form of carbonic acid. The loss of carbon consequently increases the proportion of oxygen and hydrogen comparatively in the seed, and as a natural consequence the saccharine fermentation takes place. By this process the substance of the parenchyma is changed to a soft sweet pulp. The action of heat on the seed swells it to such a degree that it can not contain itself, and the root darts forth, and strikes into the earth. The stem also pierces its covering, and passes up into the air, carrying with it two leaves, which are called the seminal leaves, and serve to elaborate the sap destined to support the stem. Thus the cotyledons now become the seed leaves, or lungs of the tree.

There is a very strong resemblance between the seed and an egg. Heat is necessary to develop the living energies of both, and there is a substance in each destined to supply nourishment to both in the early stage of their existence. So soon as the chick can provide for itself, the egg breaks, and so soon as the roots of the tree can imbibe ample nourishment from the soil, the seed-leaves drop off. Indeed there is a striking analogy between the whole vegetable and animal kingdoms.

So soon as the root branches off, and commences feeding from the soil, leaves become necessary to elaborate the sap and render it fit to nourish and form the growth of the tree. Here we also see a striking resemblance between the func-

tions of the leaves of plants, and the lungs of animals. There are vessels which serve in the animal system to suck up and convey from the stomach and bowels a fluid called chyle, which is conveyed to the lungs, and there is brought in contact with atmospheric air, and is oxydized or fitted to nourish every part of the frame. In like manner the roots suck up water, from the roots it is conveyed by certain vessels to the leaves where it undergoes a change, and becomes the sap or blood of the plant, which is conveyed to and nourishes every part of the tree. The upper surface of the leaves, it is said, throws off by transpiration the superabundance, while the lower surface on the contrary, which is rough and downy, absorbs moisture from the atmosphere, thereby obtaining those ingredients in the air necessary to its health. Thus the greater the quantity of the foliage, the greater is the quantity of water taken up by the roots, and transpired from the upper surface of the leaves. Air and light appear to be essentially necessary to the existence of the vegetable creation. Light is necessary to the formation of colors. If you plant a potato in a dark cellar it will be perfectly colorless, and if a hole be made through which light may enter, the vine will turn toward it, and endeavor to reach it.

How beautifully does nature dispose the leaves on the stem of the plant. The under side of the leaf being intended to absorb moisture from the air, and the dews of night as they arise from the ground, the leaves are so arranged that one shall not be immediately over another. By this arrangement the under surface of each leaf is exposed to the ascending moisture of the earth. You will occasionally see the leaves placed alternately on two parallel and opposite lines; again they are arranged in pairs crossing at right angles; and again they are placed on the angles of polygons, circumscribed on the branches, and arranged in such a manner that the angles of the inferior polygon corresponds with the sides of the superior. On some plants they ascend the stalk in parallel spiral lines.

It may be proven to actual demonstration, that the under side of the leaf is intended to absorb moisture from the earth

and atmosphere. If leaves be plucked, and the under sides be placed on a basin of water, they will remain green for days, and even weeks, but if they be placed with the upper surface in the water, they perish in a very short time. Herbs that grow more rapidly than trees have both surfaces of the leaves rough, nearly alike, and absorb moisture more rapidly from the atmosphere. The fact of the upper sides of leaves being smoother, more glossy, and of a deeper color, indicates a different use. If you incline the stalk of a tree it will turn and grow upward. If you bend the branch of a tree so that its leaves are reversed in regard to natural position, the leaves will continually endeavor to turn back again, and will finally succeed. Plant a seed upside down, so that the root shall start upward and the stem downward, and in a short time the root will turn and dive into the earth, while the stem will also turn and start upward into the air.

We have said that water is the chief nourishment of plants. It not only forms the sap, but is the basis of all vegetable fluids. Through the medium of water all the ingredients, such as salts, &c., are carried into plants. The organs of the plant have the power of decomposing water, and thus the hydrogen of the water serves as a constituent of oil, of coloring matter, &c., and the oxygen aids in the formation of mucilage, of fecula, of vegetable acids, sugar, &c. The greater portion of the oxygen of the water, however, is changed by caloric into a gaseous state, the caloric proceeding from the hydrogen during the condensation it undergoes, in forming the materials of the vegetable. This gaseous oxygen is thrown off into the atmosphere by the leaves of plants. Thus the atmosphere is continually rendered pure, and the loss repaired, which is necessary, inasmuch as the constant oxygenation and combustion of substances, and the respiration of animals, are continually exhausting it. Thus, too, is there a mutual dependance between the animal and vegetable kingdoms, as the plant is sustained by the substances thrown off by the lungs of animals, and the animal by the oxygen thrown off by plants. How wisely formed, how harmonious, are the works of nature! How strange is the

fact that we could not possibly exist any length of time without the vegetable creation, for the carbonic acid which is thrown off by animals in breathing would collect to such a degree in the atmosphere, as to render it entirely unfit for respiration, and death to the animal creation would be the consequence. But here how wise is the dispensation of Providence! The vegetable kingdom attracts and decomposes this carbonic acid, and after making use of the carbon for its own purposes returns the oxygen to the atmosphere, for the use of ourselves, and the rest of the animal creation.

But let us return to the formation of the tree. Having traced it from the seed to the putting forth of the roots and stem, we will speak of the bark. The bark is composed of three parts, the *epidermis*, the *parenchyma*, and the *cortical layers*.

The epidermis is a thin external skin particularly observable on cherry-trees, as it may be easily peeled off. Upon examination it is found to be a thin membrane, through which the light is transmitted, and consists of five slender fibres, which cross each other in the manner of a net. In some trees, and in corn, this membrane has a thin coat of siliceous earth, which gives it great strength. In some plants this membrane is composed of wax, and in others it is resinous.

The parenchyma lies next to, and is immediately under the epidermis. When the epidermis is stripped off it appears like a green rind, and is found not only on the trunk and branches, but extends to every part, even to the leaves. It is full of tubes, which contain a kind of fluid.

The cortical layers are immediately between the parenchyma and the wood. They are full of small vessels, which convey the sap downward after it has been elaborated in the leaves. They contain a quantity of gallic acid and tannin. Every year the old cortical layers are formed into wood, and new ones are formed.

The woody part of the tree, which is composed of woody fibre, mucilage, and resin, is called the *alburnum*. The fibres of the alburnum run two ways; some of them longitudinally, and is called the silver grain, while others called the spurious

grain, are disposed in a concentric manner. From the layers of the spurious grain the age of the tree may be computed, one being formed every year by the conversions of the cortical layers into wood. The roots of the tree suck in the water from the earth, and the tubes in the alburnum, or wood, convey it upward to the leaves, where the tubes unite with the extremities of the arteries of the cortical layers: Here then is a resemblance to the circulation in the animal system. The water pumped up by the roots is the chyle which the absorbent vessels suck up from the stomach and intestines, and convey to the lungs to be oxydized. So the water of the roots is conveyed by the vessels of the alburnum to the leaves or lungs, and from them is distributed to the parts of the plant. But here the simile fails, as the plant has nothing answering to the human heart, whence the blood is distributed after receiving it from the lungs. In the plant the sap is distributed from the lungs, but not by the way of a heart.

By the heat of the spring the small vessels of the plant expand, and partly perhaps by forming a vacuum, and partly by capillary attraction, the sap is carried up from the roots by the vessels of the alburnum into the leaves, where it undergoes a chymical change, and becomes fitted for the nourishment of the plant. The vessels of the cortical layers, now take it, and convey it to all parts of the plant. The tubes in the parenchyma are much larger than those which carry the sap, and serve perhaps to secrete some peculiar fluid necessary to the health of the plant, as the liver does in the human system. The juices of plants differ, and often in the same plant. In the centre of the alburnum is the heart-wood which appears to have no life, and the longevity of trees is owing to the want of this heart-wood. The long life of the oak is no doubt owing to the small portion of heart it contains. In the hickory this heart-wood gains upon the sap-wood in a double ratio, and when grown old gradually spreads toward the bark, till the living and active portion is not sufficient to nourish the tree, and it dies.

How the several juices are made, and how certain changes are affected in the

formation of the fruit, and the parts of the tree, is a mystery which has never been solved. The organs, by which those changes are effected are so small as to escape all observation, and hence we are left in the dark on one of the most interesting points of vegetable economy. It appears that trees possess an internal heat, in which respect they also resemble the animal. A small portion of carbonic acid is carried with the sap from the roots which the internal heat of the plant serves to disengage. Indeed, the whole plant is a chymical laboratory, in which the various changes are effected, and new combinations produced.

At the first appearance of a plant it is almost of a gelatinous consistence, but by a chymical change, which takes place in the juices which flow to it, the stock becomes harder and harder by degrees, till it assumes the nature of wood. The part of the stalk nearest to the root hardens first, and grows in a double ratio compared with parts above. After a while this part ceases to harden and to grow, and the same effect takes place in a part immediately above. Thus it progresses upward till the whole stalk assumes the nature and consistence of wood. After this a succession of concentric layers take place, which are produced by the hardening into wood every year of cortical layers.

In the propagation of vegetables there is no resemblance to the animal kingdom. Vegetables may be propagated by seed layers and cuttings. The pistil and stamina in plants answer the same purposes, as the organs of generation in animals. The seed are enclosed in the former, and the *pollen* or fine powder of the latter fecundates it. Both sexes are often united in one plant, while in other species the male is on one stalk and the female on another. Other species are distinct like animals in the sexes.

It appears that buds and even leaves have within them the elements of the future tree, and hence a small stick cut from a tree having two buds on it, may, by being placed in the earth produce a tree. The lower bud will swell, and throw out roots while a tiny stem will start up into the air from the upper bud. It is thus

that the most of the *morus multicaulis* trees are now produced by the cultivators of silk in this country. It appears astonishing that a single leaf or piece of stick should be placed in the earth and there bud and produce a tree in the same manner as the seed. The organs essential to life seem to be placed in every part of the plant, and consequently the means of propagating are multiplied.

There is yet another mode of multiplying, called grafting. Theophrastus informs us that a bird which had swallowed a fruit dropped it in the cleft of a tree where it grew, and became completely united to the original, though it proved to be a different kind. Hence sprung the art of grafting, and hence we see that it is of very remote origin. The graft which is fixed to another may be said to be one tree taking root, and growing in another, for it preserves its original character. There appears to be a necessary congeniality to succeed in grafting. A plum-tree will not graft and grow upon an apple, but an apple will succeed upon the pear, as the seed of their fruit are alike. It is something very astonishing that apple-seed will not produce their kind, but that the seed of one apple may produce a half dozen different trees, among which there may not be one bearing fruit like the original. Hence the use of grafting to produce and continue choice fruits, and also of propagating trees by cuttings, as they invariably produce their kind.

Vegetable life is the link which unites the animal and mineral kingdoms, inasmuch as mineral substances are introduced into the animal system. "All flesh is but grass," and it is by the consumption of vegetable matter by the animal, that the simple elements are conveyed into, and become a part of the animal frame. Vegetation is simply the vehicle in which nature prepares the nourishing elements destined for the support of the animal creation.

MANNER.—Of all the modifications of manner which are to be met with in society, perhaps the most generally pleasing is simplicity, even as that water is the purest which has no taste—that air the freshest which has no odor.

KNOWLEDGE OF THE WORLD.

PERHAPS a knowledge of the world, in the ordinary acceptance of the phrase, may mean nothing more than a knowledge of conventionalisms, or a familiarity with the forms and ceremonies of society. This, of course, is of easy acquisition, when the mind is once bent upon the task. The practice of the small proprieties of life to a congenial spirit, soon ceases to be a study; it rapidly becomes a mere habit, or an untroubled and unerring instinct. This is always the case, when there is no sedentary labor by the midnight lamp to produce an ungainly stoop in the shoulders, and a conscious defect of grace and pliancy in the limbs; and when there is no abstract thought or poetic vision to dissipate the attention, and blind us to the trivial realities that are passing immediately around us. Some degree of vanity and a perfect self-possession are absolutely essential; but high intellect is only an obstruction. Men whose heads are little better than a pin's, have rendered themselves extremely acceptable in well-dressed circles. There are some who seem born for the boudoir and the ball-room, while others are as little fitted for fashionable society, as the fish is for the open air and the dry land. They who are more familiar with books than with men, can not look calm and pleased when their souls are inwardly perplexed. The almost venal hypocrisy of politeness is the more criminal and disgusting in their judgment, on account of its difficulty to themselves, and the provoking ease with which it appears to be adopted by others. The loquacity of the forward, the effeminate affectation of the foppish, and the sententiousness of shallow gravity, excite a feeling of contempt and weariness that they have neither the skill nor the inclination to conceal.

A recluse philosopher is unable to return a simple salutation without betraying his awkwardness and uneasiness to the quick eye of a man of the world. He exhibits a ludicrous mixture of humanity and pride. He is indignant at the assurance of others, and is mortified at his own timidity. He is vexed that he should suffer those whom he feels to be his in-

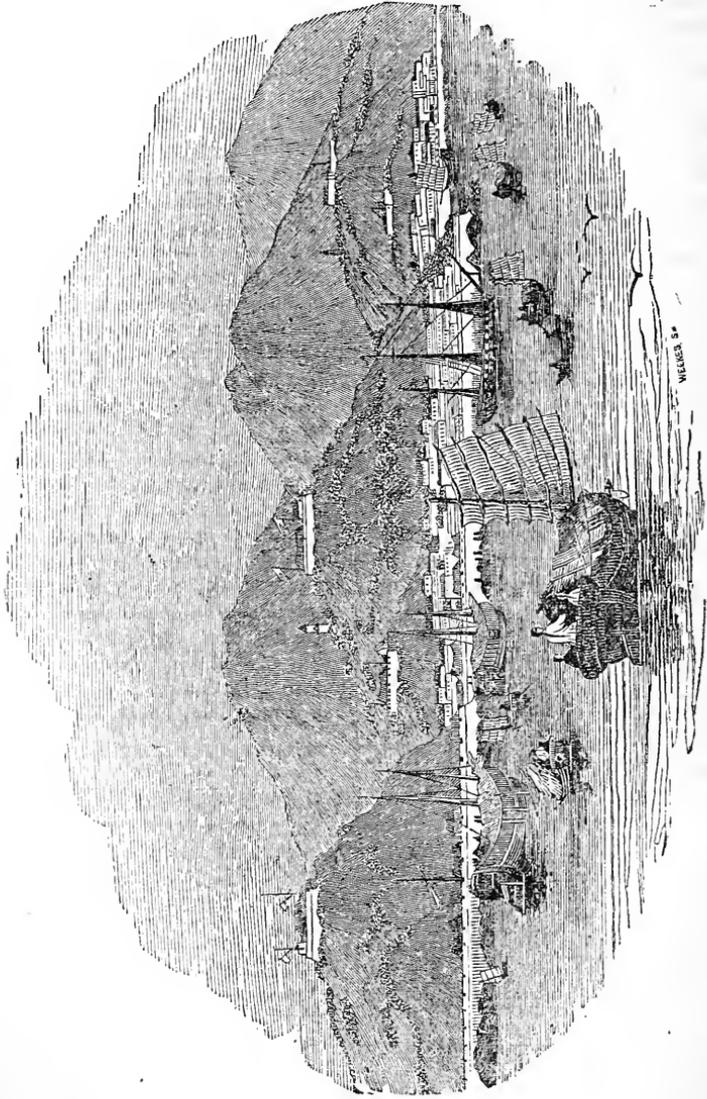
feriors to enjoy a temporary superiority. He is troubled that they should be able to trouble him, and ashamed that they should make him ashamed. Such a man, when he enters into society, brings all his pride, but leaves his vanity behind him. Pride allows our wounds to remain exposed, but makes them doubly irritable; but vanity, as Sancho says of sleep, seems to cover a man all over as with a cloak. A contemplative spirit can not concentrate his attention on minute and uninteresting ceremonies, and a sense of unfitness for society makes the most ordinary of its duties a painful task. There are some authors who would rather write a quarto volume in the praise of women, than hand a fashionable woman to her chair.

The foolish and formal conversation of polite life, is naturally uninteresting to the retired scholar, but it would, perhaps be less objectionable if he thought he could take a share in it with any degree of credit. He has not the feeling of calm and unmixed contempt; there is envy and irritation in his heart. He can not despise his fellow-creatures, nor be wholly indifferent to their good opinion. Whatever he may think of their manners and conversation, his uneasiness evinces that he does not feel altogether above, or independent of them. No man likes to seem unfit for the company he is in. At Rome every man would be a Roman.

AMOY.

AMOY is a small island near the coast of China, with a town of the same name, lying toward the southeastern extremity of the province of Foo-Kien. It is in 20° 45' N. lat., and 118° E. long. In Mandarin dialect the name of the place is Hea-mun, which is pronounced by the natives Ha-moy.

The district directly adjacent to this flourishing town, the emporium of the commerce of the province, is one of the most barren in all China; but this character does not seem to extend very widely. The country in the immediate vicinity of



Amoy.

WICKES & CO.

Amoy is miserably barren ; hence the means of subsistence are scanty and expensive. A few miles distant, however, the soil is rich and affords abundant supplies. Notwithstanding this serious disadvantage, the merchants of Amoy are among the most wealthy and enterprising in the Chinese empire ; they have formed connexions all along the coast, and have established commercial houses in many parts of the Eastern Archipelago. Most of the colonists in Formosa emigrated from the district of Amoy, with capital supplied by its merchants ; and in proportion as that island has flourished, so has Amoy increased in wealth and importance.

During the southwest monsoon, the merchants of Amoy freight their vessels at Formosa with sugar, which they sell at various ports to the northward, returning home with cargoes of drugs. They maintain commercial relations with Manilla, as well as with Tonquin and Cochinchina : they annually employ forty large junks in trading with Bangkok, the capital of Siam. Junks of the largest class—some of them eight hundred tons burden—go to Borneo, Macassar, Java, and the Soo-loo islands ; and many of them annually visit Singapore, in order to procure goods of British or American manufacture.

This port has not always been closed against foreign vessels. According to the records of the East India Company, the king of Tywan, on taking Amoy in 1675, issued a proclamation inviting both Chinese and foreign merchants to trade thither, exempting them from the payment of all duties for three years. Many vessels in consequence resorted to the port, but the exemption was speedily revoked. In 1681 the town was taken by the Tartars, but Europeans were still allowed to trade thither, and continued to do so until 1734, when the exactions of the Mandarins deterred them from continuing so unprofitable an intercourse ; and when an English ship went there ten years after, many vain endeavors and much fruitless discussion were employed to induce the Chinese to trade, so that the vessel was obliged to proceed to Bengal for a cargo.

The ship Amherst visited Amoy in 1832, with no better success : it appears, however, that the obstacles to her trading

all proceeded from the authorities and not from the people, by whom the English were received in the most friendly manner.

The late expedition has extended our knowledge of Amoy, having been captured by the British troops. Dr. Macpherson says of it : Amoy is a principal third-class city of China ; it has an excellent harbor, and from its central situation is well adapted for commerce. It is a great emporium of trade, and has constant communication, not only with the neighboring states, but also with Singapore and other settlements in the straits. The city is about eight miles in circumference ; it is surrounded in part by a wall, and nearly its whole length by the inner harbor. Its population is fluctuating, from the major portion being so frequently absent on mercantile pursuits. It is at all times much infested by native robbers, who come in boats and attack the inhabitants at night. The citadel is about a mile in circumference. It entirely commands the suburbs and inner town, and is surrounded by a wall which is occasionally turreted, and varies in height from twenty to thirty-six feet. In this citadel were several extensive granaries well filled, arsenals containing enormous quantities of jingalls, wall-pieces, matchlocks, military clothing, shields, bows and arrows, spears and swords of all descriptions, besides extensive magazines of powder and material for constructing it. There was also a foundry, with moulds for casting guns. But few war-junks were seen, the Chinese admiral having shortly before our visit proceeded on a cruise with the fleet. Large quantities of timber and naval stores were found, and several war-junks were on the stocks ; one two-decker, moulded after the fashion of ours, and carrying thirty guns, was ready for sea. . . . From the point of entrance into the inner harbor, the great sea-line of defence extended in one continued battery of granite upward of a mile. This battery was faced with turf and mud several feet in thickness, so that at a distance no appearance of a fortification could be traced. The embrasures were roofed, and the slabs thickly covered with turf, so as to protect the men while working their

guns. This work mounted about one hundred guns, and it terminated in a high wall, which was connected with a range of rocky heights which run parallel to the beach. The entrance into the harbor is by a channel six hundred yards across, between the island of Koolangsoo and Amoy. On each side of this passage there were also strong fortifications.

The outer town is divided from the city by a chain of rocks, over which a paved road leads through a pass that has a covered gateway at its summit. The outer harbor skirts the outer town, while the city is bounded in nearly its whole length by the inner harbor and an estuary which deeply indent the island.

MEASUREMENT OF TIME.

THE returns of the sun to the meridian and to the same equinox, or to the same solstice, form the days and the years. The astronomical day is the time comprised between two consecutive middays or midnights. The sidereal day is the duration of an entire revolution of the heavens. The astronomical day surpasses the sidereal day; for if the sun and a star pass the meridian at the same instant, the sun will return there later than the star the next day, and in the space of a year it will pass the meridian one time less than the star will pass the meridian. The astronomical days are not equal; their differences are produced by the inequality of the proper movement of the sun, and by the obliquity of the ecliptic; at the solstice of summer, the movement of the sun being lower than at the solstice of winter. The inequality of the proper movement of the sun is made to disappear by imagining a second sun moved uniformly on the ecliptic, and always traversing the great axis of the solar orbit, at the same instant as the true sun. The second sun, which we thus imagine, determines, by its return to the equator and to the tropics, the mean equinoxes and solstices. The duration of its returns to the same equinox or to the same solstice,

form the tropical year, of which the actual length is 365 days and a quarter nearly. (365.242264). Observation has taught us that the sun takes more time to return to the same stars. The sidereal year is the time comprised between two of these consecutive returns; it surpasses the tropical year by one seventieth of a day nearly, (0.014110). Thus the equinoxes have a retrograde movement on the ecliptic, or a movement contrary to the proper movement of the sun.

This movement is not exactly the same in all ages, which renders the length of the tropical year a little unequal; it is now about 13 seconds shorter than in the time of Hipparchus. It is natural to make this year begin at the solstice of winter, which antiquity celebrated as the epoch of the regeneration of the sun, and which, under the pole, is the middle of the great night of the year. If the civil year were constantly 365 days, its beginning would incessantly anticipate that of the true tropical year, and it would run through the different sessions in a period of about 1,508 years. This year was once in use in Egypt; but it deprives the calendar of the advantage of attaching the months and festivals to the same seasons, and of making them remarkable epochs for agriculture. The most simple method of correcting the civil year is that which Julius Cæsar introduced into the Roman calendar, by making a bissextile or leap year every fourth year; but a small number of ages would suffice to displace the beginning of these Julian years.

In the eleventh century the Persians adopted a method remarkable for its exactness; they introduced a leap year every fourth year, seven times consecutively, and deferred the bissextile, the eighth time, until the fifth year. It would take a great number of centuries sensibly to displace the beginning of this Persian year. The mode of intercalation by the Gregorian calendar is a little less exact, but if it be considered that this calendar is now that of almost all the nations of Europe and America, and that it has taken two great ages and all the influence of religion to procure for it this universality, it will be felt that it is important to preserve so precious an advantage, even at the ex-

pense of a perfection which does not bear on essentials ; for the principal object of a calendar is to offer a simple mode of attaching events to the series of days, and by an easy method of intercalation to fix the beginning of the year in the same season—conditions which are well fulfilled by the Gregorian calendar. The union of 100 years, or century, forms the age, the longest period employed hitherto in the measure of time, for the interval which separates us from the most ancient known events does not yet demand a longer. The division of the year into 12 months is very ancient, and almost universal. The system of months of 30 days conducts naturally to their division into three decades ; but at the end of the year the complementary days trouble the order of things attached to the days of the decade, which causes a necessity for embarrassing administrative measures. This inconvenience is obviated by the use of a little period independent of the months and of the years ; such is the week, which since the most remote antiquity in which it loses its origin, circulates through the midst of ages, mixing itself in the successive calendars of different nations. It is perhaps the most ancient and most incontestable monument of human knowledge ; it appears to indicate a common source whence that knowledge has been spread forth ; but the astronomical system which serves as its base proves the imperfection of human knowledge at that origin.

Note—The seven days in the Mosaic account of the creation being the first week of man's recorded existence, the Mosaic books being the most ancient known writings, and no traces of such a being as man occurring contemporary with remoter periods than the Mosaic account, all point to the cause of the week thus circulating through the most remote ages of antiquity.

MYSTERY.

IN every age of the world mystery has been the efficient magic wand by which

the cupidity of man has predominated over his fellows when physical force fell short of accomplishing his purpose. The human mind, ever active and untiring, can not find sufficient employment in the dull routine of ordinary life, and therefore it must seek new channels by which its energies may be exhausted. The great arcana of Nature presents an ample arena in which it may act to the full extent of its powers ; and it is herein that extraordinary genius becomes developed, and the mind which possesses more than ordinary strength, discovers the truths which lie hidden in these unexplored recesses. Such an acquirement elevates the man above the mass, and those operations of the elements, and facts relative to science which his researches have rendered perfectly comprehensible to him, still exhibit to the great bulk of mankind a complication of undeveloped mysteries, and hence arises his power over the mental world. In the early ages of the world, before society became perfectly organized so as to render the social system vitally important to the general good, no corresponding observations upon the phenomena of the physical world were made, and consequently the discoveries of individuals were neglected, even by themselves, for the want of corresponding facts to prove the correctness of their positions ; and hence, general information was rendered unattainable.

But as men advanced by the natural impulse of their inherent principles of inquiry and research, a new state of things ensued, and man lifted his thoughts from earth to inquire into the mysteries of the heavens, and a corresponding elevation of soul was the result. This new field called forth the most energetic action of his imagination, and the perfect harmony there exhibited, enabled him to reduce his observations to a system. This system enabled him to foretell events connected with the phenomena of the heavens, and the mass looked upon him as a superior portion of intelligent creation. His cupidity readily discovered the immense power he had acquired over the multitude, and his natural desire to predominate pointed out the means for retaining his elevated position, and he immediately threw

a dark veil over his luminous discoveries, which hid them entirely from his fellows. The knowledge thus acquired was reduced to a mysterious system of theology; every scientific fact was enveloped in the robes of profound mystery, and at the feet of the fortunate possessor did the ignorant mass bow with awful and blind reverence. Such superiority could not be circumscribed within the limits of a single individual's capacities, nor could the physical operations connected with this theology be performed by one alone, and hence a compact and established priesthood was formed, who swayed the destinies of powerful nations and claimed the homage of the princes of the earth. To render their rites more solemn and impressive, and to attach to their order a greater degree of awful reverence, their sanctuaries were erected in the bowels of the earth, and their mysterious functions celebrated when the pall of night overspread the nations.

India, whence it is supposed that the Egyptians derived their learning and civilization, was the seat of the most powerful hierarchy of this kind, whose power was mystery, that the world ever produced. The islands contiguous to that great peninsula still exhibit monuments of the vast physical labor to which a people, in an age so remote that history can not conjecture the period, were subjected, to subserve the interest of this philosophical priesthood. The island of Elephanta was the most celebrated for its numerous subterranean temples consecrated solely to the celebration of mysterious rites. These temples are excavated in solid granite, many hundred yards in length and as many in breadth. Columns of the various orders for which Grecian architecture is so celebrated, are here carved out of the solid rock, some of them to the height of more than sixty feet, and were probably models for the temple of the sun at Heliopolis, of Memnon at Thebes, and the various structures of the ancient Greeks.

The entrance to these temple caves of Elephanta were guarded by colossal statues of such terrific appearance, that none but the initiated ever had the temerity to enter, and hence their secrecies were never disclosed to the world, for the awful

manner in which aspirants were initiated into these secrecies placed the seal of silence on this subject upon their lips for ever. The doctrine of metempsychosis was the leading *principia* taught in these temples, and nothing can be conceived more solemn than the initiation into the greater Eleusinian mysteries. An ancient writer who had gone through the awful ceremony, thus describes it:—

“After entering the grand vestibule of the mystic shrine, I was led by the hierophant, amid surrounding darkness and incumbent horrors, through all the extended aisles, winding avenues, and gloomy adyta. It was a rude and fearful march through night and darkness. Presently the ground began to rock beneath my feet, the whole temple trembled, and strange and awful voices were heard through the midnight silence. To these succeeded other louder and more terrific noises, resembling thunder; while quick and vivid flashes of lightning darted through the cavern, displaying to my view many ghastly sights and hideous spectres, emblematical of the various vices, diseases, infirmities, and calamities, incident to that state of terrestrial bondage from which my struggling soul was now going to emerge, as well as of the horrors and penal torments of the guilty in a future state. At this period, all the pageants of vulgar idolatry, all the train of gods, supernal and infernal, passed in awful succession before me, and a hymn, called the *Theology of Idols*, recounting the genealogy and functions of each, was sung: afterward the whole fabulous detail was solemnly recounted by the mystagogue; a divine hymn in honor of ETERNAL AND IMMUTABLE TRUTH was chanted, and the pro-founder mysteries commenced. And now, arrived at the verge of *death* and *initiation*, everything wore a dreadful aspect; it was all horror, trembling, and astonishment. An icy chillness seized my limbs; a copious dew, like the damp of real death, bathed my temples; I staggered, and my faculties began to fail; when the scene was of a sudden changed, and the doors of the interior splendidly-illuminated temple were thrown wide open. A miraculous and divine light disclosed itself; and shining plains and flowery meadows

opened on all hands before me. Arrived at the bourne of mortality, after having trod the gloomy threshold of Proserpine, I passed rapidly through all the surrounding elements; and, at deep midnight, beheld the sun shining in meridian splendor. The clouds of mental error and the shades of real darkness being now alike dissipated, both my soul and body experienced a delightful vicissitude; and while the latter, purified with lustrations, bounded in a blaze of glory, the former dissolved in a tide of overwhelming transports."

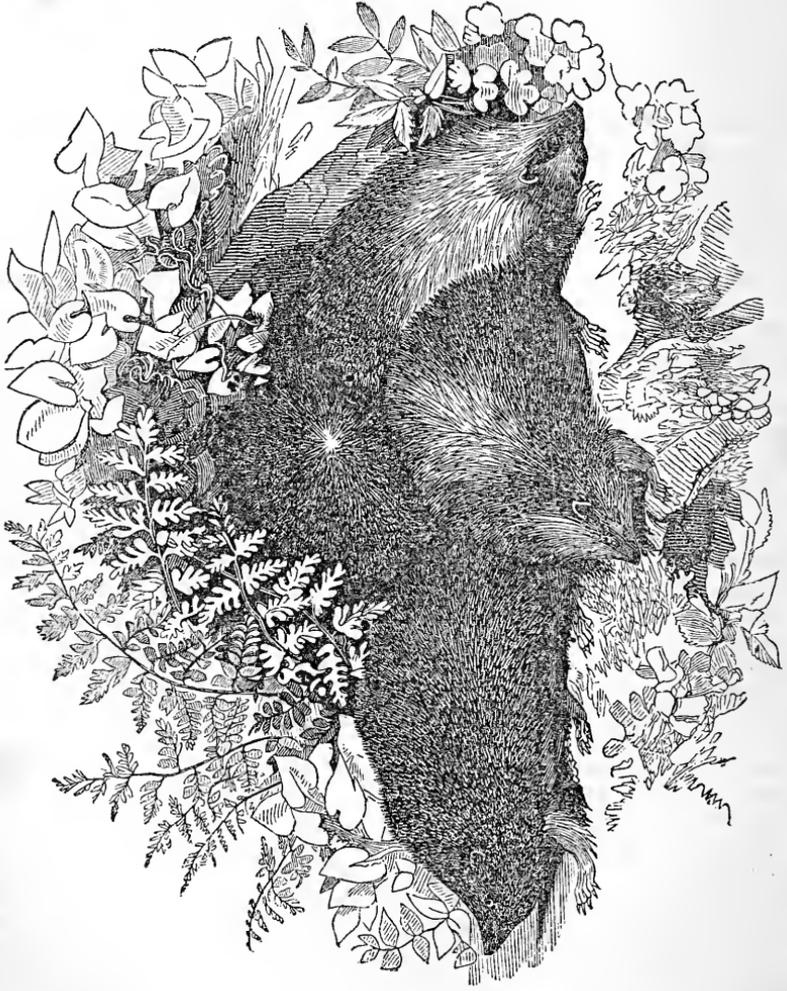
These mysteries were conveyed to Egypt, and incorporated with their worship, thence they found their way into Greece and subsequently to Rome, where the *mysteries of Dea* were a remarkable imitation of the rites of the ancient Indian mythology. When the bright star of Bethlehem arose upon the land of Palestine, the dark veil was removed from these mysterious rites, and the temples of Isis, of Jupiter, and of Diana, were deserted, but the ambitious passions of men could not long slumber, and the bright escutcheon of Christianity became tarnished with the foul blot of mysticism, to enable a few who thirsted for power to tread upon the necks of the multitude; and that system, so simple in its original, became the most complex of all. Mystery after mystery was introduced into the system, and darker and darker grew the night that gathered over the world, until at length the veil was rent by the hands of a Luther, a Melancthon, and a Calvin, and Religion, throwing off its mystic garb, stepped forth arrayed in the simple and beautiful attire of Truth. The lamp of Learning, that for centuries had burnt as a deep mystery within the recesses of the cloister, and was carefully hidden from the mass, was brought out from its dark tomb and placed as a beacon light upon the pinnacle of the temple of Reason. The nations of the earth beheld its effulgence and rejoiced—the darkness that had so long covered them with its pall was dissipated by its beams—and those twin-sisters of Heaven, Christianity and Learning, walked hand in hand through every labyrinth of humanity, scattering beauty and brightness, peace and happiness, in

their train. The dark veil of Ignorance was removed from the hill of Science, and Philosophy, untrammelled in its actions, led the thirsting votary to the fountain of Truth upon its summit. Nature, instead of presenting a sealed volume of inexplicable mysteries, opened to the view of man a sublime yet simple Bible, whereby he was taught to acknowledge that mystery of all mysteries, the existence of one immutable and omnipresent Creator.

CURIOSITIES OF NATURAL HISTORY.

THE HEDGEHOG (*Erinaceus Europæus*).

AMONG the smaller mammalia the Hedgehog is by no means one of the least interesting, whether we consider its structure or its habits. In almost every part of the country this little animal is common, frequenting woods, copses, orchards, and dense hedge-rows, where it lies concealed from morning till dusk, evening being its "opening day," when it rouses up from slumber and begins its prowling for food, when it is all alertness and alive to every sound. It pads along, more quickly than might be supposed, in a vacillating manner; yet when surprised, it makes no attempt to escape by flight, but rolling up itself into the form of a ball, trusts to its panoply of thorns, and awaits the result. While in this position, the head, legs, and tail, are completely hidden and protected, and the animal may be rolled about, or even roughly treated, without being made to unfold itself; nay, the more severely it is attacked, the more pertinaciously does it maintain its defensive form, and the more firmly does it contract. Thus does it offer a passive resistance, and often a successful one, to its enemies, of which the fox is among the most resolute, and to which, in spite of all its efforts, it often falls a prey. In order to enable the hedgehog to assume a globular figure, and envelop itself in its thorny covering, it is endowed with a set of cutaneous muscles, which exhibit an



The Hedgehog. (*Eurymaccus Europaeus.*)

admirable instance of the adaptation of animal mechanism to a specific purpose. By the contraction of these muscles, not only is the animal rolled up, but, by means of a circular muscle round the margin of the dorsal integument, the thorn-clad skin of the back is drawn up like the mouth of a pouch or purse, so as to shut in the head and limbs, the whole being thus enveloped. The quickness with which the hedgehog throws itself into this attitude is very surprising, and from the strength and elasticity of the spines it may fall thus folded from a great height without being injured. The hedgehog is omnivorous in its appetite, feeding on insects, slugs, mice, frogs, eggs, fruits, and roots. In consequence of its fondness for insects it is often kept in a domestic state, rendering good service by the destruction of cockroaches and crickets, in quest of which it quits its retreat at the approach of night and traverses the floor in every direction. It darts forward with rapidity on these insects and catches them with its mouth, never using its paws for that purpose, and very speedily and audibly masticates them. Pallas affirms that it will eat the blister-fly with impunity, a very few of which would soon terminate the existence of any other animal, in extreme torture.

Hedgehogs have at all times been cruelly persecuted by the ignorant and brutal. It is alleged against them that they drain the udders of the cows reposing in the meadows at night, give them sore diseases, or stop their milk entirely; and not only so, but that they rob the orchard, rolling themselves over apples or other fruit fallen from the trees, and carrying away their prize sticking to their spines.

These charges are altogether preposterous, and we need not gravely enter into a statement of the physical impossibility in the former case, resulting from the structure of the mouth, for surely, no one who reflects for a moment, can give credit to such an absurdity. We have, however, heard it strenuously asserted, nor did any argument convince to the contrary. That the hedgehog often creeps close to slumbering cattle may be admitted, the little creature being attracted either by the warmth of the cow or by the insects which swarm round cattle, and

if the udders of the cows drip, it may even sip the milk, a fluid to which, when kept tame, it is partial, but that it drains the udder or otherwise injures the cow, is an absurdity which stupid ignorance alone can entertain. The same charge has been alleged against the fern-owl, or goat-sucker (*caprimulgus*), which unquestionably is sometimes seen in a situation equally suspicious; its object, however, is not to suck the cow, but to catch the flies, an occupation in which Mr. Water-ton has frequently observed it engaged during moonlight summer evenings.

That the hedgehog in autumn devours a fallen apple, being partly fructivorous, and frequents orchards at that season when the fruit ripens and drops from the tree, is not to be doubted, but that it carries off apples and hoards them up is a mistake, for the animal lays up no provision for the winter. The injury done by hedgehogs to the vegetable produce, whether of the farm, orchard, or garden, is, however, but very trifling; indeed Mr. White, in "The Natural History of Selborne," states that, in his opinion, they are rather useful than detrimental. "They abound," he says, "in my gardens and fields. The manner in which they eat the roots of the plantain in my grass-walk is very curious; with their upper mandible, which is much longer than their lower, they bore under the plant, and so eat off the root upward, leaving the tuft of leaves untouched. In this respect they are serviceable, as they destroy a very troublesome weed, but they deface the walks in some measure by digging little round holes."

Although the hedgehog is, as we have stated, incapable of performing those acts for the supposed commission of which it is cruelly persecuted, it is guilty of others not very generally known or attributed to it, which, it must be confessed, are not such as to render it a universal favorite. It is quite certain that it preys upon the eggs of pheasants, partridges, and of all kinds of domestic poultry to a considerable extent; and is rather a formidable enemy to the preserve, and even poultry-yard. Bingley gives an account of one of these animals, which was fed upon raw meat, and mice (of which it would devour six at a meal). We have ourselves seen the

hedgehog fall upon frogs and ravenously devour them, and it would seem, from the following narrative, founded on the testimony of Professor Buckland, that the snake is not quite safe from this animal's attacks: "Having occasion to suspect that hedgehogs, occasionally at least, preyed on snakes, the professor procured a common snake, and also a hedgehog which had lived in an undomesticated state for some time in the Botanic Garden at Oxford, where it was not likely to have seen snakes, and put the animals together into a box; whether or not the latter recognised its enemy was not apparent; it did not dart from the hedgehog, but kept creeping gently round the box. The hedgehog was rolled up at their first meeting, and therefore did not see the snake. The professor then laid the hedgehog on the body of the snake, with that part of the ball where the head and tail meet downward, and touching it. The snake proceeded to crawl; the hedgehog started, and opened slightly, and seeing what was under it, gave the snake a hard bite, and instantly rolled itself up again. It soon opened a second time; repeated the bite, and then closed as if for defence: opened carefully a third time, and then inflicted a third bite, by which the back of the snake was broken. This done, the hedgehog stood by the snake's side, and passed the whole body of the snake successively through its jaws, cracking it, and breaking the bones at intervals of half an inch or more; by which operation the snake was rendered entirely motionless. The hedgehog then placed itself at the tip of the snake's tail, and began to eat upward, as one would eat a radish, without intermission, but slowly till half the snake was devoured, when the hedgehog ceased from mere repletion. During the following night the anterior half of the snake was also completely eaten up."

When taken young the hedgehog may be completely tamed and familiar, allowing itself to be handled, and associating with the dog or cat upon terms of perfect concord. It feeds indifferently upon bread and milk, meat, &c., and keeps up a regular nocturnal chase after insects.

Few animals sink into a more profound lethargy during their state of hybernation

than the hedgehog. On the approach of winter it seeks its retreat—some hole under the roots of a tree, or similar situation—where it makes a soft nest of moss and leaves, in which it rolls itself, so as to attach a great quantity of the material to its spines. We have seen hedgehogs taken from their winter dormitory which resembled a ball of matted leaves, these entirely enveloping the rolled-up animal, which formed, as it were, the living centre.

It is not till the spring has fairly set in that this animal awakes from its trance, and comes abroad; it then wanders in search of its mate. The female produces young in June: they are usually from three to five in number, about two inches in length, blind, perfectly white, and, although naked, the rudiments of the spines, as yet soft and flexible, are apparent; in the course of five or six days the spines have acquired considerable development and hardness, but it is not until a more advanced age that the young animals are capable of folding themselves up in their thorny mantle. The nest is formed with considerable skill and attention to the comfort of the young, and the roof or upper covering is capable of throwing off the rain so as to preserve the interior dry. The female is devoted to her offspring, as will appear from the following fact communicated to us: In the garden of a gentleman from whom our informant received the account, one of these animals had made her nest and littered. She was accustomed to pass into a neighboring copse for food every night after dark; but by some accident one evening the garden door was closed earlier than usual; her return at the customary time was consequently prevented, and the poor creature was discovered the next morning lying dead close to the door, having expired through maternal anxiety, combined with her violent and unsuccessful efforts to pass the fatal barrier. The young were afterward found dead, starved for want of food.

The flesh of the hedgehog, which is still eaten in some parts of the Continent, was formerly in esteem in our country, and was reckoned in season in the month of August. The usual mode of dressing it was, we are informed, to roast it, or

bake it in a pie. "This diet," says the author of the 'Journal of a Naturalist,' "was pronounced dry and not nutritive, because he putteth forth so many prickles. All plants producing thorns, or tending to any roughness (continues this writer), were considered to be of a drying nature, and upon this foundation the ashes of the hedgehog were administered as a great dessicative" in some diseases. In Pliny's time the gall of the hedgehog mixed with bats' brains was esteemed as a depilatory; and Albertus Magnus gravely states that oil in which one of its eyes has been fried, if kept in a brass vessel, will endow the human eye with the faculty of seeing as well by night as in the day.

By the ancients the thorny skin of the hedgehog was used in hackling hemp for the weaving of cloth, and in the present day it is still occasionally employed for the same purpose: we have seen muzzles, for the purpose of weaning calves, made of them.

According to some zoologists, there exist in Europe two varieties of hedgehog, the common or swine hedgehog (*hérisson-porceau*), and the dog-hedgehog (*hérisson-chien*), the latter differing from the former in having a shorter and thicker nose, and the mantle of spines less extensive. Desmarest, however, assures us that he never saw one of this kind, dead or alive, and that the only figure of it is by Perrault, who considered it a distinct species, which no naturalist has hitherto been able to verify. Ray doubted its existence, as do most modern naturalists.

The hedgehog belongs to the insectivorous order of mammalia: the head is small; the cheeks and forehead are covered with brownish-gray hairs; the nose is almost naked, and of a black color, and terminated by a round pig-like snout; the nostrils are protected by small valves or flaps of integument, which prevent the entrance of sand or dust into the delicate organ of smell while the animal is burrowing for food. The eyes are prominent, but small and black, and the pupils are circular. The ears are rounded, and so short as to be concealed by the fur. The sides, throat, chest, and belly, are covered with long coarse hair of a chestnut-brown intermingled with gray, which lies smooth-

ly. The tail is nearly naked and scaly, and externally does not exceed an inch in length. The upper part of the head, and the whole of the back, which is broad and arched, are covered with sharp spines of a brown color, tipped with yellowish-white, and having a dark ring rather below the middle. The feet are naked and black, and completely plantigrade, the whole of the sole resting on the ground. The length of the adult animal is from nine to ten inches.

The hedgehog is spread over every part of Europe, except the cold countries, as Lapland, Norway, &c.

WASHINGTON.

IN person Washington was unique.—He looked like no one else. To a stature lofty and commanding, he united a form of the manliest proportions, limbs cast in Nature's finest mould, and a carriage the most dignified, graceful, and imposing. No one ever approached the Pater Patriæ that did not feel his presence.

So long ago as the vice-regal court at Williamsburg, in the days of Lord Botetourt, Col. Washington was remarkable for his splendid person, the air with which he wore a small sword, and his peculiar walk, that had the light elastic tread acquired by his long service on the frontier, and was a matter of much observation, especially to foreigners.

While Colonel Washington was on a visit to New York, in 1773, it was boasted at the table of the British governor, that a regiment just landed from England, contained among its officers some of the finest specimens of martial elegance in his majesty's service—in fact, the most superb-looking fellows ever landed upon the shores of the New World. "I wager your excellency a pair of gloves," said a Mrs. Morris, an American lady, "that I will show you a finer man in the procession to-morrow, than your excellency can select from your famous regiment." "Done, madam," said the governor. The morrow

came (the 4th of June), and the procession in honor of the birthday of the king, advanced through Broadway, to the strains of military music. As the troops defiled before the governor, he pointed out to the lady several officers by name, claiming her admiration for their superior persons and brilliant equipments. In rear of the troops came a band of officers not on duty, of colonial officers, and strangers of distinction. Immediately on their approach, the attention of the governor was seen to be directed toward a tall and martial figure, that marched with grave and measured tread, apparently indifferent to the scene around him. The lady now archly observed: "I perceive that your excellency's eyes are turned to the right object; what say you to our wager now, sir?" "List, madam," replied the gallant governor. "When I laid my wager, I was not aware that Colonel Washington was in New York."

To a question that we have been asked many times, viz., To what individual known to any one yet living, did the person of Washington bear the nearest resemblance? we answer, to Ralph Izard, senator from South Carolina, in the first congress under the constitution. The form of Izard was cast in Nature's manliest mould, while his air and manner were both dignified and imposing. He acquired great distinction while pursuing his studies in England, for his remarkable prowess in the athletic exercises of that distant period.

An officer of the life-guard has been often heard to observe, that the commander-in-chief was thought to be the strongest man in his army; and yet what thews and sinews were to be found in the army of the Revolution. In 1781, a company of riflemen, from the county of Augusta, in Virginia, reinforced the troops of Lafayette. As the stalwart band of mountaineers defiled before the general, the astonished and admiring Frenchman exclaimed: "Mon Dieu! what a people are these Americans; they have reinforced me with a band of giants!"

Washington's great physical powers were in his limbs; they were long, large, and sinewy. His frame was of equal breadth from the shoulders to the hips.

His chest, though broad and expansive, was not prominent, but rather hollowed in the centre. He had suffered from a pulmonary affection in early life, from which he never entirely recovered. His frame showed an extraordinary development of bone and muscle; his joints were large, as were his feet; and could a cast have been preserved of his hand, to be exhibited in these degenerate days, it would be said to have belonged to the being of a fabulous age. During the last visit of Lafayette to Mount Vernon, among many and interesting relations of events that occurred in olden days, he said to the writer: "It was in this portico that you were introduced to me in 1784; you were then holding by a single finger of the good general's remarkable hand, which was all that you could do, my dear sir, at that time."

In the various exhibitions of Washington's great physical prowess, they were, apparently attended by scarcely any effort. When he overthrew the strong man of Virginia in wrestling, while many of the finest of the young athleteæ of the times were engaged in the manly games, Washington had retired to the shade of a tree, intent upon the perusal of a favorite volume, and it was only when the champion of the games strode through the ring, calling for nobler competitors, and taunting the student with the reproach that it was the fear of encountering so redoubted an antagonist that kept him from the ring, that Washington closed his book, and without divesting himself of his coat, calmly walked into the arena, observing that fear formed no part of his being: then grappling with the champion, the struggle was fierce but momentary; "for," said the vanquished hero of the arena, "in Washington's iron-like grasp, I became powerless, and was hurled to the ground with a force that seemed to jar the very marrow in my bones;" while the victor, regardless of the shouts that proclaimed his triumph, leisurely retired to his shade, and enjoyment of his favorite volume.

The power of Washington's arm was displayed in several memorable instances. In his throwing a stone across the Rappahannock river, below Fredericksburg, another from the bed of the stream to the

top of the Natural Bridge, and yet another over the Palisades into the Hudson. While the late and venerable C. H. Peale was at Mount Vernon in 1772, engaged in painting the portrait of the provincial colonel, some of the young men were contending in the exercise of pitching the bar. Washington looked on for a time, then grasping the missile in his master-hand, whirled the iron through the air, which took the ground far, very far, beyond its former limits—the colonel observing with a smile: “You perceive, young gentlemen, that my arm yet retains some portion of the vigor of my earlier days.” He was then in his fortieth year, and probably in the full meridian of his physical powers; but those powers became rather mellowed than decayed by time, for “his age was like a lusty winter, frosty, yet kindly,” and up to his sixty-eighth year he mounted a horse with surprising agility, and rode with the ease and gracefulness of his better days. His personal prowess that elicited the admiration of a people who have nearly all passed from the stage of life, still serves as a model for the manhood of modern times.

With all its development of muscular power, the form of Washington had no appearance of bulkiness, and so harmonious were its proportions that he did not appear so passing tall as his portraits have represented. He was rather spare than full during his whole life; this is readily ascertained from his weight. The last time he weighed was in the summer of 1799, when, having made the tour of his farms, accompanied by an English gentleman, he called at his mill and weighed. The writer placed the weight in the scales. The Englishman, not so tall, but stout, square-built, and fleshy, weighed heavily, and expressed much surprise that the general had not outweighed him, when Washington observed that the best weight of his best days never exceeded from 210 to 220. In this instance alluded to, he weighed a little rising 210.

The portraits of Washington, the most of them, give to his person a fulness that it did not possess, together with an abdominal enlargement greater than in the life, while his matchless limbs have but

in two instances been faithfully portrayed; in the equestrian portrait by Trumbull, of 1790, a copy of which is in the City Hall of New York, and in an engraving by Loisier, from a painting by Cogniet, French artists of distinguished merit. The latter is not an original painting, the head being from Stuart, but the delineation of the limbs is the most perfect extant.

Of the remarkable degree of awe and reverence that the presence of Washington always inspired, we shall give one out of one thousand instances. During the cantonment of the American army at the Valley Forge, some of the officers of the 4th Pennsylvania regiment were engaged in a game of fives. In the midst of their sport they discovered the commander-in-chief leaning upon the enclosure and beholding the game with evident satisfaction. In a moment all things were changed. The ball was suffered to roll idle away, the gay laugh and joyous shout of excitement were hushed into a profound silence, and the officers were gravely grouped together. It was in vain that the chief begged of the players they would proceed with their game, declared the pleasure he had in witnessing their skill, spoke of a proficiency in the manly exercise that he himself could have boasted of in other days. All would not do. Not a man could be induced to move, till the general, finding that his presence hindered the officers from continuing the amusement, bowed, and, wishing them good sport, retired.

INNOCENT GAYETY.

It should not be a cause of surprise that gayety and liveliness of spirits are objects of universal encouragement and commendation; they are, as we may perceive from daily experience, absolutely necessary for the maintenance of goodwill among men: nay, we may assert that the very existence of society would be questioned, if these incitements to mutual converse were wanting in the human

heart, to say nothing of their contributing to bodily health. The mind of every man is by nature inclined to cheerfulness, and swayed by a desire to indulge in pursuits which will gratify this natural propensity. Even the gloomy misanthrope will find it an arduous task to restrain this eagerness of the soul for objects which call forth pleasure, or awaken vivid sensations of delight. Cold indeed must be the philosophy of him who would subdue the gladdening temperament of his nature, and substitute an austere severity and a rigid indifference to the innocent amusements of the world! It would be absurd to imagine that melancholy could be consonant with the feelings of man as a gregarious creature. Few or none of the tender sensibilities which at present unite him with his fellow-men could exist, if each individual were influenced by a selfish thoughtfulness, and an utter distaste for what might excite animation or sprightliness: each would be a morose *Timon*, and the very links of social intercourse would be dissevered. But the mysterious sensitiveness which pervades the heart, and the vibration of the ligaments of which it is composed, manifestly denote that we are created for friendly union and social enjoyment. We need not, then, frustrate or endeavor to stifle our inclination to vivacity; but, by a seasonable moderation, temper it so that it degenerate not into extravagant mirth. The last is to be avoided, as the former should be supported and countenanced. But though liveliness and cheerfulness are deserving of encouragement, and qualities much to be desired, it is requisite that the heart be at times open to serious reflections. It is requisite that we should at times feel sated—that we should participate in the sadness of disappointment, and be taught by dejection to ponder on the littleness and vanity of the world, the almost incredible inconsistency of man, and the unaccountable varyings of the human condition.

A good conscience is to the soul what health is to the body. It preserves a constant ease and serenity within us, and more than countervails all the calamities and afflictions that can befall us.

THE STEPPING-STONES.

THE Stepping-Stones of the river Duddon every reader of Wordsworth will remember, and most will "have a vision of his own" about them. He need not fear that the reality will fall short of his conception. We have seen many, but none sure so graceful:—

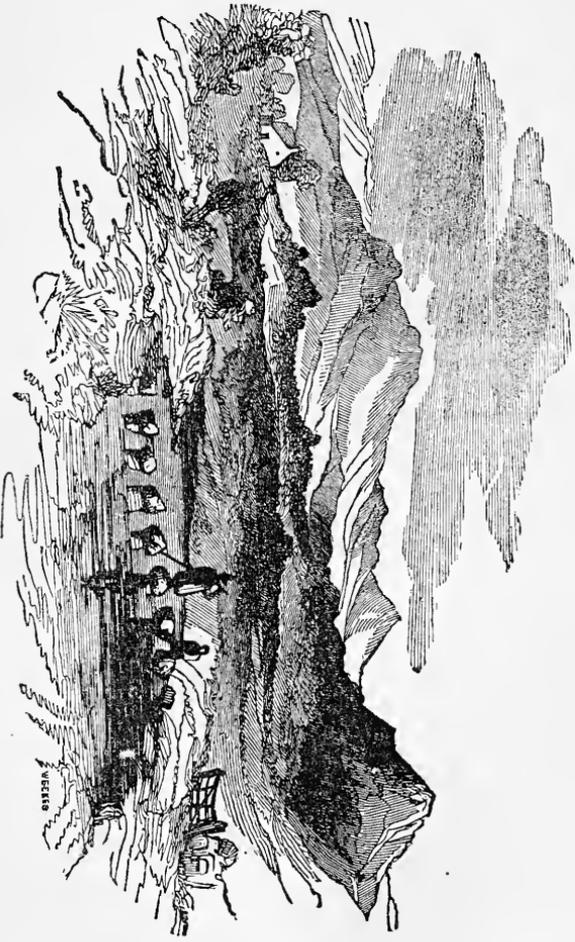
"They might seem a zone
Chosen for ornament—stone matched with stone
In studied symmetry, with interspace
For the clear waters to pursue their race
Without restraint."

And they are as harmonious in color as symmetrical in form. Of a delicate white, with the slightest admixture of blue, they present, as they are reflected in the crystal stream, an image the eye dwells on with a *continuous* pleasure. They are a something to remember. Hitherto our stream has wound quietly among the masses of crag that have, at various times, been brought down by it from its parent fells; but soon after we have passed the stepping-stones, it boldly forces its way through the solid rock, which it has wrought into many strange fantastic forms.

"Objects immense portrayed in miniature,
Wild shapes for many a strange comparison!
Niagara, Alpine passes, and anon
Abodes of Naiads, calm abysses, pure
Bright liquid mansions."

The traveller should not leave the bed of the river here while he can make his way along it; every step brings out some new or quaint device of our fairy-like guide. Not far from the place above referred to, is a chasm where the sublime and the fanciful seem striving for the mastery; a strange spot as ever was pitched upon. Well might Wordsworth call it the "Faëry Chasm." Its steep rocky sides are of a bright blue-gray tint, deepening under the water almost into azure, and riven into such strange shapes as that "tricksy spirit," Ariel might have delighted to fashion. The scenery too about this spot is very fine: on one hand are Hard-knot and its associate mountains; on the other various crags, backed by the majestic mass of Coniston Old Man. Directly in front are Walla-barrow crag and the Pen, with several mountains of moderate elevation and graceful form in the distance.

Stepping Stones of the River Duddon.



Here we must leave our stream awhile. We have now reached Seathwaite, where for the present we stay. Wordsworth, indeed, makes his poem a summer day's journey, but he admits this to be a poetic license. It is quite impossible to explore the scenery of the Duddon, in that time. The hasty visiter may indeed see it all, at least as well as he usually sees anything in two days; but the man who has learned to look on nature with a truer feeling, will not, if he have leisure, think as many weeks too much to devote to this lovely region. Seathwaite is a good resting-place: it is in the midst of the finest portion of the scenery, and has connected with it some interesting associations, upon which we shall now touch. It contains too a little inn, in which the accommodation is rude, but the parties who keep it are civil and desirous to oblige, and the genuine traveller will be content with these. He need not, however, fare amiss: fell-mutton, and ham, and mutton-ham he may always obtain; and trout, too, if he will, as Mrs. Glasse directs, "catch them first"—for Duddon is what "honest Izaak" calls "a trouty stream." With these, and the usual addenda procurable in a north-country farm, a moderate man may have, as Cowley says, "not so many choice dishes at every meal; but at several meals all of them, which makes them both the more healthy and the more pleasant."

Seathwaite is remarkable as the place in which "Wonderful Robert Walker" dwelt so many years. Wordsworth has given a very full and interesting account of him in his notes to 'The Duddon.' It may here suffice to say that he was born in 1709, at Under-crag in Seathwaite, and was the youngest of twelve children. Being sickly in youth, he was "bred up a scholar," and after acting for some time as a schoolmaster, he was ordained, and about 1735 became curate of Seathwaite, in which he remained till his death, sixty-six years afterward. The value of his curacy when he entered upon it was 5*l.* per annum, with a cottage; about the same time he married, and his wife brought him, as he says, "to the value of 40*l.* for her fortune." He had a family of twelve children, of whom, however only eight lived; these he educated respectably—

one at least became a clergyman—was even munificent in his hospitality as a parish priest, and generous to the needy, and yet, although the income of his curacy never exceeded 50*l.* per annum, "at his decease he left behind him no less a sum than 2,000*l.*, or \$10,000; and such a sense of his various excellences was prevalent in the country, that the epithet of *Wonderful* is to this day attached to his name." As Wordsworth says, there is something so extraordinary as to require further explanatory details, but we merely remark that he spun the wool needed for the family clothing, himself, which was made up into the various garments by the female portion of the family; while he spun, he taught the children of his parishioners: then he assisted his neighbors in hay-making, sheep-shearing, &c., beside serving as scrivener, and in various ways rendering them assistance; had an acre or two of land, which he tilled himself, and also possessed and attended to a few sheep and a couple of cows. Many of these employments, and others in which his biographer relates him to have been engaged, are sufficiently unclerical, but we were told, by some of the older inhabitants, of one still more so, and which Wordsworth either did not hear of or thought too unpoetical to repeat. At that time there was no public-house in the place, and Walker was accustomed, they said, to supply any who required such refreshment with ale of his own brewing, charging for it a certain price, and two-pence per quart extra if drank in his house; the usual place for drinking it being the adjacent field. The circumstance would hardly be worth recording did it not serve to illustrate the singular simplicity of manners that prevailed. Such a thing can hardly be conceived of elsewhere at that period as a clergyman making his house in some sort a tavern. Southey, indeed, tells us that up to the middle of the reign of George II., such cures were held in these northern counties by unordained persons, who commonly added to their scanty income by the pursuit of some manual occupation. The person, for instance, who held the curacy in the Vale of Newlands, near Keswick, at that period, exercised the various trades

of tailor, clogger, and butter-print maker. We ought not to omit either, that, amid all his various laborious occupations, he is said to have preserved his affections unimpaired, to have carefully and successfully cultivated his intellect, and yet been tenderly alive to the duties of his pastoral office: truly, as Wordsworth remarks, "in this extraordinary man things in their nature adverse were reconciled."

Very many of the simple homely customs ascribed to Walker are yet far from obsolete in the neighborhood. In the farm-houses the master of the house may still be seen at the head of a long table, with his farm-servants sitting down to their meals as part of the family. Rush candles are yet employed in common, "white or tallow candles being reserved," as with Walker, "for important occasions." And we imagine tea is even now very little used, except by the more wealthy farmers. Neither Walker nor his wife ever partook of it, though they kept it in the house for visitors. Porridge was their substitute, and it is still employed at the meals answering to breakfast and tea. At the public-house at Seathwaite, the landlord of which is also a farmer, this is the case, and we were somewhat amused, after we had finished our tea, to see the teapot very quietly taken to the landlord, and tea made for him alone, from the tea-leaves which had just served us. When the master of the house happened at such times to be from home, his mother (he had no wife), an old but vigorous dame, appropriated the luxury to her own use.

There are few places perhaps that have changed so little as has Seathwaite since Walker's time; there have been no new buildings, nor has anything altered the external look of the place, unless it be the addition of the public-house, and that is an old farm-house. Walker's own house has been altered since his death, but only so much as to render it somewhat more convenient to his successor. Nor have the inhabitants greatly changed; they are still the same frugal, industrious, quiet, church-going race: there is indeed a slight change in the last item. Walker congratulates himself that there is "not one dissenter of any denomination in the parish," and now there are several Meth-

odists, and two or three Baptists, who have occasional meetings at private houses, for there is still no dissenting meeting-house in Seathwaite; but the chief part of the inhabitants are still steady churchmen.

The chapel in which Walker so long officiated is a simple structure, a low oblong building with a plain porch, and one bell, hung visibly in a most primitive-looking belfry, with the bell-rope hanging down on the outside. It differs little in its appearance from many other chapels scattered throughout the more retired parts of the locality; it is not, however, so small as many of them, that at Wasdale Head for instance, which has seven pews, one being for each of the six families in the chapelry, and the remaining one for strangers. Seathwaite churchyard contains a fine old yew, and near it a sun-dial, by which is Walker's grave-stone, a plain blue slab, upon which is the following inscription:—

"In memory of the Reverend Robert Walker, who died the 25th day of June, 1802, in the 93d year of his age, and 67th of his curacy at Seathwaite.

"Also of Anne, his wife, who died the 28th day of June, 1802, in the 93d year of her age."

The noticeable thing in the interior of the chapel is Walker's pew, which is still lined with cloth woven by his own hand—it is the only pew in the chapel so distinguished.

There is about Seathwaite chapel an air of antique rudeness, that at once carries the mind back to a bygone age; it speaks as strongly of other times as the noblest minister—but how differently! Few sights would be more interesting to one not thoroughly sophisticated than the old kirkyard on a Sabbath morning. *Then* the old kirk—the noble yew, older still than the kirk, with the sun-dial by it—the few grave-stones scattered about, and the everlasting hills—which form so noble a background to the whole—all seem to wear an air of deeper repose and more silent grandeur than ever. But presently the bell tolls, and its first sounds have hardly passed away when one and another of the dalesmen come quietly in, giving and receiving a simple greeting, and then

separating into little groups, or loitering singly about the graves, apparently recalling, many of them at least, the memory of those who sleep below, while others collect under the shade of the old yew; the fairer portion of the congregation meantime resting on the benches within the porch, but none, at least in fine weather, enter the chapel. Soon, however, as the bell's last stroke has sounded, the clergyman, a happy-looking old man—apparently no unworthy successor of Walker—may be seen making his way toward the kirk, exchanging with all a smile, a word, or a bow, of genuine old-fashioned courtesy (and the stranger will be sure to receive one more marked than others), and after a little longer talk with his fair parishioners in the porch, he enters the chapel followed by his charge. Next to seeing Sir Roger de Coverley go to church, it is the prettiest sight of the kind one could wish to behold.

“Upon the Seathwaite Brook,” says Wordsworth, “at a small distance from the parsonage, has been erected a mill for spinning yarn; it is a mean and disagreeable object, though not unimportant to the spectator, as calling to mind the momentous changes wrought by such inventions in the frame of society.” We went to look at the mill, and found it with its roof partly fallen in, its wheel broken; and on trying the door, its hinges, rusted from long disuse, gave way. The machinery, too, though in appearance undisturbed since it was last used, was decayed, the web crumbling at the slightest touch.

THE BELL OF ST. REGIS.

On the southern border of the river St. Lawrence, where its broad silver current glides and sparkles in the unobstructed sunbeam, stands the old Indian village of St. Regis. The situation is one of the most beautiful on that noble river, and it is even now a place of interest to the lover of natural scenery, and is one of the most picturesque places in the country.

The buildings are mostly small, perfectly uniform, and of hewn timber, with high roofs, which give them rather a French appearance. The dwellings of the chiefs and head men of the tribe, are distinguished by a more modern style of architecture, being much larger, and painted red or white.

In 1825, there was but one white family in the village, and they kept a respectable public-house for the traveller; and at that time, also, there was a merchant who had been among them many years, and had become wealthy by trading with native customers. Their mode of life was similar to that of other Indians. We visited some of their dwellings and found their interior consisting of one room, the corner of the fireplace furnished with a large rude mortar for pounding corn, a primitive custom which was then still practised. The floors were covered on one side with clean white splinters, and the women were weaving them into baskets. In one dwelling was seated at a small table, a tall young Indian, eating his meal alone, with his swarthy countenance lit up with a strange bright glow from the vermilion paint upon his cheeks. The infant of the family was firmly attached to a board, and was to us an object of much curiosity and interest. One pig, at least, seemed to be domesticated and petted with their dogs, and seemed quite at home in the house. The Indians of this tribe dress in a coat made of blankets, and are fond of hunting and fishing. In winter they travel, with sleds and horses, far from home, and return with loads of frozen deer. In summer they take to their bark canoes, and go where they please, fishing or hunting: when they come to any part of a river they can not navigate, they take their light canoe upon their heads and with perfect ease travel until they can again safely guide their *bark* upon the waters. They have orchards, and in winter the squaws travel with large baskets on their backs, supported with a band around the head, and find abundant market for their fruit. They also manufacture beautiful bead-embroidered moccasins, and other fancy-work. The village is situated on a small semi-circular bay, of singular beauty, and on a

projecting headland, stands their celebrated church. Its tin-covered steeple glitters with brilliancy in the sunshine among the dark green woods. It is built of rough-looking stone, and has an ancient and rather imposing appearance. It was erected in 1704, by the catholics, and has ever been an object of interest from the story of its bell.

The Indians were informed, on the completion of the church, that a bell was highly important, and that they must procure furs sufficient for the purchase of one. Two bales were speedily collected and shipped for Havre de Grace, and in due time their priest was informed that the bell was purchased and shipped on board the Grand Monarque, bound to Quebec.

This happened during the French and English war, and the vessel never reached its destination, but was captured by a New England privateer and was carried into Salem, where the ship and cargo were sold by the captors.

The bell was bought for the town of Deerfield, on the Connecticut river, where a church had been recently built. When Father Nicholas heard of this event, he summoned his flock, and told them of the purgatorial state of the bell in the hands of the heretics, and what a laudable enterprise it would be to redeem it. This inspired the Indians, and they lamented its deplorable state, though they had no very distinct idea what a bell was. They forsook the chase—sat in groups on the margin of the river—or roamed alone, ruminating on the means of rescuing it. The squaws had been told that its voice would be heard farther than the roaring of the rapids, and that it was more musical than the song of the night-bird, and they moaned about in silence and dejection. About this time the governor of Canada resolved to send an expedition against the colonies of Massachusetts and New Hampshire under the command of Major Heatel de Rouville. Of this Father Nicholas of St. Regis was duly informed by a catholic priest of Quebec. He assembled the Indians and urged them to join the expedition; accordingly they gave the war-whoop, retired to their houses and began to paint themselves

with their most terrible colors, for battle. It was the depth of winter when they set out to join De Rouville's party at the fort of Chambly. They arrived just as the French soldiers were mounting their sleighs to proceed to Lake Champlain. The Indians followed with a perseverance peculiar to their character. Father Nicholas rode in the sleigh with De Rouville. Warmed in their imaginations with the thought of the unhappy fate of the bell, the Indians plodded solemnly their weary way—no symptoms of regret or fatigue were visible on their steady countenances—they saw with equal indifference the black interminable forest and the snowy lake—no contrast could be greater than the determination of the Indians and the aspect of the French soldiers.

When they reached the spot where the town of Burlington now stands, they halted, and began to penetrate the forest. In starting from this point Father Nicholas headed his own party, but nothing they had yet suffered was equal to the hardships endured in this march. With lacerated feet, and excoriated cheeks, they arrived, on an evening of February, 1704, within two miles of Deerfield.

De Rouville ordered them to halt and refresh themselves till midnight, at which hour they were to attack the village. In advancing to the assault they were ordered to pause frequently, and then at a given signal to rush rapidly forward. By this precaution, the sentinels thought that the sound came from the irregular rustle of the wind through the laden branches of the snowy forest. But an alarm was at last given, and a terrible conflict took place in the streets. The garrison was taken—the inhabitants dispersed, murdered, or taken captive, and the buildings set on fire. At daybreak, the Indians, although exhausted with fatigue, waited in a body, and requested the holy father to conduct them to their bell, that they might perform their homage and testify their veneration for it. De Rouville and many of the Frenchmen laughed heartily at this, but not disconcerted he despatched, by consent of the commander, one of the soldiers to ring it. The Indians had never heard a bell before, and the sound, in the silence of the still woods, rose loud and

deep, and was to them like the voice of an oracle. They trembled and were filled with wonder and awe. The bell was then taken from the belfry, and fastened to a beam, with a cross-bar at each end, to be carried by four men. In this way the Indians proceeded homeward, exulting in the deliverance of the miraculous organ, in company with 112 captive citizens. Among them was the Rev. Mr. Williams and family, who were in two years after redeemed. One of the daughters, a child of ten years, adopting the habits of her new associates, refused to return! A few years since, some of her descendants paid a visit to Deerfield, to see their white relatives. Twenty-seven more adopted the Indian manners, and remained among them. It is evident at this day, from their color, that white blood flows in their veins, as some of the squaws are fair, with fine blue eyes.

In their march homeward, they found in the uneven track of the wilderness that the bell was too heavy, and when they arrived at their starting point on Lake Champlain, they buried it with many benedictions from Father Nicholas until they could come with means to carry it away. As soon as the ice had broken up, they were again assembled, and a yoke of oxen procured to bring on the bell! In the meantime, all the squaws and papooses were informed of its marvellous powers, and the arrival of it was thought to be one of the greatest events in the annals of time, nor did it prove far short of their anticipations. One evening, while they were communing together, a mighty sound was heard approaching in the woods; it rose louder and louder! They listened, they wondered, and began to shout and cry, "It is the bell!—It is the bell!" It was so. Presently the oxen, surrounded by the Indians, were seen advancing from the woods; the beam was laid across their shoulders, and as the bell swung between it sounded wide and far! Decorated with leaves and flowers they came in triumphal array. In the calm hour of a beautiful evening, when the leaves were still, this wonderful procession reached the village. The bell was soon elevated to its present place in the steeple, and is the same that has summoned the St. Re-

gis Indians to matins and vespers, and still cheers with its swelling echoes the solemn woods across the majestic St. Lawrence.

POMPEII.

THE fate of this ancient Roman city, which for nearly seventeen hundred years was buried and unknown, is probably familiar to every reader; we will attempt a short sketch of the works of art as used for the ordinary purposes of life—for the adornment of the city or the amusement of its inhabitants, which have been exhumed since its first discovery within the previous century. The excavations still going on more fully develop and prove the fact that Pompeii was in all probability next in importance and magnificence to that of imperial Rome, for already, that portion of the walls which have been disinterred, contains six gates and twelve towers. There are now excavated a number of splendid baths, two theatres, two basilicæ, eight temples, a prison, the great amphitheatre, other public buildings of less note, fountains, tombs, etc.

The only information on record of its destruction is a letter of the younger Pliny to Tacitus, relating the manner of the death of his uncle, Pliny the elder, who perished amid the general destruction; but the numerous proofs of the suddenness of the calamity which almost every house yet excavated exhibits, lays before the observer a volume of history upon which he gazes with the most intense interest. Many human skeletons have been found, but from their scarcity it is supposed that most of the inhabitants escaped by sea before the great calamity overtook them. Some of them have been recognised, as a Roman sentinel, who, fearing the severity of the laws, dared not leave his post. In the great amphitheatre were found the bones of lions and other beasts of prey; and along the entrance which opened toward the sea, were the skeletons of many human beings, which

leads to the supposition that gladiatorial exhibitions were performing in the amphitheatre at the time of the eruption.

The house of Arius Dioimedes was readily recognised by its magnificence (he being the richest man in Pompeii, according to Sallust), and by an inscription over the door, bearing his name. In his wine-cellar were found human skeletons, both male and female, supposed to have been himself and family. Not far from this was discovered the Forum, the house of the Ædile, and many public buildings, by which it seemed to have been the wealthiest and most populous part of the city. Some, in their exertions to save a few valuables, lost their lives by the delay, and several skeletons were found, holding in their bony grasp, ornaments of silver and gold, such as vases and drinking vessels, and also purses of money. Near the portico of the temple of Isis was a skeleton grasping a valuable massive lamp, formed of silver, supposed to have belonged to the altar, thus committing sacrilege in the midst of death. In a house which was of the first magnificence, was found that splendid mosaic pavement mentioned by Pliny. It represented crumbs of bread and chicken-bones lying upon the floor, and a mouse by stealth partaking thereof. For the information of such of our readers as are not acquainted with the art, we will remark that mosaic work is formed of separate pieces of various colored stones, laid in cement, and cut in such a shape and manner as to fit each other and form the various shades of a highly-colored painting; their durability giving this mode of representation the preference of any other for a floor or pavement.

Various implements of cookery, agriculture, and building, surgical instruments, and utensils for all domestic purposes, were everywhere discovered, principally made of bronze. In one house, supposed to have belonged to some wealthy individual, many articles of luxury were found, such as vases containing perfumery, jewelry, and elegant paintings; and in an apartment which seemed to have been a banquetting room, several wine bottles (*amphora*) and drinking cups were discovered upon the mosaic pavement; also

a baker's oven, in which were loaves of bread burnt to cinders; and in several buildings were found rolls of parchment glued into one mass by the ambient heat, probably the private libraries of individuals. An establishment under the direction of the English government was, in operation, a number of years ago, for the purpose of unrolling these manuscripts without destroying the writing, but the reward of their patient labor was so small that it was abandoned. Inscriptions upon the walls and other public places, acquaint us with the names of some of the residents, some of whom figure as great men upon the page of history; and painting and rude drawings in apartments point out the occupation of the owner. In the court of one of the baths was found an inscription of the following import:—

“On occasion of the dedication of the baths, at the expense of Cnæs Allenes Nigidus Maius, there will be the chase of wild beasts, athletic contests, sprinkling of perfumes, and an awning. Prosperity to Maius, chief of the colony.”

It has been generally supposed that glass is an invention of the moderns, and entirely unknown to the ancients; but Pliny, in giving a description of these baths as they were in his day, says, that in the centre of the dome were windows of glass, “grounde on the outer side, so as to prevent the people from without from looking within.” But our limits preclude the possibility of further detail.

The imagination of the beholder here finds ample food, for, when he stands amid these venerable ruins, he is carried back to the days of the Cæsars when Rome was at the acme of her glory. He sees the streets of Pompeii furrowed by the wheels of vehicles, and it is easy to imagine that the triumphal car of a mighty conqueror had passed through them. In imagination he can sit upon the margin of the amphitheatre, amid the gay and the noble, the wealthy and the indigent, who rejoiced in the bloodshed of the gladiators. Upon the very pavement where he stands, perhaps, the sandalled foot of Paul had trod, and in that very forum the voice of the accused Christian preached redemption to the blinded *edile*. What a lesson of humiliation to proud mortals

may here be read! The haughty functionary of Roman law, the proud patrician sparkling with the wealth of other provinces—men who believed that their names and their deeds, their splendid works of art and superior wisdom, would be sung by bards of all ages, and that every minstrel would be proud to be their poet laureate; how suddenly were they plunged into the most profound oblivion! In a day, in an hour, the blackest night spread its veil over them and their works, and for seventeen centuries even the *location* of once splendid Pompeii was unknown! Upon what a fragile thread hangs the destiny of mortals, and how soon may we be summoned to say to all earthly greatness the parting word of Pompeian friends—*Vale!*

MODERN INNOVATION.

ALAS for the good old times of our simple-minded forefathers; before the bugbear *fashion* found its way among us, to freeze with its presence the honest-hearted warmth of the social circle, to encumber our hours of recreation with the fetters of formality, and dim the fires of our domestic altars with its frigid aspect. It has swept away one by one our *penates*—our household gods—till the idols of the innocent worship of our ancestors are prostrated before the foreign pageantry which usurp their place.

Old-fashioned customs have disappeared; all is now hurry-scurry, innovation, and eternal change; we neither walk through life nor enjoy existence as of old. The natural and becoming mode of transportation has given place to a species of locomotion, which would superinduce the belief that life was literally contracted to a span. We are not satisfied with confining ourselves to a becoming and limited sphere, to pick up the flowers of existence by the way-sides of life, in the rural quiet of our own green fields and valleys; mankind have become peripatetic. Our minds are expanded, till we embrace the

whole human family in the circle of our acquaintance, and our wanderings have ceased to be circumscribed by sea or by land.

This revolution in our habits is not confined to our public relations, but its influence extends into the sanctuary of domestic life. We have discovered that our ancestors lived in a state of barbarous ignorance and most unfashionable happiness. The primitive simplicity of their manners has been characterized as vulgar, and the little becoming and innocent prejudices which have crept over and clung to us, have all at once been discovered to possess hideous deformity. The moss and ivy of antiquity have been stripped from our manners, and substituted by an unseemly French polish. We have lost our nationality of feeling and action. Everything indigenous is fast disappearing, and we wear a garment of shreds and patches, as mutable as the disposition of colors in a kaleidoscope, or the transfigurations in a pantomime. The changes of fashion require to be as narrowly watched by our tailors, as the aspect of the political horizon by the diplomatist; and, our *modistes*, the great arbiters of female fashion, have their correspondents at foreign courts, in common with the detailers of fashionable scandal.

We may be classed with those idle declaimers who mourn over modern degeneracy in every age; but how far has the overthrow of old customs and usages, been conducive in adding to the diffusion of human happiness? Have the cold, formal manners, the inroads of foreign fashions, and total overthrow and abandonment of the time-honored usages, left us the same unsophisticated beings we could formerly boast ourselves to be? Are our maidens more attractive or lovely that they wear a garment from a Parisian loom, than if dressed in a comely robe of our own manufacture? Or, do those artificial manners and unprofitable accomplishments, which form a fashionable education, add to the bewitching grace of untutored loveliness? Are they better fitted to perform the great objects of their being—to be a meet companion for man, or to discharge with greater fidelity and propriety, the duties of wife and mother?

We are not at all pleased with the present transposition of time ; turning night into day, and *vice versa*, wasting the solemn hours which nature has dedicated to repose, in wild frivolity and gayety ; beauty wasting its sweetness in the pestilential air of a theatre or ball-room, while the sweet things of creation are silent and asleep, and seeking a feverish respite from pleasure when the morning awakes, to breathe life, sweetness, and joy, around. In such pursuits lie the germs of disease and death, and the fevered brow and hectic cheek, which are the concomitants of nocturnal dissipation, too soon indicate their insidious and rapid progress. What more conclusive evidence can we give, than that of our bills of mortality, of the ravages of consumption?—the result too often, of unceasing and unnatural exertion and excitement. This is the canker-worm of the female constitution, that destroys the flower ere it has matured to perfect form and beauty.

There was a nationality and simplicity in the habits of our ancestors. Their very pleasures were indigenous, and sprung up as naturally as the vegetation around them. Our young men had none of the affected polish of coxcombry. The "boy was father of the man." Their vices, if they deserved the name, were spontaneous ; such excrescences as proceed from the exuberance of youth, and which disappear with the development of matured reason, without affecting the stability of manhood. Wherein our minds have become depraved, must be put to the account of the poison administered by our pride, and the abandonment of undisguised virtue, for refined and fashionable morality.

In this free country, it is strange that we should be ruled by a despot so fickle and inexorable as fashion? By some inscrutable instinct, we bow to her most capricious fancies and preposterous tastes. To a philosophical mind it must ever remain a paradox, that the delicate should suffer pain, the indolent bear inconvenience, and the parsimonious lavish expense, to pay homage to this mysterious goddess. But so it is. While the calls of duty, the dictates of benevolence, and the voice of reason, plead in vain, she finds a willing ear, an open hand, and the

most abject submission. While we deceive ourselves with the belief that we are the most free and independent of people, we wear a yoke more galling and oppressive than ever was forged by superstition or tyranny.

ERRORS AND MALPRACTICES IN EDUCATION.

THE Hon. James M. Garnett, of Virginia, in his lecture on "the Errors and Malpractices in Education, with the best means of correcting them," sums up, in the following forcible manner, the errors of parents in the management and instruction of children. This is not a fancy sketch, for we have many melancholy evidences in this city of the fruits of such a system of education as is here described.

We advise not only parents, but their sons and daughters, to read the quotations we make from Mr. Garnett's lecture, and to give them a practical application if necessary.

First, let me begin with the father, who *ought to be*, but is *not always*, the head of his family, and I will suppose that he thus addresses his hopeful son:—

Remember, my child, that it is disgraceful to be outdone in anything, and that your competitors in any particular pursuit, can never be your friends.

Remember, that to ridicule the foibles and faults both of friends and foes is genuine wit.

Remember, that to defend the character of absent friends is none of your business, and moreover exposes you to the danger of becoming unpopular, which you should always avoid, by flattering every person who can help you to rise in the world.

Remember, that to *pull down* your superiors, if you can do it secretly, is one of the best ways to *push up* yourself.

Remember, that to revenge injuries and affronts, even by murdering a fellow-creature, provided you give him an equal

chance to murder you, makes you at once a man of indisputable courage, of unquestionable honor; whereas, to beg pardon for anything, converts you instantly into a coward, and a dishonorable man.

Remember, that to gain the advantage in all your bargains is true wisdom, true dignity to yourself and family, if you have one; and that the surest way to evince this wisdom, to fulfil this duty, is, always to exaggerate the value of all that you *sell*, and to depreciate the value of what you *buy*.

But, above all, my dear son, never forget that to worship money instead of your God, is the quickest way to get rich; and that wealth and worldly distinction are the only objects in the present life worthy of your pursuit.

Permit me now to imagine that we hear the mother delivering her parting instructions to her daughter, confirmatory of all her previous tuition. These, of course, will be less complex and diversified, as woman's sphere of action is much more circumscribed than that of man; and they may be thus expressed:—

Remember, my dearest daughter, always to take the utmost possible care of your complexion and your fine clothes; for much of your success in life, after you "turn out" (as we call it) will depend upon the quality and proper display of both.

Remember always to behave prettily, especially in the company of young gentlemen; *that is*, to look as modest as you can; to smile at everything they say, whether witty or dull, sensible or foolish; and to make them all believe that you are delighted with their company.

Always bear in mind that dress and address, music, dancing, and drawing, are female accomplishments of the very first order, and well worth all the time and money spent in attempting to acquire them, whether you acquire them or not.

Remember, before country gentlemen, not to be sparing in your praises of a country life—of domestic retirement, and of the notability of housekeeping; while with city dandies, if rich, you should sing a different tune.

Beware of being too profuse in extolling the beauty and character of other

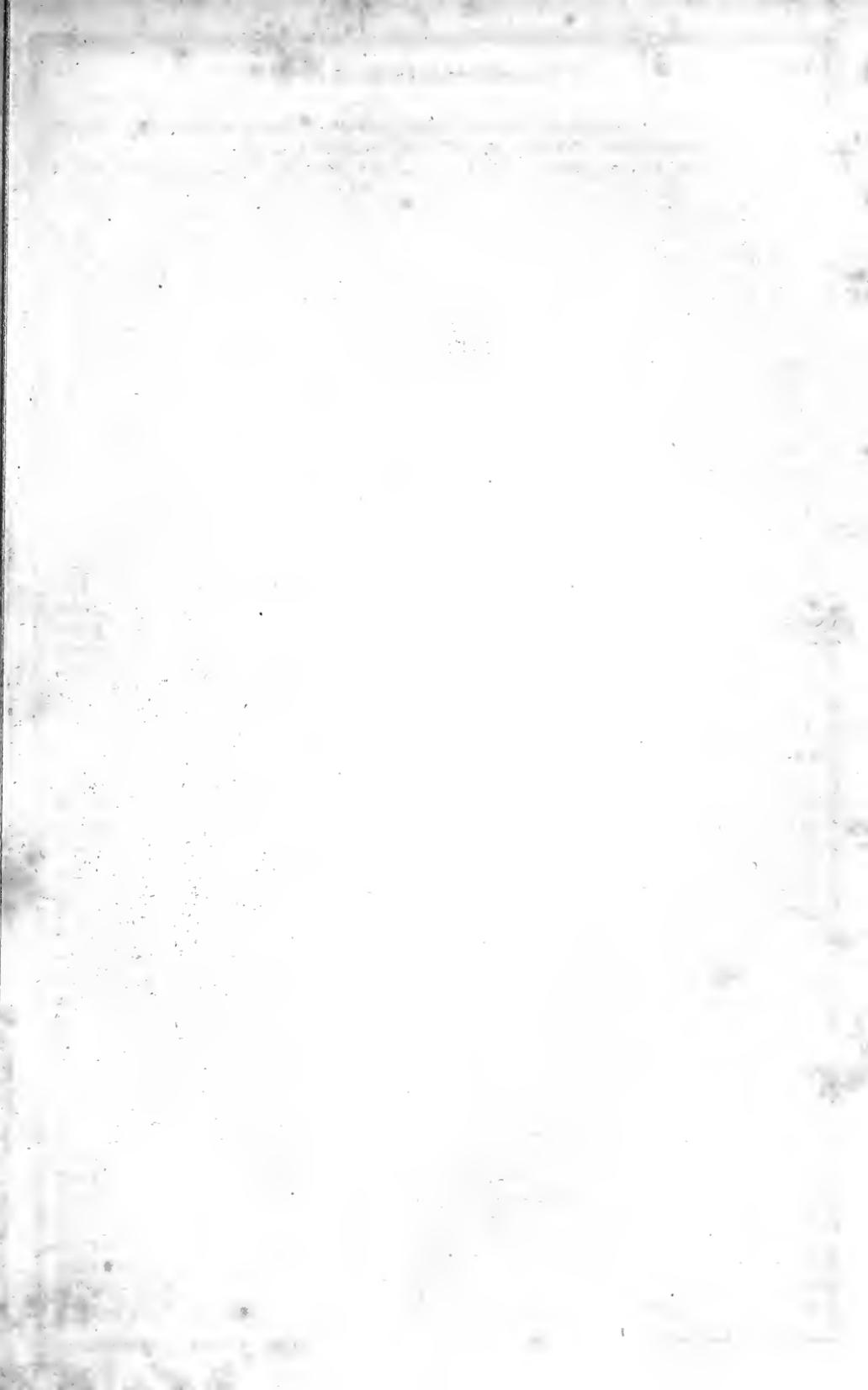
girls, who are likely to compete with you for husbands.

Ever recollect that it does not matter so much to cure faults, as to conceal them cleverly, particularly before marriage.

Remember, that it is very becoming to behave in church, as if you felt some interest in what is going on—for that need not prevent you from slyly noticing everybody, so as to be able, when you go home, to describe, critically, all their peculiarities of dress, looks, and deportment.

But, above all, my most beloved child, never let it escape your memory, that your great object in going to school, must be to gain that sort of education which will best secure you a wealthy husband. Look out and hope for as many other laudable qualifications as you please. But never forget that money is the "sine qua non"—the smother of all difficulties, the qualifier of all defects both moral and personal; the procurer of all those delectable things—flattery, show, and luxurious living. Remember that with money enough, you may, if you please, continually dazzle the eyes of all beholders.

CHARACTER OF THE DUTCH.—It is well known that a habit prevails almost everywhere of underrating and disparaging Dutch character and Dutchmen. Holland, though occupying a territory not larger than the state of Maryland, was the first among the nations of Europe to take a stand in favor of liberty, and single-handed, bravely maintained a sixty years' war in its defence, against the greatest odds. At a time when France and England were yet enveloped in bigotry and superstition, Holland had achieved for herself civil and religious freedom, and opened her bosom as an asylum for the oppressed Huguenots; while others, the pilgrim fathers, sought refuge from persecution in the wilds of America. Holland for a time took the lead of all the surrounding nations in commerce, in science, in arts, and in arms. For the invention of the telescope, microscope, thermometer, pendulum, gunpowder, and printing, the world is indebted to the Dutch.





LATE RESIDENCE OF THOMAS JEFFERSON, MONTICELLO, VA.

MONTICELLO.

THE frontispiece of the present number, represents a view of Monticello, the residence of the late Ex-President Jefferson.

The mansion-house at Monticello was built and furnished in the days of his prosperity. In its dimensions and ornaments, it is such a one as became the character and fortune of the man. It stands upon an elliptic plain, formed by cutting down the apex of a mountain; and on the west, stretching away to the north and the south, it commands a view of the Blue Ridge for a hundred and fifty miles, and brings under the eye one of the boldest and most beautiful horizons in the world: while, on the east, it presents an extent of prospect, bounded only by the spherical form of the earth, in which nature seems to sleep in eternal repose, as if to form one of her finest contrasts with the rude and rolling grandeur on the west. In the wide prospect, and scattered to the north and south, are several detached mountains, which contribute to animate and diversify this enchanting landscape: and among them, to the south, Williss's mountain, which is so interestingly depicted in his notes.

From this summit, the philosopher was wont to enjoy that spectacle, among the sublimest of nature's operations, the looming of the distant mountains; and to watch the motions of the planets, and the greater revolution of the celestial sphere. From this summit, too, the patriot could look down, with uninterrupted vision, upon the wide expanse of the world around, for which he considered himself born; and upward, to the open and vaulted heavens to which he seemed to approach, as if to keep him continually in mind of his high responsibility.

Approaching the house on the east, the visiter instinctively pauses, to cast around one thrilling glance at this magnificent panorama; and then passing to the vestibule, where, if he had not been previously informed, he would immediately perceive that he was entering the house of no common man. In the spacious and lofty hall which opens before him, he marks no tawdry and unmeaning ornaments: but be-

fore, on the right, on the left, all around, the eye is struck and gratified with objects of science and taste, so classed and arranged as to produce their finest effect. On one side, specimens of sculpture set out in such order, as to exhibit at a *coup d'œil*, the historical progress of that art, from the first rude attempts of the aborigines of our country, up to that exquisite and finished bust of the great patriot himself, from the master-hand of Carracci. On the other side, the visiter sees displayed a vast collection of Indian art, their paintings, weapons, ornaments, and manufactures; on another, an array of the fossil productions of our country, mineral and animal; the polished remains of those colossal monsters that once trod our forests, and are no more; and a variegated display of the branching honors of those "monarchs of the waste," that still people the wilds of the American continent.

From this hall he was ushered into a noble saloon, from which the glorious landscape of the west again burst upon his view; and which, within, is hung thick around with the finest productions of the pencil—historical paintings of the most striking subjects from all countries, and all ages; the portraits of distinguished men and patriots, both of Europe and America, and medallions and engravings in endless profusion.

CHYMISTRY.

AIR—WATER.

THE early chymists considered that these two substances were in their most simple state, and this consequently led them into many errors.

Scheele and Lavoisier were the two chymists who first attempted to analyze atmospheric air; they concluded that every 100 parts were formed by

27 volumes of oxygen gas
73 volumes of nitrogen or azote

Subsequent researches have proved these results to be inaccurate, and that

20 parts of oxygen
80 parts of nitrogen

100

is the composition of pure dry air; this is not the exact composition of the air we breathe, as that contains a very small portion of carbonic acid gas produced by the respiration of animals, also a little ammoniacal gas produced by the decomposition of animal substances; both these last substances serve as nutriment to plants. Carbonic acid gas is, during daylight, abstracted from the atmosphere by the green leaves; and by a chymical process, the carbon (carbonic acid is composed of one atom of carbon, and two atoms of oxygen, represented thus: C_2^O) is appropriated to the use of the plants, and the oxygen is returned to the atmosphere. The ammonia is brought down by means of rain; it penetrates into the earth and is taken up by the roots of plants. To prove that both these substances promote vegetation, dissolve carbonate of ammonia in water, and use this solution to a plant instead of pure water: a remarkable difference will soon be perceived.

To prove experimentally that atmospheric air is composed of *oxygen* and *nitrogen*, and that it contains a small portion of carbonic acid and ammoniacal gases:—

Having prepared a floating light, by inserting a small wax-taper into a flat cork, float this on water contained in any convenient vessel; invert over it a large glass, taking care that the edge of the glass touches the water, to prevent the ingress of more air; the taper will burn for a short time only; the oxygen gas, which is the supporter of combustion, being nearly all consumed, the water will then rise up to a small distance in the glass, and show what part of air in the vessel was *oxygen gas*. Use phosphorus instead of the taper, and the oxygen will be completely consumed; the portion lost may be ascertained—this will be *oxygen*; the portion remaining will be principally *nitrogen*.

While the mouth of the glass vessel

containing the nitrogen is under water, cover it with a saucer to serve as a lid, carefully invert it, and introduce a lighted taper, it will be immediately extinguished; or if a small living animal be introduced, breathing will instantly cease, and the animal will drop without showing any signs of life. Care is requisite, as nitrogen gas is lighter than common air, and consequently it would rise in the atmosphere as a piece of wood in water.

If instead of spring water to float the taper, lime water (prepared by mixing slaked lime in water, and then filtering through unsized paper) be used, it will become slightly muddy, showing that the air contains a small portion of carbonic acid gas.

From the above experiment, we perceive that nitrogen will neither support animal life, nor combustion; and hence, if the oxygen of the atmosphere were to be suddenly removed, every living creature would instantly cease to exist.

Prepare a little oxygen gas, by exposing in a glass retort to the heat of a spirit-lamp a mixture of black oxide of manganese and sulphuric acid, or alone a little chlorate of potass; oxygen gas will be given off, which may be caught by first filling a glass vessel with water, to drive out the atmospheric air; in that state invert it on the stand in a pneumatic trough, which should contain sufficient water to cover the mouth of the gas-holder; as the gas ascends, the water will descend into the trough: when full, withdraw the stopper, and introduce a lighted taper, or a piece of thin wire, previously wrapped round with cotton and dipped into melted sulphur; these will burn with remarkable brilliancy. Use a gas-holder with a bottom to it; when full of gas invert it, and introduce a piece of phosphorus: this will burn so brilliantly, that the eye can scarcely bear it. If a small living animal be introduced, it will breathe as fast as the taper burned; for a time it will appear to suffer no inconvenience, but, in the course of a few hours, it will die from feverish excitement. This gas will not escape so soon as nitrogen, it being about one tenth heavier than common air.

The ammonia of the atmosphere must

be sought for in *rain-water*. To a quantity of rain-water add a little muriatic acid, and evaporate the water to dryness—the ammonia will be in union with the acid: it may be detected by the addition of a little powdered lime, which renders its peculiar pungent smell sensible.

Water is composed of oxygen and hydrogen gases—one atom of each; and it may be resolved artificially by the chymist, as it is naturally by plants, into these two gases. The roots of plants absorb water; but if, for the support of any part of a plant, hydrogen only be required, a portion of the water is resolved into its two gases—the hydrogen is taken for the support of that part, and the oxygen is appropriated to some other use, or liberated. In every 9 parts of water there are 8 of oxygen, and 1 of hydrogen. It will be unnecessary to enter into any description of it, it being so familiar to every person: pure water has neither color, taste, nor smell.

To procure hydrogen gas from water:—

Into a glass bottle put some small pieces of zinc or iron: to these add water, then pour in some sulphuric acid; the oxygen of the water oxydizes the metal, the sulphuric acid unites with it, and forms a sulphate of oxyde of the metal, and the hydrogen escapes. If the bottle be stopped up with a luted cork, the lute being drawn out so as to have a small hole at the escapement end, the gas may be lighted; it will burn with a small weak flame. Caution is here necessary: if the gas be lighted before the atmospheric air be driven out, an accident may ensue from the bursting of the bottle; safety may be ensured by holding round the bottle a handkerchief, when no mischief will occur but the blowing out of the cork. If the hydrogen gas be made in a retort, and caught, as described, for oxygen, a lighted taper may be introduced; it will be immediately extinguished, but the hydrogen gas will be set on fire. Hydrogen gas being much lighter than common air, it may be as well to hold the vessel with the mouth downward, and light the gas in that position.

From the preceding remarks, the tests for the three simple gases, oxygen, hydrogen, and nitrogen, may be known.

Oxygen will not burn, but supports combustion.

Nitrogen will neither burn nor support combustion.

Hydrogen burns, but does not support combustion; while burning, hold over the flame a glass vessel, and musical tones will be produced.

A mixture of hydrogen and oxygen gases burns with a small flame, but this gives a most intense heat; these gases are employed with the oxyhydrogen blow-pipe.

If an electric spark be passed through a proper mixture of oxygen and hydrogen gases, water will be produced.

THE MAMMOTH CAVE, KENTUCKY.

AMONG the physical wonders of the world, this great subterranean temple, or rather city of temples, takes prominent rank. It is situated near Green river, in Kentucky, the entrance to which is by a pit forty feet deep, and one hundred and twenty in circumference. At the mouth of the cave we descended about twenty feet over stone steps and then walked on horizontally for about one hundred and fifty yards to the place called the rotunda. Each of us walked with a lamp in our hand, preceded by our guide. At the rotunda we halted for a few moments, and our guide illuminated the place with a Bengal light. There are large vats here, used in our last war in making saltpetre. The cave here branches off into two avenues. We proceeded on in the main avenue to the church; the main avenue is about seventy feet wide; the church is in the side of the avenue, extending into the wall about one hundred and fifty feet. The gallery is exceedingly natural. Sermons have been preached in this church—"a temple made without hands." As we passed on beyond the church we saw the prints of the oxen and of the cart-wheels, made there more than thirty years ago.

After walking nearly a mile we came to a Gothic avenue. This leads off from the main avenue at the right. We as-

cended a flight of steps about twenty feet, and then walked on about two hundred yards, when we came to the registry-room. Thousands of names have there been registered on the ceiling overhead. We passed on in this avenue till we came to "Hercules' pillar." This is an immense column standing midway between the walls of this avenue. It was evidently formed by water dropping from the ceiling. It must be at least sixteen feet in circumference. "Stalagmite hall" is a hundred yards beyond, in the same avenue. Here are some ten or fifteen similar columns to the one above mentioned, differing only in size. The next thing of importance we passed, was "Bonaparte's breast-work," a natural breast-work of rocks extending at the side of the cave for twenty yards. One hundred yards from the breast-work is "the old arm chair." This is a very large column, extending from the ceiling to the floor, having in its side a well-formed arm chair. The next object we noticed was an elephant's head. The resemblance was exceeding perfect. A few yards further you come to the "lover's leap." This is a precipice at the side of the avenue, so deep that but few lovers would dare to leap there, even if, so daring, they should obtain the object of their affections. Directly above the "lover's leap," on the ceiling, is a representation of an Indian in the act of flying. We now descended a crevice called the "elbow crevice," leading to another and another apartment of this immense cave. After passing through "elbow crevice," we came to a magnificent dome, called "Napoleon's dome." It will be impossible to describe one half of what is to be here seen. Near "Napoleon's dome" is a large dining-table, thirty feet by ten. It is one solid stone, about four feet high. It was called "Gatewood's dining-table." A little distance further on we found an immense pile of cinders, like that thrown from a blacksmith's furnace. We then proceeded on some three hundred yards to the end of the avenue.

We then proceeded on in the main avenue until we came to the "giant's coffin." This is a large stone in the shape of a coffin; its height is about five feet, and its

length about eighteen. Directly over the coffin is a large panther, on the wall. We then passed round the coffin, and entered the "deserted chamber." In the main avenue the ceiling is at least sixty feet high at the entrance of the "deserted chamber," but the ceiling of the "deserted chamber" is not more than four feet high. We passed on through this chamber, about ten yards, and we came to a large dome, called the "wooden bowl," on account of a wooden bowl being found there when it was first discovered. At one side of the wooden bowl are the "steeps of time."

This is a narrow pass down about twenty feet, over natural stone steps. The passage is narrow and difficult to pass. After descending the "steeps of time," we came to a beautiful spring of water, called "Richardson's spring." We then passed on through the "arched way," by the "lady's saddle pit," which pit is about eighty feet deep; then on to "Minerva's dome," once the "labyrinth," to "Louisa's and Goran's dome." We then passed on by the "bottemless pit," into "Pensico avenue," and by the "wild dome," over the "great crossings." We then came to a pulpit of stalagmite, with a book lying upon the pulpit. This is all the work of nature, without art. It has received the name of the "devil's pulpit." We then passed through "pine-apple arch," to "Gelico grotto." All this we saw and passed the first day. We returned to the "cave house" about six in the evening.

The next morning we started at about eight o'clock, and went on through the main cave to the "deserted chamber," and entered an avenue called the "humble shoot." For a distance of about one hundred yards, we passed an avenue where the ceiling is so low that we had to stoop as much as possible. We then came to the "winding way," a narrow serpentine passage, through which only one person can pass at a time. This extends about fifty yards. At the end of the "winding way," we came to a large chamber called the "great relief." We then passed through "river hall," over the "dead sea," along a deep cascade. We then passed on to the "river Styx," over which there is a natural bridge. Crossing this

bridge, we soon found ourselves at the shore of the "river Lethe." We there went on board a boat, and were rowed by our guide about thirty yards, when we arrived at the "river Jordan." Our whole company entered the large boats at the shore of the Jordan, and began to move slowly over its surface. Part of the way the ceiling is quite low, and in other places very high. The whole distance is more than half a mile. Music never sounded so sweetly to me as when passing this river. The sweet tones of the never-ending echo, surpassed everything I had ever heard or imagined.

After passing the river, we walked on about two miles, through many interesting scenes, when we arrived at the foot of the ladder that leads to "Mary's vineyard." We ascended the ladder about twenty feet, and came to a large hall, the walls, the ceiling, the floor, covered with clusters of the finest grapes. But we found when we touched them that they were as solid as the wall itself. We then passed on through "Cleveland's avenue," through a great variety of rooms, until we came to "snowball-room." The avenue here is about eighty feet wide, the ceiling and walls covered with snowballs, some perfectly white, and some saturated with water, as natural as if thrown there by schoolboys, in their juvenile sports. The walls and ceiling, for more than a mile after passing the snowball room, are covered with flowers of every name and description imaginable. The only thing needed to make them true to life is color. We then passed on till we came to the "rocky mountains." It is quite difficult to ascend these mountains. We were obliged to clamber over rugged cliffs; we ascended about two hundred feet. We then descended the mountain on the other side. On the other side of the "rocky mountains" is a beautiful arbor called "Serena's arbor." It received this name in honor of the wife of Col. Croghan. Mrs. Croghan was the first lady who ever entered that bower. In the side of this beautiful arbor is a spring of the most delicious water. We here found ourselves eleven miles from the mouth of the cave. We then retraced our steps and reached the "cave house"

about seven o'clock in the evening, having walked more than twenty-two miles, far, far beneath the surface of the earth. Our third and fourth day's excursions were, if possible, still more interesting. The chief city which we visited on the third day, extends over an area of more than two acres.

We passed into the cave about six miles, when we came to the avenue leading to the "holy sepulchre." None can ascend there except the most bold and fearless. Only two of our company had courage to ascend. We made our way up a precipice, almost perpendicular, for about eighty feet; then crawled through a narrow opening between two massive rocks; then passed on about ten yards horizontally, and came to a row of stalactite columns, through which we made our way, and found ourselves standing at the mouth of the sepulchre. Here the cave is about sixteen feet wide. In the centre, between the walls, was a grave six feet wide and sixteen feet long, and about eight feet deep. The soil was apparently thrown up on two sides, and also at each end in equal quantities. Though it has the appearance of soil, it is a solid stone.

NATIONAL REPROACHES ABOUT UNFORTUNATE MEN OF GENIUS.

IT seems to be considered quite right and proper that the premature death of a man of poetical genius under the pressure of misfortune, should be laid to the charge of his country, as if the nation had been under a recognised moral obligation to nourish and support him. Thus Scotland is blamed for the fate of Burns; and thus England may in like manner be reproached for the tragic history of her Otway and her Chatterton, or for the more recent neglect experienced by Robert Bloomfield. We have long been convinced that there is some fallacy lurking here, and our opinion is confirmed by certain circumstances of comparatively recent occurrence.

It is certainly very striking that, in the cases of fortunate authors, the public at large is never seen to have been the source of the good fortune. Several poets, as Pope, Scott, Byron, have indeed realized considerable sums by the sale of their poems; but there an equivalent was given in the books. In some other instances, poets have had places and pensions; but there it was political interest which operated, and the fortunate son of the Muses was in no way distinguished from the herd of common men who live upon the public money with or without equivalents of service. What we mean is, that there is no case of the public coming forward and saying, "You are a man of genius—we think you ought to be supported, and here is a living for you, that you may sing in ease and tranquillity." In short, if literary men have ever enjoyed a subsistence equal to other men, it has not been from anything like a direct extension to them of public beneficence. The public, as a public, never makes the least interference in their behalf.

But, it will be said, "The public does not need to interfere in the case of a man who enjoys a good living otherwise. It is only where there is a want, that it is called upon to come forward with its purse. And how often has it made subscriptions to succor both men of genius and their children, and other connexions?" Here, we say on the contrary, the public, as a public, does nothing. In all such cases, the beneficence comes from a limited number of individuals, whom it were absurd to call the public. It is said, for instance, the public has placed the sister of Burns in comfort. But the rigid fact is, that this was done by about two hundred persons, being about the *one hundred and thirty thousandth part* of the whole British public—and these were not in general the persons who might have been expected to contribute to such a fund: of the whole literary class in Edinburgh, for example, not one gave a shilling, or even answered the letters addressed to them on the subject. So also "the public" has subscribed two thousand pounds to relieve the family of Mr. Loudon from debt; the actual subscribers being probably not

more in number than in the preceding instance. John Clare, the most brilliant genius produced among the English peasantry, is supported by "the public" in a lunatic asylum: for "public" read "two or three persons." The English, as a public, have been utterly neglectful of this extraordinary man. Coleridge, Lamb, Hazlitt, were all of them unendowed men of genius, living in our own age, and what did the public do for them? It allowed the first to live in sole dependance upon a private gentleman, the second to drudge at a desk till he became entitled to a small pension from his employers, and the third to write the daily sheet for the daily subsistence, till he sunk into a premature grave. And when something is done for men of genius or their connexions, it is equally found that the merit of calling for, collecting, and bestowing it, is due to one or two individuals. The public allows the most piteous cases to pass unnoticed for years, although pretty fully apprized of them; and it is only when some single person of the requisite energy gives himself strenuously to the work, that the end is accomplished.

Now, if communities are in no case the benefactors of those authors who are fortunate, and never do anything whatever for necessitous literary men, or those connected with them, but leave all such good deeds to be done by a few individuals when they are to be done at all, there must be a fallacy in the outcry so invariably made when a particular case of poetical misery and death occurs. Why this outcry, when we ourselves are seeing the system kept up by which such occurrences are inevitable? Why one nation taunt another, when it has made no provision to prevent the same occurrence falling in its own hands to-morrow? Why condemn a past age for the neglect of genius, when every day we are equally neglecting it? If in any one country under the sun there were public regulations insuring that men of genius should be well treated, then there might be some justice in twitting other countries with the want of such regulations. But while the whole matter is everywhere left, as it is, to mere chance, and the benevolent impulses of a very few persons, there

can evidently be no rationality in such censure.

Granting that this point is established, it may be inquired how far it is *desirable*, and how far *possible*, to form systematic plans for a national succor and support to men of literary genius. It must at once occur that there would be great difficulty in making any just arrangement of the kind, seeing that it must after all be confided to men whose judgment would be liable to bias, and who might therefore misdirect the funds. It must equally be obvious that there is great danger in endowing men for a special exertion of their intellects, since they are by that very endowment deprived of all but a very abstract kind of motive for exertion. A poet who had been sufficiently tuneful in poverty, might become mute under the influence of a comfortable pension. It is, no doubt, hard to come to this conclusion, for we often see nothing apparently wanting but an independent aliment to enable highly-gifted minds to apply to tasks of great public usefulness; yet there are so many instances of indolence being induced by such regular supplies, that there can be no doubt whatever of the natural tendency of such causes to produce such effects. There is, therefore, a general disinclination to hear of provision being made by the public for literary men; and we can have no room to expect that such an arrangement will ever become part of the policy of any state, however civilized.

What hope, then, is left for the sons of genius? Only that, we fear, which is left to all fortuneless men—to work out a subsistence for themselves by their own exertions. This they may do either by ordinary professions, or by the supply of that literature which will yield immediate profit, leaving the higher achievements of the intellect to moments of leisure. Talents suited for a high walk may thus be expended on an humble one; great works may be forbidden; and thus the public, as well as the man of genius, may suffer. But, on the other hand, it may be expected that a very forcible and true genius will be stimulated by the very difficulties in its path, and work a way through them. Powers of self-helpfulness will be evoked; the spirit of independence, being nour-

ished, will give additional value and character to the productions of the intellect; and thus the public and the author himself, instead of losers, may be gainers. The relief of unfortunate men of genius, how is this to be effected? Let it be left, as heretofore, to the kindly impulses that are ever found in the breasts of some of those who become the immediate witnesses of distress. A case of neglect may now and then, from peculiar circumstances, occur; but some such exceptions of evil are to be looked for in all human affairs. We would expect, however, to see men of literary abilities hereafter much less needful of external aid of any kind than they have been in past ages. Their productions are among the necessities of life in modern times, and their trade should therefore, in fair circumstances, be a good one. As their abilities, moreover, are superior to those of their fellow-creatures, so should they be more, instead of less able, to secure the means of keeping off want. It has ever been a prevailing sin of the literary class, fostered by the very cant which we aim at uprooting, to look to others for aid, to expect "something to be done for them;" thus losing the benefit of their own inherent energies, and degrading that genius which it should be their aim to keep pure and unspotted from the world. Again, there is a too common inclination among men of genius, either to a culpable negligence with regard to their affairs, or an extravagance equally ruinous, as if they were somehow to be independent of all the ordinary rules of prudence. It would be well for them to reflect that the greatest of their whole set—William Shakspeare—was careful of his means, and realized a competency, without for anything we can see, incurring the odium of his fellows, and that Burns, with seventy pounds a year, kept free of debt. Talk of the incompatibility of attention to the affairs of common life with the high conceptions of the inventive mind, when Scott could perform every duty of a man of the world, at the same time that he produced his marvellous fictions! Let literary men, we say, undertake the care of their own interests in a manly and rational spirit, and give a reasonable de-

gree of attention to the days that are to come, and their fortunes must be equal to those of any other class of men in the same degree useful to the community.

FOO-CHOO-FOO.

Foo-choo-foo is the capital and principal port of the province of Fo-kien, where chiefly the black tea is produced which is imported into this country, and a considerable quantity of tobacco is also grown.

Foo-choo-foo lies on the northeast coast, in the Fo-kien channel, in about 26° N. lat. and 119° E. long., on the banks of the Minho, which empties itself into the bay of Ho-sien, and about thirty miles from the river's mouth called Woo-foo-min. Fort Minga, which defends the passage of the Min, is situated about twelve miles from the river's mouth, and is the only serviceable fortress, although numerous others in a dismantled state dot the banks on each side in going up, and add to its picturesque beauty. The war-junks go no higher than Mingan.

On leaving Mingan the channel narrows to much less than half a mile broad, and a few miles higher up, divides into two branches, the northern one of which leads to the city: the banks of the river are dotted with the richest verdure, and in some places the bold appearance of the mountains, rising abruptly to a height of several thousand feet, is very remarkable: they are cultivated to the very ridges with grain, rice, and paddy, adding to the beauty of the scenery, which is further heightened by bold bluff points jutting abruptly into the river.

On reaching one of these points, which terminates the circuitous and serpentine direction of the branch of the river from Fort Minga, the town of Foo-choo-foo breaks upon the view in all its splendor, the bridge of thirty-six arches (and not thirty-three, as erroneously stated by some) stretching across the river, the banks on both sides dotted here and there with picturesque pagodas and the country-

seats of the mandarins of rank, and luxuriating in all the richness of tropical vegetation; the stately palm-tree, cocoa, and betel-nut, combined with the plantain and banana, being seen here in all their native beauty. The effect is greatly heightened by the numerous and various kinds of picturesque boats which dot the river, from the humble sampan to the unwieldy junk; while close to the town appears a forest of masts, belonging to different coasting craft: the river above the bridge winds away into serpentine obscurity, and the background is terminated by lofty mountains fading away into the blue distance.

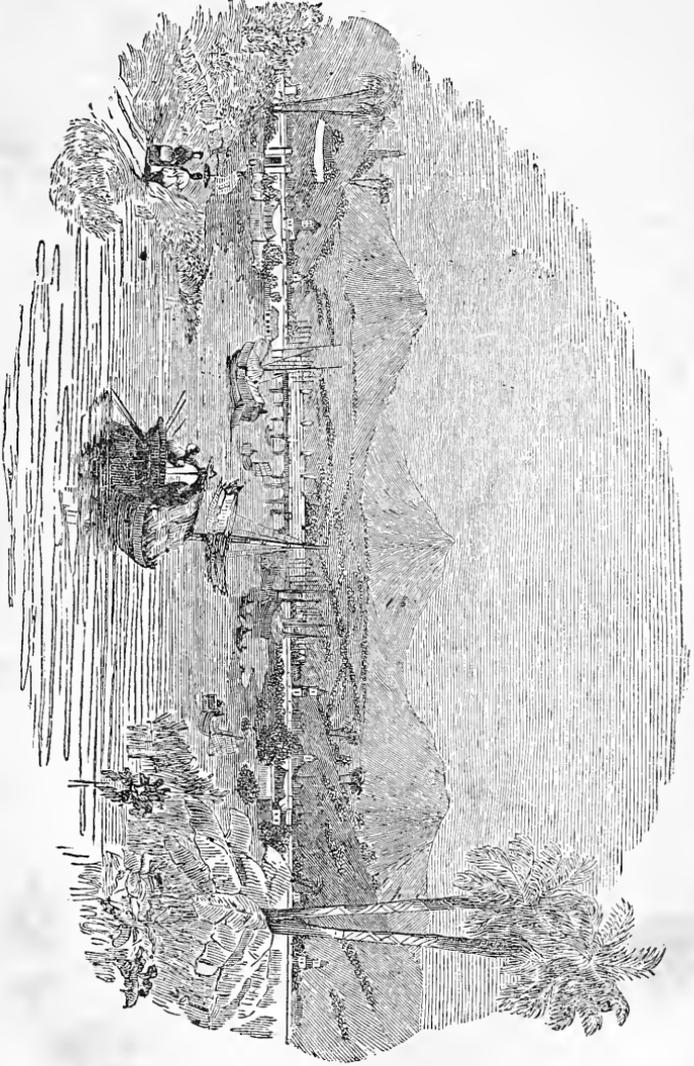
The town is built on both sides the river, and consists of the usual low houses of Chinese architecture and narrow streets, which, however, are necessary to guard against the powerful rays of the sun.

The bridge, which is built on diamond-shaped piles of granite, is a clumsy-looking affair upon close inspection, although at a distance it assumes so picturesque an appearance: its length is about four hundred yards, and breadth twelve to thirteen: there were formerly temporary shops constructed upon it, but they are now nearly all removed.

The anchorage at Foo-choo-foo is good, and of course, from its inland situation, perfectly secure: there is always from four to five fathoms water, the current is very rapid, the flood-tide scarcely perceptible.

The inhabitants appear courteous and mild in their manners, but intercourse with them was checked by the interference of the mandarins: they appeared a much superior race of people from those we met at Canton, and, as at Amoy, are hardy and industrious.

A great trade is carried on with the neighboring province of Che-kiang in wood, timber, and tobacco; but a number of junks from Foo-choo-foo find their way to Manilla, Singapore, and other islands in the eastern archipelago, touching generally in the first instance at Amoy, whence the best sea-going Fokien sailors are selected to man the sea-junks. Dried fruits, among others the lee-chee, are likewise largely exported.



Foo-choo-foo.

The importance of Foo-choo-foo to British enterprise must be extremely great, as vessels of a large burthen can lay within seven or eight miles of the city, whence the tea can be loaded at once from the large chop-boats of the country, which, by means of the Min and its branches, have an easy water communication with the tea-farms of the interior. Mr. Davis, in his "Sketches of China," observes in relation to its commercial importance:—

"By the unwise restrictions which have confined the tea-trade to Canton we have been obliged to pay for the transport of the black teas over an immense distance, in which lofty mountains are to be crossed, and shallow rivers navigated with great difficulty, involving the additional charge of about 25s. in every peul weight (133 lbs.), or about 200,000*l.* on the annual supply. Mr. Ball, formerly inspector of teas to the company at Canton, first drew attention to this subject many years ago, and his calculations seem to have been verified since. Should we, therefore, ever be in a situation to choose the most advantageous position for the tea-trade, there seems to be no doubt of Foo-choo-foo being the port selected. But it is not on account of teas only that the city in question has been singled out as the most favorable for the British trade: some calculations and estimates exist to show that for our woollen and other manufactures Foo-choo-foo must be infinitely superior to Canton, as being much nearer to the places of consumption. In this single view of the question, however, and apart from the main article of teas, it is most probable that Shang-hae is superior to Foo-choo-foo."

The climate of Foo-choo-foo is on the whole healthy, and would be more so but for the filthy state of the streets in the city and suburbs, where offal of all kinds is thrown indiscriminately about, producing an odor very offensive to the senses. The mountains in the vicinity likewise tend to its salubrity by rarefying the air: in winter the cold is felt severely; as is also the heat in summer, when the exhalations from the rice and paddy grounds produce frequent cases of fever and ague.

EARL OF ROSSE'S MAMMOTH TELESCOPE.

THE twenty-six feet telescope completed by the Earl of Rosse, an Irish nobleman, in 1840, did not satisfy his scientific ardor, and accordingly he immediately set about the construction of another of unprecedented magnitude, with a speculum six feet in diameter and fifty feet long. Some account of this wonderful instrument is given in the annexed extract, together with a few *hints* as to the wonders it reveals. The first part of the extract relates to the discoveries made by means of the telescope of 1840.

The twenty-six feet telescope, thus executed, has a general resemblance to that of Ramage, but the tube, gallery, and vertical axis of the stand, are counterpoised. It is used as a Newtonian telescope, with a small plane speculum, to prevent the image being deformed by oblique reflection, which is the effect of the front view. When the specula are not used, they are preserved from moisture and acid vapors by connecting their boxes with chambers containing quicklime, an arrangement which Dr. Robinson had applied for several years to the Armagh reflector.

When this telescope was completed, it became an object of high interest to ascertain its performance. In doing this, Dr. Robinson had, as he remarks, "the advantage of the assistance of one of the most celebrated of British astronomers, Sir James Smith;" but the weather, the state of the air, and the light of the moon, between the 29th October and 8th November, 1840, were unfavorable. The following is the substance of Dr. Robinson's report:—

"Both specula, the divided and the solid, seem exactly parabolic, there being no sensible difference in the focal adjustment of the eyepiece with the whole aperture of 36 inches, or one of 12; in the former case there is more flutter, but apparently no difference in the definition, and the eyepiece comes to its place of adjustment very sharply.

"The solid speculum showed a Lyræ round and well defined, with powers up to 1,000 inclusive, and at no moments even with 1,600; but the air was not fit

for so high a power on any telescope. Rigel, two hours from the meridian, with 600, was round, the field quite dark, the companion separated by more than a diameter of the star from its light, and so brilliant that it would certainly be visible long before sunset.

"Orionis, well defined, with all the powers from 200 to 1,000, with the latter a wide, black separation between the stars; 32 Orionis and 31 Canis minoris were also well separated.

"It is scarcely possible to preserve the necessary sobriety of language, in speaking of the moon's appearance with this instrument, which discovers a multitude of new objects at every point of its surface. Among these may be named a mountainous tract near Ptolemy, every ridge of which is dotted with extremely minute craters, and two black, parallel stripes in the bottom of Aristarchus.

"There could be little doubt of the high illuminating power of such a telescope, yet an example or two may be desirable. Between s^1 and s^2 Lyræ there are two faint stars, which Sir J. Herschel (Phil. Tran., 1824) calls 'debilissima,' and which seem to have been at that time the only set visible in the twenty feet reflector. These, at the altitude of 180° , were visible without an eyeglass, and also when the aperture was contracted to 12 inches. With an aperture of 18 inches, power 600, they and two other stars (seen in Mr. Cooper's achromatic of $13\frac{1}{2}$ inches aperture, and the Armagh reflector of 15 inches) are easily seen. With the whole aperture a fifth is visible, which Dr. R. had not before noticed. Nov. 5th, strong moonlight.

"In the nebula of Orion, the fifth star of the trapezium is easily seen with either speculum, even when the aperture is contracted to 18 inches. The divided speculum will not show the sixth with the whole aperture, on account of that sort of disintegration of large stars already noticed, but does, in favorable moments, when contracted to 18 inches. With the solid mirror and whole aperture, it stands out conspicuously under all the powers up to 1,000, and even with 18 inches it is not likely to be overlooked.

"Among the few nebulae examined

were 13 Messier, in which the central mass of stars was more distinctly separated, and the stars themselves larger than had been anticipated; the great nebula of Orion, and that of Andromeda, showed no appearance of resolution, but the small nebula near the latter is clearly resolvable. This is also the case with the ring nebula of Lyra; indeed, Dr. R. thought it was resolved at its minor axis; the fainter nebulous matter which fills it is irregularly distributed, having several stripes or wisps in it, and there are four stars near it, besides the one figured by Sir John Herschel, in his catalogue of nebulae. It is also worthy of notice, that this nebula, instead of that regular outline which he has there given it, is fringed with appendages, branching out into the surrounding space, like those of 13 Messier (Sir J. H.'s, 86), and in particular having prolongations brighter than the others, in the direction of the major axis, longer than the ring's breadth. A still greater difference is found in 1 Messier, described by Sir John Herschel as 'a barely resolvable cluster,' and drawn, fig. 81, as a fine elliptic boundary. This telescope, however, shows the stars, as in his fig. 89, and some more plainly, while the general outline, besides being irregular and fringed with appendages, has a deep bifurcation to the south."

In a paper entitled, "Observations on some of the Nebulae," communicated to the Royal Society on the 13th of June last, Lord Rosse has given sketches of five of the nebulae in Sir John Herschel's catalogue, numbered 88, 81, 26, 29, and 47, as seen in his three feet specula, and as soon as this paper is printed, the comparison of these drawings with Sir John Herschel will exhibit the power of the new telescope.

Fig. 26 of Sir John Herschel's catalogue (Messier 27), called the Dumb-bell nebula, from its supposed resemblance to a dumb-bell, is shown by Lord Rosse's telescope to be a cluster of stars, or rather two clusters in close proximity, and, indeed, to a certain extent blended together, and without the exact elliptical termination of Herschel's figure.

Fig. 81 of Sir J. Herschel's catalogue (Messier 51), seen as an oval nebula by

both these astronomers, is found to be a cluster of stars remarkable for its singular appearance, the ramifications from its southern extremity extending to a distance equal to its major axis, and giving it the appearance of a scorpion.

Fig. 45 of Sir J. Herschel's catalogue is a perfectly circular planetary nebula; but Lord Rosse has discovered it to be an annular nebula, like the elliptical annular nebula in Lyra (29 Sir J. Herschel's catalogue, and 57 Messier), but very much more difficult to be seen.

Fig. 49 of Sir J. Herschel's catalogue is represented as a remarkable round planetary nebula, containing three stars, one at each of the three vertices of an equilateral triangle. Lord Rosse's telescope shows this as a long irregular patch, with about seven stars in it, grouped unsymmetrically.

These are a few interesting examples of the manner in which the new telescope has resolved nebulae into stars, and has destroyed that symmetry of form in globular nebulae, upon which was founded the hypothesis of the gradual condensation of nebulous matter into suns and planets.

Such is a brief account of the construction and performance of a telescope which Dr. Robinson characterizes as the most powerful that has ever been made. Its superiority to all other instruments must have been very gratifying to Lord Rosse, and might have justified him in resting from his labors, and enjoying the honor of having triumphed in so noble an undertaking; but the instrument was scarcely out of his hands, before he resolved upon attempting the construction of another reflector, with a speculum six feet in diameter, and fifty feet long! This magnificent instrument was accordingly undertaken, and within the last month has been brought to a successful termination. The speculum has six feet of clear aperture, and therefore an area four times greater than that of the three feet speculum, and it weighs nearly four tons! The focal length is fifty-three feet. It was polished in six hours, in the same time as a small speculum, and with the same facility; and no particular care was taken in preparing the polisher, as Lord Rosse intended to repolish it as soon as the focal length was

ascertained to be correct; but, upon directing it to a nebula, the performance was better than he expected, and he therefore has suffered it to remain in the tube for the present. The second, or duplicate speculum, not yet finished, is in every respect the same in size. It was only three weeks in the annealing oven, and is reckoned very good.

The casting of a speculum of nearly four tons must have been an object of great interest, as well as of difficulty; but every difficulty was foreseen and provided against. In order to insure uniformity of metal, the blocks from the first melting, which was effected in three furnaces, were broken up, and the pieces from each of the furnaces were placed in three separate casks, A, B, and C. Then, in charging the crucibles for the final melting of the speculum, successive portions from cask A were put into furnaces *a*, *b*, and *c*, from B into *b*, *c*, *d*, and so on.

In order to prevent the metal from bending or changing its form, Lord Rosse has introduced a very ingenious and effective support. The speculum rests upon a surface of twenty-seven pieces of cast-iron, of equal area, and strongly framed, so as to be stiff and light. There are twelve of these in the outer rim, nine in the next, and six sectors at the centre. Each of these pieces is supported at its centre of gravity on a hemisphere, bearing at the angle of a triangle, of cast-iron, these triangles being in their turn similarly supported at the angles of three primary triangles, which, again, are supported at their centres of gravity by three screws which work in a strong iron frame, and serve for adjusting the mirrors. This frame carries also levers, to give lateral support to the speculum, in the same diffused manner. This frame, which contains the speculum, is attached to an immense joint, like that of a pair of compasses moving round a pin, in order to give the transverse motion for following the star in right ascension.

This pin is fixed to the centre piece, between two trunnions, like those of an enormous mortar, lying east and west, and upon which the telescope has its motion in altitude. To the frame there is

fastened a large cubical wooden box, about eight feet a side, in which there is a door through which two men go in to remove, or to replace the cover of the mirror. To, this box is fastened the tube, which is made of deal staves, hooped like a huge cask. It is about forty feet long, and eight feet diameter in the middle, and is furnished with internal diaphragms, about six and one half feet in aperture. The Dean of Ely walked through the tube with an umbrella up!

* * * * *

In looking back upon what the telescope has accomplished—in reckoning the thousands of celestial bodies which have been detected and surveyed—in reflecting on the vast depths of ether which have been sounded, and on the extensive fields of sidereal matter out of which worlds and systems of worlds are formed, and to be formed—can we doubt it to be the Divine plan that man shall yet discover the whole scheme of the visible universe, and that it is his individual duty, as well as the high prerogative of his order, to expound its mysteries, and to develop its laws? Over the invisible world he has received no commission to reign, and into its secrets he has no authority to pry. It is over the material and the visible that he has to sway the intellectual sceptre; it is among the structures of organic and inorganic life that his functions of combination and analysis are to be chiefly exercised. Nor is this a task unworthy of his genius, or unconnected with his destiny. Placed upon a globe already formed, and constituting part of a system already complete, he can scarcely trace, either in the solid masses around him, or in the forms and movements of the planet, any of the secondary causes by which these bodies have been shaped and launched on their journey. But in the distant heavens, where creation seems to be ever active, where vast distances give us the vision of huge magnitudes, and where extended operations are actually going on, we may study the cosmogony of our own system, and mark, even during the brief span of human life, the formation of a planet in the consolidation of the nebulous mass which surrounds it.

Such is the knowledge which man has yet to acquire—such the lesson which he has to teach his species. How much to be prized is the intellectual faculty by which such a work is to be performed—how wonderful the progress by which the human brain, in its casket of bone, can alone establish such remote and transcendental truths. A soul so capacious, and ordained for such an enterprise, can not be otherwise than immortal.

But even when all these mysteries shall be revealed, the mind will still wrestle with eager curiosity to learn the final destiny of such glorious creations. The past and the present furnish some grounds of anticipation. Revelation throws in some faint touches of its light; but it is in the indications of science chiefly—in the results of mechanical laws—that we are likely to find any sure elements for our judgment. In the creations around and near us all is change and decomposition. The solid globe, once incandescent, and scarcely cooled, has been the theatre of recurring convulsions, by which everything has been destroyed, and after which everything has been renewed. Animal life in its varied organizations has perished, and written its epitaph upon imperishable monuments. Man, too, though never extinct as a race, returns one by one to his clay, and his intellectual functions are perpetuated in the reproduction of his fellow. In the solar system we see fragments of planets—asteroids, as they have been called—occupying, in almost interlacing orbits, the place of a larger body; and in the direction and amount of the annual and diurnal motions of the primary and secondary planets we recognise the result of a grand creative movement, by which the sun, with its widely-extended atmosphere, or revolving atmosphere itself, has cast off, by successive throes, the various bodies of the system, at first circling in gaseous zones, but subsequently contracted into planets and a sun.

This system, so wonderfully formed, is again enchained with another more distant by an assemblage of comets—a class of bodies which doubtless carry on some reciprocal intercourse for the benefit of both. Composed of nebulous matter, they

may yet be consolidated into habitable globes; and resembling in aspect the vast nebulæ which fill the sidereal spaces, and forming a part of our own system, they countenance the theory, that the nebula which the telescope can not resolve may be the pabulum out of which heat and motion are to form new systems, where planets, thrown off from a central nucleus, will form new abodes of life and intelligence.

But while all the phenomena in the heavens indicate a law of progressive creation, in which revolving matter is distributed into suns and planets, there are indications in our own system that a period has been assigned for its duration, which, sooner or later, it must reach. The medium which fills universal space—whether it be a luminiferous ether, or arise from the indefinite expansion of planetary atmospheres—must retard the bodies which move in it, even though it were 360,000 millions of times more rare than atmospheric air; and, with its time of revolution gradually shortening, the satellite must return to its planet, the planet to its sun, and the sun to its primeval nebula.

The fate of our system, thus deduced from mechanical laws, must be the fate of all others. Motion can not be perpetuated in a resisting medium; and where there exists disturbing forces, there must be primarily derangement, and ultimately ruin. From the great central mass heat may again be summoned to exhale nebulous matter, chymical forces may again produce motion, and motion may again generate systems; but, as in the recurring catastrophes, which have desolated our earth, the great First Cause must preside at the dawn of each cosmical cycle; and, as in the animal races which were successively reproduced, new celestial creations, of a nobler form of beauty, and of a higher order of permanence, may yet appear in the sidereal universe. "Behold, I create new heavens, and a new earth, and the former shall not be remembered." "The new heavens and the new earth shall remain before me." Let us look, then, according to his promise, for the "new heavens and the new earth, wherein dwelleth righteousness."

BRITISH TRADE WITH THE NORTH AMERICAN INDIANS.

THE noblest hunting-ground in the world is a region, of many thousand miles, extending from Hudson's bay to the shores of the Pacific ocean, and from the frontiers of the United States to the Arctic sea. It abounds with mountains, rocks, lakes, rivers, waterfalls, swamps, and forests; and its inhabitants—the grisly bear, the less terrible, but still dangerous black bear, the shaggy bison, the beaver, the elk, and the badger—furnish exciting objects of chase. Over the whole of this extensive territory the Hudson's Bay Company has its "forts" and "houses," where its clerks gather the furs from the hunters, which are afterward shipped to London by way of Hudson's bay, Montreal, and from the Columbia, on the Pacific ocean. The annual sales of furs in London, which are held every year in the month of March, attract many foreign merchants to the metropolis, who often make considerable purchases, which are sent chiefly to the great fair in Leipzig, whence they are again distributed to all parts of the continent of Europe.

The Hudson's Bay Company were chartered in 1670, with the privilege of exclusive trading with the Indians to the north and west of the bay. But for nearly a century afterward Canada was a colony of France, and the French Canadians prosecuted the fur trade with many natural and acquired advantages not possessed by the Hudson's Bay Company. The *Coueurs des Bois* fearlessly ventured with the Indians into the forests; they acquired the hardy habits of their companions, learned their language, intermarried with them, and were often adopted into their tribes; and at last the distant shores of Lake Superior, the Lake of the Woods, and Lake Winipeg, became as familiar to them as the neighborhood of Montreal. In those early days rich harvests of furs rewarded their toil, though in general it was the merchants and shopkeepers of Montreal, living "at home at ease," who reaped permanent success. The *coueurs* or *voyageurs*, in acquiring the patience and perseverance of the Indian, too often acquired also the extravagance and thought-

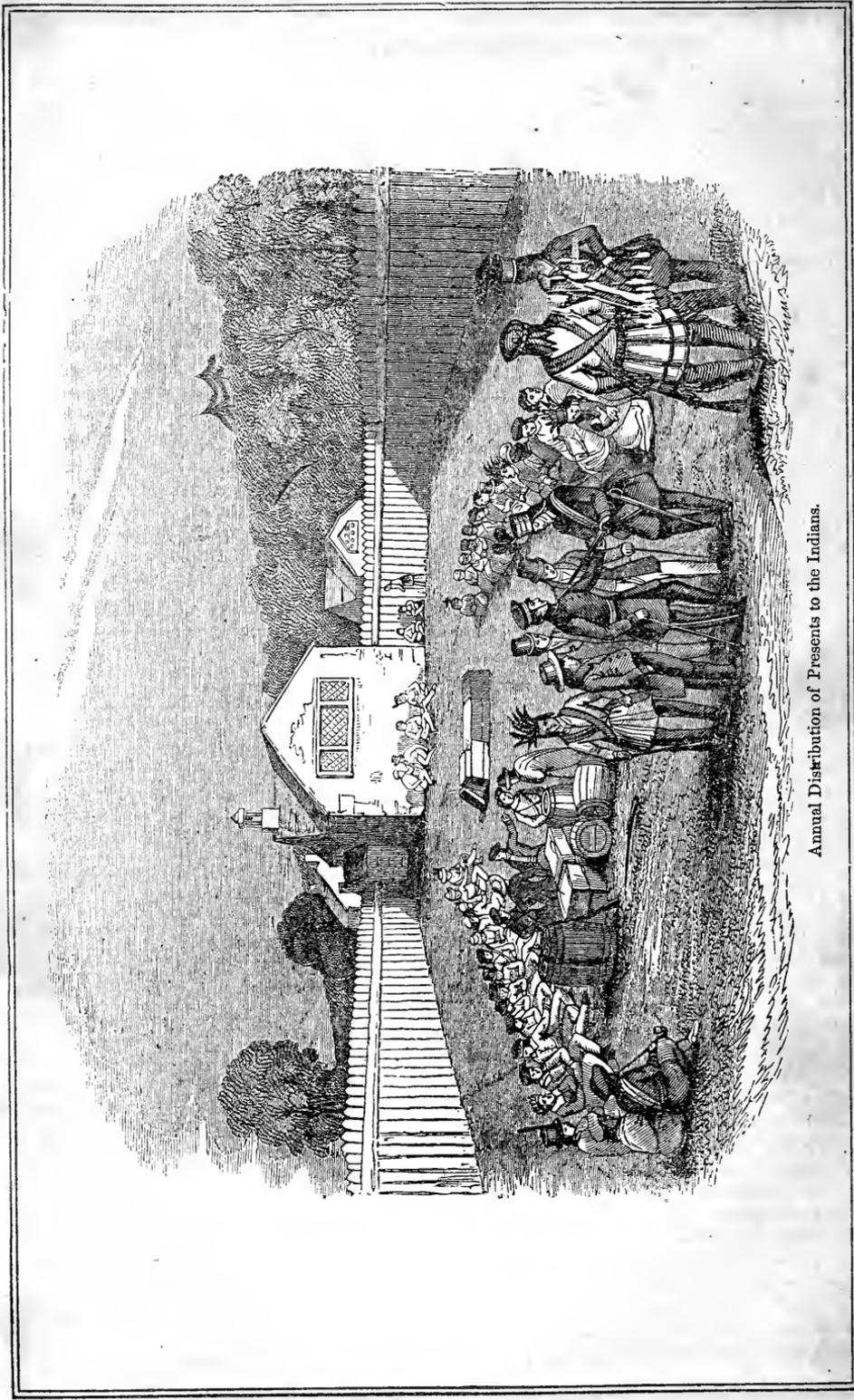
lessness so generally characteristic of uncivilized man. A winter often sufficed to dissipate the gains of two or three years; and when the season came round, they were as ready as ever to start again for the woods.

The desultory and unsettled lives of the voyageurs were not calculated to improve either themselves or their companions, the Indians. The missionaries of the House of St. Lazarus, founded by Vincent de Paul, scandalized by what they saw and heard, and anxious to convert the Indians, and to check the mischief arising from the indiscriminate use of rum, tracked the footsteps of the traders through the woods, and some of them established themselves at "the distance of 2,500 miles from the civilized part of the colonies." In their zeal to do good, these men "habituated themselves to the savage life, and naturalized themselves to the savage manners;" an error of judgment which Sir Alexander Mackenzie censures, as "by thus becoming dependant, as it were, on the natives, they acquired their contempt rather than their veneration." But though no permanent result was produced, the missionaries were a check upon the conduct of the traders during their temporary residence in the country; the "contempt" of the Indians for their unwarlike disposition was mingled with affection for the benevolence and disinterestedness which they displayed; so that between the fatherly conduct of the Roman Catholic priests, and the community of life with the Indians of the *voyageurs*, the French acquired such an influence over the Indians, as could scarcely be overcome by the policy of Great Britain after the occupation of Canada. That policy was a system of kindness, manifested by interdicting all persons, except those authorized by government, from purchasing Indian lands, and by an annual distribution of presents. When sales of land were made, they were conducted in a regular and formal manner, with the consent of the Indians; and the annual expense of the "Indian department," charged with the distribution of the presents, was upward of 150,000*l.*; yet so slowly was the attachment of the Indians for the French broken up, that, forty years after Britain

had taken possession of Canada, an Indian, sick, or hungry, or in want of shelter from a storm, would, in general, sooner go to the house of a French Canadian than an English settler; and Weld says that the old Indians were in the habit of affirming, that "they were never so happy as when the French had possession of the country." Speaking of the gradual extinction of the Indian race, he advanced a conjecture which has been realised in a shorter time than he assumed it would be. "Even in Canada," he says, "where the Indians are treated with so much kindness, they are disappearing faster, perhaps, than any people were ever known to do before them, and are making room every year for the whites; and it is by no means improbable but that, at the end of fifty years, there will not be a single Indian to be met with between Quebec and Lake St. Clair, except the few that may be induced to lead quiet domestic lives."

Weld was a spectator, in 1796, of an annual distribution of presents to a number of Indians, at Malden, on the Detroit, the channel through which the waters of the upper lakes are connected with Lake Erie. The following is his description of the scene:—

"A number of large stakes were first fixed down in different parts of the lawn, to each of which was attached a label, with the name of the tribe, and the number of persons in it who were to be provided for. Then were brought out from the stores several bales of thick blankets, of blue, scarlet, and brown cloth, and of coarse-figured cottons, together with large rolls of tobacco, guns, flints, powder, balls, shot, caseknives, ivory and horn combs, looking-glasses, pipe-tomahawks, hatchets, scissors, needles, vermilion in bags, copper and iron pots and kettles; the whole valued at about 500*l.* sterling. The bales of goods being opened, the blankets, cloths, and cottons, were cut up into small pieces, each sufficient to make for one person a wrapper, a shirt, a pair of leggings, or whatever else it was intended for; and the portions of the different articles intended for each tribe were thrown together in a heap at the bottom of the stake which bore its name. This business took up several hours, as there



Annual Distribution of Presents to the Indians.

were no less than 420 Indians to be served. The presents having been all prepared, the chiefs were ordered to assemble their warriors, who were loitering about the grounds at the outside of the lawn. In a few minutes they all came, and having been drawn up in a large circle, a speech was delivered by the British officer superintending the distribution of the presents. In this they were told that their great and good father, who lived on the opposite side of the Big Lake, was ever attentive to the happiness of all his faithful people; and that, with his accustomed bounty, he had sent the presents which now lay before them to his good children the Indians; that he had sent the guns, the hatchets, and the ammunition, for the young men, and the clothing for the aged, the women, and the children; that he hoped the young men would have no occasion to employ their weapons in fighting against enemies, but merely in hunting; and that he recommended it to them to be attentive to the old, and to share bountifully with them what they gained by the chase; that he trusted the Great Spirit would give them bright suns and clear skies, and a favorable season for hunting; and that, when another year should pass over, if he still continued to find them good children, he would not fail to renew his bounties, by sending them more presents from across the Big Lake.

"This speech was delivered in English, but interpreters attended, who repeated it to the different tribes in their respective dialects or languages, paragraph by paragraph, at the end of every one of which the Indians signified their satisfaction by a loud exclamation of 'Hoah! Hoah!' The speech ended, the chiefs were called forward, and their several heaps were shown to them, and committed to their care. They received them with thanks, and beckoning to their warriors, a number of young men quickly started from the crowd, and in less than three minutes the presents were conveyed from the lawn, and put on board canoes. The utmost regularity and propriety were manifested on this occasion in the behavior of every Indian: there was not the smallest wrangling among them about their presents, nor was the least spark of

jealousy observable in any one tribe about what the other had received; each one took up the heap allotted to it, and departed without speaking a word."

This annual distribution of presents from the British government to the Indians in Canada has been continued ever since, though from 1816 the amount was considerably reduced. Some interesting information respecting the "Indian department," and the nature of the presents, was given in a parliamentary report which was published about three years ago.

Before the French were dispossessed of Canada, their traders had pushed the fur trade westward as far as the banks of the Saskatchewan; and Mackenzie learned that two of the more enterprising had attempted to cross the Rocky mountains to reach the Pacific ocean, but with what success was unknown. They did not go very far northward, as that quarter was considered the ground of the Hudson's Bay Company, and belonging to the English. But when English subjects in Canada, after that province became a colony of Great Britain, entered into the fur trade, a new impulse was given to it. At first the trade was pursued irregularly, and the English adventurers did not go far from Lake Superior, contenting themselves with what are now considered *short* expeditions of 1,500 or 1,600 miles from Montreal. But one, bolder than his fellows, Mr. Thomas Curry, proceeded with four canoes to Fort Bourbon, a deserted French post on the Saskatchewan: "his risk and toil were well recompensed, for he came back the following spring with his canoes filled with fine furs, and was satisfied never again to return to the Indian country." His example and success roused others, until the keenness of the competition almost destroyed the trade, from the extravagant prices often given by one trader for furs, to prevent them from falling into the hands of another, and also by the unscrupulous conduct of a large portion of them, which often brought on disastrous collisions with the natives. This paved the way for the junction of the fur traders of Canada in 1783, which assumed the name of the "Northwest Company."

The Northwest Company carried on

their operations by a system well calculated to stimulate the zeal of their servants. The Canadian-French *voyageurs* were already trained to the service; and their Indian elasticity of spirit served them more effectually than that mere capacity for enduring fatigue, which was the chief characteristic of the Orkney or Highland servants of the Hudson's Bay Company. The clerks of the Northwest Company were animated by the prospect of becoming partners after a certain period of servitude—a strong stimulus to active young men. The greater number of these clerks have been, and are, Scotchmen—some of them more than usually intelligent, active, and enterprising, such as Sir Alexander Mackenzie, who rose from a clerkship to be an influential director of the Northwest Company, is the traveller whose expeditions to the Pacific ocean, and down the river which bears his name to the Polar sea, have rendered his name familiar to the public. He has added another to the many proofs that commerce is a pioneer of science as well as civilization; for the course of the Mackenzie river, and much of the adjacent country, have only become geographically known by the recent expeditions of Sir John Franklin and Captain Back.

The Northwest Company established a kind of half-way house between Montreal and their posts in the interior. This was Fort William, on the northwest shores of Lake Superior. It became an extensive building, or series of buildings, and was managed like a garrison, a number of partners being frequently resident in it, who acted as commanding officers, the clerks as subalterns, while the French Canadians and a number of Indians composed the troops. A portion of the clerks and voyageurs were occupied during the summer in carrying from Montreal to Fort William the stores and articles of traffic, and in taking back to Montreal the furs brought to Fort William from the interior. This usually occupied the summer, for the route up and down between Montreal and Fort William is about 2,500 miles; but, toilsome as it was, it was holiday-work compared with the interior. The routes between Fort William and the interior posts, such as Fort Chipewyan on

the Athabasca lake, were by chains of lakes and rivers, interrupted by portages and dangerous rapids; and the "wintering" at one of these posts was occasionally attended by "short commons," from the failure of provisions. Both clerks and voyageurs were regularly relieved; the "winterers" being allowed, after a certain time, to have their turn of going to Montreal, and those between Montreal and Fort William being sent into the interior. The voyageurs who only hired themselves for the expedition between Montreal and Fort William received a much smaller amount of wages than the northmen or winterers; yet so numerous are they, that in some villages in the neighborhood of Montreal there is scarcely a grown-up male to be found during the summer.

WHAT IS HONEST DEALING?

WHAT is honest dealing? This is an important question to ask in a country which owes its greatness to its commerce. At first sight it might be supposed capable of an easy answer; and in many cases it is so. Nature has not left us without a sentiment which clearly proclaims the difference between *thine* and *mine*, and men in general are fortunately so well provided with that sentiment, that a majority of them are always ready to see justice, and to acknowledge it as such when it is exhibited before them.

In the complicated relations of society, however, occasions arise when the dictates of conscientiousness are either perverted, or misapplied, or misunderstood; judgments of the intellect, liable to a thousand errors, enter into the decisions formed, and many men in the world are found to be acting with habitual dishonesty, not so much from want of a fair endowment of the sense of justice, as from want of understanding, or from a force of circumstances, of which, individually, they have no power to alter the direction.

In such cases it becomes important to consider whether a cure, which is needed

universally, should not be applied by the universal concentrated power, that is, the government of the country. If the legislature is to interfere with industry at all, it should surely be on the side of morality and moderation. In some instances—we refer particularly to the acts for shortening the hours of juvenile labor in manufactories, and the abolition of it, and of the labor of women in coal-mines—the legislature has already interfered, and, in our opinion, wisely and humanely. Whether there are not other unjust practices in society, which legislative interference could and should abolish, it is not our present purpose to inquire. There can be no doubt, however, that out of men's *own* hearts comes the issue of their lives, as the psalmist said long ago, and, erroneous as Goldsmith's sentiment becomes when applied indiscriminately to practice, there is a great part of social evils, without doubt, which "neither laws nor kings can cause or cure." But when this is the case, we are kindly furnished with the means of effecting a cure by our own exertion, and, if we fail to apply those means, our own is the fault and the misfortune.

A corn-merchant of Alexandria, says Cicero, arrived at Rhodes, in a time of great scarcity, with a cargo of grain, and with the knowledge that a number of other vessels laden with corn had already sailed from Alexandria for Rhodes, and which he had passed on the voyage. Was he bound in conscience to inform the buyers of that fact? Cicero decided that he was; but several modern writers on law, as Puffendorf and Grotius, whose consciences will not be thought less tender than that of Cicero, have dissented from his opinion, though with very careful qualifications.

It seems to us that, in answering this specific question, we involve ourselves in a solution of the general one—how far a seller or a buyer is entitled to make use of superior information in dealing, the one with the other. If we are to allow no right of this sort, we seem to deprive industry and diligence of their just and natural advantages, seeing that we may, in this way, put the thoughtless and slothful on a level with their more meritorious

neighbors. Again, if we should admit the doctrine, that superior knowledge may be used without limit, we assert, in effect, that the usurer may justly become an extortioner, and the man of sagacity overreach the idiot, without incurring guilt. Both conclusions seem to us to be erroneous. In the case of the Alexandrine merchant, now, we will go as far as to say, that he was *not* bound to mention at Rhodes that other ships were under way. But let us guard against being misunderstood. If the merchant had been *asked* whether these ships were on the way, and he had said no, directly he became a liar and a cheat; if he even gave an evasive answer, we will say that he did wrong, decidedly and deliberately wrong. His only fair reward in the circumstances arose from his being first in the market, and that reward in such a situation would neither have been trifling nor unimportant. Speaking generally, it seems to us that men *are* entitled, in a degree, to make use of superior information in dealing with their neighbors. *It is only when such knowledge is made active use of for the purpose of misleading and deceiving, that the application of it becomes criminal.* The trader, who attempts, by every honorable means, to attract public attention to the wares which he exposes, is not bound, as we conceive, to expose his *back-shop* to the vulgar gaze; nay, more, if he keeps bad articles for sale (which he may innocently do), he is not bound to be keeping that fact for ever in people's eyes. *This*, however, he is bound to do by every consideration which can influence an honest mind—he is bound to refrain from calling bad good, or attempting to persuade an ignorant purchaser that articles are one whit better than he (the seller) knows them to be. It will never do to say that the buyer's eyes are open, and that, if he cheat himself, he has himself only to blame. Such a doctrine, carried out, would end in utter dishonesty and spoliation. Undoubtedly the buyer is bound to exercise his wits on his own behalf, nor is the seller called upon to do so for him. A foolish person may go about purchasing things for which he has no use, he may pay more for them than they are worth to him, and in that case he may be said, truly

enough, to be cheated. But it is equally certain that it is himself who has cheated himself, and in this case it is himself only who is to blame. There is a great difference, however, betwixt cheating one's self, and being cheated. In the one case the seller incurs no guilt whatever; in the other, he incurs much. This comes also to be the case when defects of any sort are attempted to be concealed or glossed over; when a higher price is asked than is meant to be accepted, or higher than the fair market price; in short, whenever the seller puts the ignorant buyer in a situation that he would not choose to be put in himself. Hear what the ever-judicious and sensible Paley says:—

“I suppose,” he says, “it will be allowed that to advance a direct falsehood in recommendation of our wares, by ascribing to them some quality which we know that they have not, is dishonest. Now, compare with this the designed concealment of some fault, which we know that they have. The motives and the effects of actions are the only points of comparison in which their moral quality can differ; but the motive in these two cases is the same, namely, to procure a higher price than we expect otherwise to obtain; the effect, that is, the prejudice to the buyer, is the same; for he finds himself equally out of pocket by his bargain, whether the commodity, when he gets home with it, turns out worse than he had supposed, by the want of some quality which he expected, or the discovery of some fault which he did not expect. If, therefore, actions be the same, as to all moral purposes, which proceed from the same motives, and produce the same effects, it is making a distinction without a difference, to esteem it a *cheat* to magnify beyond the truth the virtues of what we have to sell, but none to conceal its faults. It adds to the value of this kind of honesty, that the faults of many things are of a nature not to be known by any but by the persons who have used them; so that the buyer has no security from imposition but in the ingenuousness and integrity of the seller. * * * To this, of concealing the faults of what we wish to put off, may be referred the practice of passing bad

money. This practice we sometimes hear defended by a vulgar excuse, that we have taken the money for good, and must therefore get rid of it. Which excuse is much the same as if one, who had been robbed upon the highway, should allege that he had a right to reimburse himself out of the pocket of the first traveller he met; the justice of which reasoning the traveller possibly may not comprehend. * * * If your tailor, or your draper, charge, or even ask of you, more for a suit of clothes than the market price, you complain that you are imposed upon—you pronounce the tradesman who makes such a charge dishonest—although, as the man's goods were his own, and he had a right to prescribe the terms upon which he would consent to part with them, it may be questioned what dishonesty there can be in the case, or wherein the imposition consists.” The imposition consists in this, that, “whoever opens a shop, or in any manner exposes goods to public sale, virtually engages to deal with his customers at a market price; because it is upon the faith and opinion of such an engagement that any one comes within his shop-doors, or offers to treat with him. This is expected by the buyer, and is known to be so expected by the seller; which is enough, according to the rule delivered above, to make it a part of the contract between them, though not a syllable be said about it.”

If this be true, then the condition of a regular and lawful contract is, *that there be no secrets in it*. Secrecy, though not in itself criminal, forms the principal ingredient in deceit, and those who accustom themselves to much secrecy and concealment, though at first, perhaps, without a settled purpose of dishonesty, are sure to be suspected, and lie under strong temptation, at last, of concealing the truth with dishonest intention. Let them therefore give up the habit. Let there be “no secrets, either in the kind or quality of the merchandise, or in the breast, or in the pocket of the dealer. Let them all be swept away. Let them be swept out, all secrets from all hiding-places, from all coverts of subterfuge and chicanery; and this at least I am certain of, that busi-

ness would occasion fewer wounds of conscience to all honorable and virtuous communities."

CULTIVATION OF FLOWERS.

BEAUTY of every kind is formed to captivate, and there is this peculiar advantage in contemplating the beauties of vegetable nature, that, while we permit our hearts to be captivated by them, we are under no apprehension of dishonorable servitude. A taste for the beauties of vegetation is the mark of a pure and innocent mind, and, at the same time, one of the best *preservatives* of purity and innocence. It diverts the attention from the turbulent scenes of folly, and superinduces a placid tranquillity, highly favorable to the gentler virtues, and to the permanency of our most refined enjoyments.

Nature seems to have distributed flowers over the whole world, to serve as a "medicine to the mind," to give cheerfulness to the earth, and to furnish agreeable sensations to its inhabitants. The interest which flowers have excited in the mind of man, from the most remote ages to the present day, appears never to have been confined to any particular section of the globe, or class of society, though we have often been surprised to find those who possessed a very acute susceptibility of *artificial* or literary grace, and were powerfully affected by the beauties of a poem, a piece of sculpture, or a painting, not at all more sensible of the charms of a tree, or a flower, than a common and inelegant spectator. They have dwelt with rapture on a fine description of the "Vale of Tempe"—they have entered into all the delight which a Milton or a Shakspeare intended to communicate in their enchanting pictures of flowery and sylvan scenes—and yet can walk through a wood, or tread on a bank of violets and primroses, without appearing affected with any peculiar pleasure. This is certainly the effect of a superficial judgment; for there

is no truth of which philosophers have been longer convinced, than that the realities of nature infinitely exceed the most perfect productions of imitating art. The beauty of color, though justly esteemed subordinate to that of shape, is yet found to delight the eye more immediately and more universally. When color and shape are united in perfection, he who can view them with insensibility, must resign all pretensions to delicacy of perception. Such a union has been usually effected by Nature in the formation of a flower.

There is scarcely a single object in all the vegetable world in which so many agreeable qualities are combined as in the "queen of flowers"—the rose.

This beautiful shrub is found in almost every country, and in almost every country its beauty and fragrance have made it the ornament of the garden, and the object of admiration. Nature, as if delighted with this exquisite production of her hand, has multiplied its species and varieties to an almost unlimited extent; and the poet has sung its praises in all nations and in all ages. It has been wedded to the nightingale, and its fragrance and beauty have been the theme of every tongue. In Shairy and Cashmere the rose is peculiarly odoriferous, and yields the most fragrant odor, or essential oil.

The love for a garden, it has been said, has a powerful influence in attaching men to their homes, and on this account every encouragement given to increase a taste for ornamental gardening is an additional security for domestic comfort and happiness. By its creation of a love for the study of nature, it leads the mind to a contemplation of the mysterious wonders that are displayed in the vegetable kingdom around us, and which can not be examined without inclining us toward a proper estimate of religion, and, when compared with the incomprehensible power and wisdom of the Creator, a knowledge of the narrow limits of our own intelligence.

The very soul seems to be refreshed on the bare recollection of the pleasures which the senses receive in contemplating, on a fine vernal morning, the charms of the pink, violet, honeysuckle, hyacinth, the narcissus, jonquille, the tulip, and a

thousand others, in every variety of figure, scent, and hue, for nature is no less remarkable for the accuracy and beauty of her works, than for variety and profusion. Defects are always discovered in the works of art when examined with the aid of a microscope; but a close examination of a leaf of a flower is like taking a veil from the face of beauty. The finest needle ever polished, and pointed by the most ingenious artist, appears, when viewed by the microscope, quite obtuse; while the sting of a bee, however magnified, still retains all its original acuteness of termination. The ferrated border of the petal of a flower, and the fringe on the wing of a fly, display an accuracy of delineation which no pencil ever yet could rival.

Flowers are, of all embellishments, the most beautiful; and of all created beings, man alone seems fully capable of deriving enjoyment from them. The love for them commences with infancy, remains the delight of youth, increases with our years, and becomes the quiet amusement of our declining days. The infant can no sooner walk than it plants a flower, and removes it ten times in an hour to wherever the sun seems to shine most favorably. The schoolboy, in the care of his little plot of ground, relieves the tedium of his studies, and loses the anxious thought of the home he has left. In manhood our attention is generally demanded by more active duties, or by more imperious, and perhaps less innocent occupations; but, as age advances, the love of flowers, and the delights of a garden, will return to sooth the later period of our life.

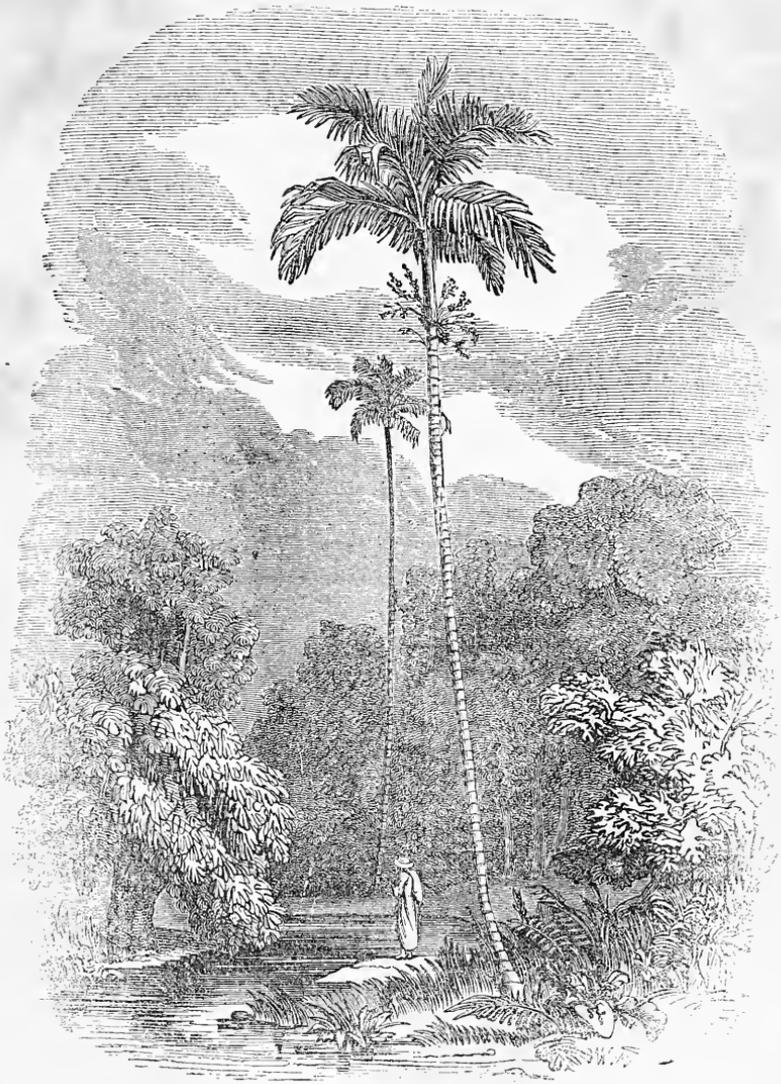
The taste of the florist has not, indeed, been much admired, or generally aspired at; while that of the connoisseur in painting is considered as a mark of elegance of character and an honorable distinction. Yet, surely, it is an inconsistency to be transported with the workmanship of a poor mortal, and feel no sensations of rapture in surveying those highly-finished pictures emanating from the hand of the DEITY!

The poets have given us most luxurious descriptions of gardens and of rural scenery; and, though they have been thought to excel reality, they have indeed

scarcely equalled it. Enter a modern shrubbery, formed of a selection of the most agreeable flowering shrubs, and consider whether there is anything in the garden of Alcinoüs, in the fields of Elysium, in Milton's Paradise, to be compared with the intermixture of the lilac, the peach, the cherry, and the almond, the jessamine, the moss-rose, the magnolia, and a great number of others, less common, but of equal beauty. As we walk under the clusters of flowers, white as snow, tinged with gold, purple as the grape, blue as the expanse of heaven, and blushing like the cheek of modesty, we are led almost to imagine ourselves in a fairy land, or in a better world, where every delicate sense is delighted, and all around breathes fragrance, and expands beauty; where everything seems to participate in the joy of laughing nature. Groves and gardens have, indeed, been always supposed to sooth the mind into a placid temperament peculiarly favorable to the indulgence of contemplation.

THE BETEL-NUT TREE.

THE betel-nut tree (*areca catechu*, Linn.) is one of the most graceful of the palm tribe. It is a native of all the countries of Asia within the tropics, and is cultivated all over India for the sake of the nut, which is in high esteem. It is known by a variety of names, each language having a distinct term for it, every one of which is native. Crawford tells us that it is an indigenous product of all the Indian islands; but Dr. Roxburgh says that he does not know where it grows wild. The islands of the Indian archipelago, and the lands of the continent near to the coast, are most favorable to its growth; there it requires least care and expense in the cultivation, bears fruit on the fifth year, and dies about the twenty-fifth year. But in many parts of the European continent it does not arrive so soon to maturity, bears fruit for a much longer period, and is, of course, much longer in decaying.



Betel-Nut Tree.

But, in this latter case, the cultivation is attended with considerable care and expense. Dr. Francis Buchanan says that the tree begins to bear fruit at five years and upward, and that it bears for sixty or seventy years; but when it has been twenty-five or thirty years in perfection it begins to decay. The tree is in flower most part of the year; its trunk often rises from forty to fifty feet high, but is in general only about twenty inches in circumference, almost equally thick and smooth. The nut is about the size of a hen's egg, enclosed in a membranous covering, and of a reddish yellow when ripe. The tree has no branches, but its leaves are very beautiful, forming a round tuft at the top of the trunk. There are two crops in the year; the quantity of nuts yielded by a single tree varies considerably in different places: on the Coromandel coast the average number of nuts obtained from a single tree is usually about three hundred.

The betel-nut is dried, cut into slices, usually four; these slices are wrapped up in the leaf of the black-pepper vine, and sprinkled with quicklime, termed by the natives *chunam*. Thus prepared, it is chewed, and is enjoyed by the people as a universal luxury. What the benefits are to be derived from this preparation it would be hard to say. The nut, which has a harsh astringent flavor, is never eaten by itself; but, in conjunction with the hot pungent leaf of the black-pepper vine and the quicklime, it is much relished. The chewing of the betel provokes much spitting of a reddish-colored saliva; and the Indians have an idea that by this means the teeth are fastened, the gums cleaned, and the mouth cooled. The modern Arabs, while they occasionally chew the betel-nut in the same manner as the Indians do, give a preference to the buds of a plant they call *kad*, and which they think sweetens the breath and preserves the gums. Besides being greatly cultivated in India, the betel-nut is brought thither from Borneo, Malacca, and Cochin-China. An apparently more rational, but very limited use of the betel-nut than in being chewed is its employment in dyeing. A red variety is commonly used in Malabar for dyeing that color. However, the

use of the betel-nut in chewing is probably as defensible as that of tobacco.

"I tried," says the late Bishop Heber, "chewing betel to-day, and thought it not unpleasant—at least, I can easily believe that where it is fashionable people may soon grow fond of it. The nut is cut into small squares, and wrapped up in the leaf [the leaf of the black-pepper vine] together with some *chunam*. It is warm and pungent in the mouth, and has the immediate effect of staining the tongue, mouth, and lips, of a fiery orange color. The people here fancy it is good for the teeth; but they do not all take it. I see about half of the crew [of the vessel in which Heber was sailing up the Ganges] without the stain on their lips; but I do not think the teeth of the other are better.

"The betel is a beautiful tree, the tallest and slenderest of the palm kind, and with a very smooth white bark. Nothing can be more graceful than its high, slender pillars when backed by the dark shade of bamboos and other similar foliage."

Dr. Anslie says that the betel-nuts when young and tender are, in conjunction with other articles, occasionally made into decoction, and prescribed for such people as suffer from dyspepsia.

We are told by Forbes (Oriental Memoirs) that the *chunam*, or delicate shell-lime, which is spread over the betel, is carried by the natives in boxes, and that the betel is chewed at all hours. In some parts of India, however, as in Canara, in place of quicklime, they use the ashes of the bark of a common tree. On visits of ceremony the betel is introduced, the leaf in which it is enclosed being fastened with a clove, it is presented to the guests on a salver, and is a signal of taking leave.

The black-pepper vine-leaf, or betel-leaf, as it is termed, in which the dried slices of the betel-nut are enclosed, is very much cultivated in India, principally for the purpose of being eaten with the nut. On the Malabar coast, and in other parts of India, the vines are usually trained up the betel-tree, "which," says Dr. Roxburgh, "renders it more particularly useful in those parts." But in other places

it is a separate and special object of cultivation.

The betel-tree was introduced into the island of Jamaica in the year 1793. Lunan, who makes this statement, says that the dried betel-nut, when eaten by itself, impoverishes the blood, and causes jaundice; but it is not attended with those inconveniences when mixed with betel—by which he means when eaten with the pepper vine-leaf, and with quicklime, or chunam. The quicklime undoubtedly corrects or neutralizes the acidity of the nut.

“The tree is propagated,” says Crawford, “from the ripest seeds or fruits, first sown in beds and afterward transplanted. It thrives in ordinary soils and in all situations, but the neighborhood of the sea is conducive to the perfection of the fruit; and the warmer and lower the land, the more rapidly does the tree advance to maturity.”

TOO LATE.

“THE children of the earth,” says Miss Bremer, in one of her admirable novels, “struggle against the sharp sword of suffering for many, many years: they live, they suffer, they struggle. The sword is broken, and they fall powerlessly down—success reaches to them the goblet—they touch their lips to the purple edge, and die.” Every thoughtful and experienced reader may, on reflection, remember some friend, or friend’s friends, to whom these remarks are applicable, for society is full of such instances; and even amid the long record of those illustrious names that the world will not “willingly let die,” there are but too many to whom “the fair guerdon” they looked to as the reward of their “laborious days” came indeed, but came too late: the eye was dim, the ear was closed, the hand was cold, the heart still—all so worn and weary in the long pursuit, that fruition came *too late*, and could not bless.

Three hundred years have not been

able to diminish the fame of Torquato Tasso—

“He with the glory round his furrowed brow,
That emanated then, and dazzles now”—

and yet the story of his life is an almost unvaried record of sorrow and suffering, of baffled hopes, of vain endeavor, of unmerited wrong. He was the son of Bernardo Tasso, a poet whose fame has been totally eclipsed by the superiority of his son, and gave indications, even from infancy, of the possession of an almost divine genius, which education and intimate companionship with the most celebrated men in Italy so developed and improved, that it was soon predicted of him that he would be the greatest poet of his age. When he was about twenty years of age, he was invited by Cardinal D’Este to reside with him at the court of his brother, Alphonso II., duke of Ferrara, then the most brilliant in Italy, and adorned by the beauty of that Leonora who was destined to exert so powerful an influence over the future fortunes of the bard. For a time all went well with Tasso; his worst evil was poverty; and this, in the flush of youth and health, he could easily encounter. He was rich in glorious visions of future renown, and he lived in the presence of the fairest ladies of the land, whose smiles were the guerdon of his muse. Soon, however, the uncommon favor bestowed upon the bard excited the envy of the courtiers, while his widely-spreading fame awakened the jealousy of inferior poets; and their attacks upon his reputation excited the anger of Tasso, who had the proverbial irritability of the poetic temperament. His frequent complaints at length wearied the duke, who treated them with a haughty contempt the sensitive poet could ill submit to. He several times attempted to throw himself on the protection of other princes; but, as the duke, on the plea of its careful preservation, retained possession of his “Jerusalem Delivered,” he still returned to the court of Ferrara—the ladies Lucretia and Leonora as often interceding for him with their offended brother. It is not precisely known how the duke became aware of Tasso’s passion for the lady Leonora; but the knowledge certainly tended to con-

firm him in the belief that the poet was insane. He, a mere man of the world, occupied with his own importance, his naturally narrow mind unimproved by education, could not enter into the poet's anxieties regarding his poem and his fame; still less could he pardon the presumption he was guilty of in falling in love with a lady of royal birth, though her beauty, her talents, and her virtues, might well have warmed a heart far less susceptible than that of Tasso. From the friend and patron, he became the persecuter of the poet; he caused him to be confined in the hospital of St. Anne, in the part appropriated to the reception of lunatics; and here, for several years, the unhappy Tasso found himself imprisoned in a dungeon, whose walls re-echoed to the groans and frantic cries of the lunatics in the adjoining cells. He, who had lived in every luxury, and in constant companionship with the most beautiful women and the most talented men of the age—who delighted in the beauty of nature, and had a keen relish for all that was exquisite in art—whose mind was capable of the loftiest conceptions, and whose heart was alive to the purest affection—was “cabined” in a cell which scarcely allowed him to stand upright. His person and dress were neglected—his food was scanty and coarse—and he had no society save his keeper and his own sad thoughts. It is no wonder, under the circumstances, that he peopled this frightful solitude with spirits, both good and bad; it is rather a matter of surprise that a mind so sensitive as his should still have retained its powers—that his heart should neither have broken in the strife, nor been hardened against all mankind.

At length, at the repeated solicitations of many powerful princes, among whom were the pope and the duke of Mantua, Tasso was liberated, and he immediately repaired to Mantua. But his health was impaired and his mind unsettled by his long confinement and privations: he wandered from Mantua to Rome, to Florence, and to Naples; then to Mantua again, staying a short time at each, until his restless and unhappy spirit urged him again to seek, in change of scene, that calm repose which exists only in the

mind. During several years, while leading this desultory life, he was engaged in a lawsuit for the recovery of some property that he had inherited from his mother; so that

“The oppressor’s wrong, the proud man’s contumely,

The pangs of despised love, the law’s delay,
The insolence of office, and the spurns
That patient merit of the unworthy takes,”

fell heavily on the poor bard, who derived a precarious maintenance from the princes whose courts he honored with his presence. Though poor; he still retained his taste for splendor and luxury, and thought only of dwelling in the palaces of princes. Though perplexed by worldly cares, he never forgot that he was a poet striving for immortality; a lover, whose passion, though trampled on as presumption, and despised as madness, was to transmit to successive ages the knowledge of Leonora D’Este—a name which now, despite her remarkable beauty, her talents, her virtues, and her rank, would but for him have gone down to oblivion.

As a last asylum, on the complete failure of his health, which was undermined by the restless spirit, as the scabbard is worn by the sword, he repaired to the monastery of St. Onophrio, at Rome, which, being in an elevated and retired situation, was equally favorable to the restoration of his health and the composure of his mind. Tasso, at the court of Alphonso, in the pride of youth, manliness, and talent, full of those lofty hopes which genius alone can inspire, and giving himself up to the passionate love of a beauty he could never hope to possess, even though his love was returned—Tasso, in his dungeon at St. Anne’s, separated from human society, yet holding converse with imaginary forms of angelic loveliness, or striving with equally imaginary demons, yet with an intellect that shone out above all the darkness that overshadowed it, even as a rainbow whose very splendor exists between the glory and the cloud—Tasso, in both these phases, has not so strong a claim upon our love, our admiration, and our pity, as Tasso in the last days of his eventful life, when he gave himself up entirely to the performance of the sacred duties of that religion which

had been to him through life his protection, and was now his solace and reward. The monastery was so near to Rome, that the breeze of evening brought to the ears of the musing bard the hum of the thickly-peopled city; and he, to whom all the changes of humanity were so painfully familiar, might well picture to himself the rush, the turmoil, and the strife, which, though softened by the distance through which he heard them, had their origin in the life-and-death struggle ever carried on by the human passions keeping their restless vigil in its streets. Yet these conflicting crowds—the oppressor and the oppressed—had one feeling in common, and that was reverence for the bard who had taken refuge among them. With all the eagerness of their national character, which enters earnestly into whatever subject addresses the mind through the medium of the senses, they prepared to attend his much-talked-of coronation in the capitol, where the pope was to confer upon him the laurel of Dante and Petrarch—an honor that was to atone for all the wrongs he had suffered, all the neglect he had endured in the years gone by. Already, all that Rome had of noble, lovely, learned, or wealthy, was summoned to attend at, and swell the triumph of Tasso on the 25th of April, 1595, when Pope Clement was to invest him with that glorious wreath, the emblem of immortality, purchased—oh, how often!—with a lifetime of suffering. The eve was come: to-morrow, said the people, there will be a holyday—to-morrow, said the literati, there will be a triumph—to-morrow, said the gay beauty and the proud noble, there will be an assembly where I may display myself—to-morrow, said the pope, I shall crown the greatest poet of the age with the laureate wreath, and my name shall go down to posterity with his—“to-morrow,” said the bard, as he lay pale and fever-wasted on his narrow couch, listening to the last notes of the vesper service chanted by the monks of St. Onophrio—“to-morrow I shall be alike indifferent to honor or neglect. Already the hand of death is on my heart. Slighted and oppressed through years of suffering, the fame that might have solaced and prolonged my life is now of no avail. I am about to enter

into another and a brighter world. The crown they offer me is but a faint type of the one that awaits me there.” And so it was: they who came to summon him to his coronation, found him in the sleep of death—they were *too late*.

He was interred, on the day of his intended coronation, in the church of the monastery with great pomp; his laurel-crown being laid upon his coffin, and cardinals and princes bearing up his pall. In his person, Tasso was majestic; his manners were courtly and refined; his learning was extensive; his natural talents almost unequalled; his morals, for that age, were pure, and he was always fearful of becoming profane or irreligious. It is perhaps too much to expect that minds like his should display, in conjunction with their finest attributes, the useful prudence that makes common men successful; yet, were it but possible, how much would they gain by the union! Tasso would have escaped most of his troubles by paying more attention to the every-day affairs of life; but would he then have written for all time? Nay, did not those very troubles, while they made him turn more eagerly to his beloved poetry for consolation, teach him lessons of virtue too true and too profound to have been inculcated amid the splendid idleness of a dissolute court? “Sweet are the uses of adversity” to noble natures like that of Tasso; it not only corrects, but elevates them; for, as one of his biographers beautifully observes, “The very darkness that conceals from us the beauty of the earth, displays, to our upward gaze, the glory of the heavens.”

There are few things more mysterious and capricious than the way in which genius manifests itself. In fact, there is no calculating upon its advent; for it is sometimes hereditary in families, while elsewhere it appears unexpectedly, like a rare plant that unaccountably springs up among the simple flowers of the field, from some wind-borne seed. Where it is hereditary, the clever father is often greatly surpassed by the extraordinary son, as in the case of the two Tassos and the two Mozarts; for, though the elder Mozart was a good musician, it is through his son's fame that he is now remembered.

Seldom, indeed, have talents so precocious as those of Wolfgang Mozart ripened into such perfection as his maturer years displayed; in him "the child was father to the man." From his sixth to his twelfth year, his father carried him in succession to the most splendid courts of Europe; and everywhere his extraordinary talents surmounted all the formal barriers behind which rank, riches, and worldly prejudice, intrench themselves against *adventurers!* Kings and princes were interested and amused; queens and princesses were delighted; musical professors and *dilletanti* were surprised, puzzled, and, in spite of their prejudices, pleased. At Vienna, the most cold and stately of European courts, the infant genius was called upon to exhibit his talents before that haughty and celebrated empress, Maria Theresa, and her sons, Joseph and Leopold, who were successively emperors of Austria. Here also were her daughters, the archduchesses, and among them, pre-eminent in beauty, was Maria Antoinette, afterward the too celebrated queen of France. Unabashed by the rank, undazzled by the beauty of his audience, the boy-musician gave himself up to the inspiration of his art, and became absorbed and entranced by what enchanted his auditors—a listening circle, fit subject for the pencil of some master who had power to seize upon and transfer to his canvass the mutable expression of each face. The majesty of rank, of beauty, and of genius, had never finer representatives than in the persons of Maria Theresa, Maria Antoinette, and Mozart, whose *petite* figure, pale face, and large luminous eyes, sufficiently indicated his sensitive temperament. When the musician had concluded, he passed before the circle to receive the compliments and gifts they were prepared to confer upon him. The floor was smooth and polished, and the boy slipped; his court-sword caught between his legs, and he would have fallen, had not Maria Antoinette, with the quick impulse of genuine kindness, sprung from her seat, and caught him by the arm. Mozart regained his footing, and placed himself at arm's-length from the archduchess, whose pure and brilliant complexion was heightened both by the sud-

denness of her action and the impulse that had prompted it. "You are very beautiful," said the boy, looking into her kind, bright eyes; "and when I am a man I will marry you." The brow of the empress-mother darkened, and the smile that the boy's simplicity called forth on the faces of those present passed rapidly away.

In early manhood Mozart repaired to Paris, as to a field where he might display his talents, and win his way to fortune and to fame. The archduchess, who had been so kind to him at Vienna, was now the wife of Louis XVI.; she was queen of France, loveliest where all were lovely, gayest where all were gay. For her amusement talent was kept in constant requisition; for her gratification riches were scattered without restraint. Her smile conferred happiness, her frown brought disgrace; her caprice was the fashion, her will was law; apparently she was the most favored of the daughters of the earth. Meanwhile Mozart, who had thought to sun himself in her smile, met with nothing but difficulties; his character was essentially that of genius—grave, tender, earnest; he could not conform to the heartless frivolities of the Parisian character, and his music was not popular. Indifference, neglect, contempt, and poverty, were the portion of the young composer in the very place where he had indulged so bright a day-dream of distinction, and he resolved on returning to his native land. Even there he was not at first successful; his long residence in Italy had influenced his style—he was as much too gay and ornate for the grave Germans, as he had been too pure and grave for the gay Parisians. He was disappointed; and, as his occupation led him into the society of actors, artists, authors, composers, and their admirers, he was fast tending to dissipation.

The misplaced love of Tasso was the cause of much of his suffering; a wiser affection preserved Mozart from the corrupting influences to which his public life exposed him. He became attached to Constance Weber, an actress, who had youth, beauty, and talent, and the far richer and more-enduring charms of a temper that was sweet and firm, and a

prudence and modesty seldom found in one of her profession. Her friends opposed their union, on the ground of Mozart's poverty and want of station in society—objections the young musician firmly resolved on removing. Fortunately for him, the elector of Bavaria, at this critical moment, desired him to compose an opera for the theatre at Munich. He seized the opportunity, and wrought with all the enthusiastic energy of his nature, for his heart was in the work. It was his celebrated opera of Idomeneus, and Constance Weber was to play the principal character; her idea was thus, as it were, ever before him; and the whole of the music is said to be characterized by such grace, tenderness, and beauty, as only a man of genius in love, and trembling between hope and fear, could have produced. When first represented, it was received with unbounded applause, and its success so far established his reputation, and brightened his prospects, that Constance became his wife. From this time he devoted himself to his profession with steady and increasing industry; but the envy and opposition so generally attendant on superior genius fell to his lot: the profits derived from his works were uncertain, and his whole income was insufficient to maintain his family. Though settled at Vienna, and enjoying the favor of the emperor, he was obliged to toil daily for the bread of his little household; while the cabals of rival composers formed a source of misery to his too sensitive mind. He became, like Tasso, the victim of nervous apprehensions, and might probably have manifested decided symptoms of insanity, but for the soothing tenderness of his wife. She not only managed their affairs with the utmost prudence, but she exerted all her powers to cheer and support the mind of Mozart. She read to him the night through, unconscious of fatigue; she entered into his hopes; she reasoned away his unfounded fears; she had

“The laws of wifehood charactered in gold
Upon the unbleached tablet of her heart—
A love still burning upward to give light
To read those laws—an accent very low
In blandishment, but a most silvery flow
Of subtle-paced counsel in distress,
Right to the heart and brain, though undescried,
Winning its way with extreme gentleness

Through all the outworks of suspicious pride;
A courage to endure and to obey?”—

and thus, through their gloomy and fitful fortunes, she was ever to him as a star of hope, brightest when all else was dark. Among his latest works was his *Zauberflöte*, or *Magic Flute*, which became widely popular from the first moment of its appearance; yet from this opera he did not derive the smallest profit: he had just completed the score of it, when a theatrical manager, reduced to extreme distress by a succession of misfortunes, came to implore his assistance: the generous but improvident composer immediately gave him the score of the opera, which subsequently, by its success, relieved all his difficulties. Yet at this score, so freely given to one in distress, he had worked, for a considerable period, for sixteen and eighteen hours a-day; and if we consider the exhausting nature of his employment, and the corroding anxieties of a pecuniary nature which still beset him, we can not wonder that he was becoming prematurely old, and a prey to the most painful nervous disorders. Conscious of his failing powers, yet unwilling to admit that he was the self-devoted martyr to his art, he fancied that his enemies had found means to administer to him the famous aqua Toffano, and that he was perishing, by slow degrees, through that subtle poison. This idea was strengthened by the appearance of a stranger, who came to order the celebrated Requiem, and, despite the reasonings of his wife and the raillery of his friends, he gave himself up to the belief that it was for his *own* funeral the requiem was ordered, and that the stranger had calculated the day of his decease. It was liberally paid for, and the daily wants of his family rendered the money acceptable; but Constance would gladly have dissuaded him from the application necessary to its completion in the given time: still, though he grew more feeble every day, he continued to compose with unremitting zeal, as if fearful that life would barely last till his work was done. In the meantime, the emperor, having heard of his illness and his anxieties appointed him chapel-master of St. Stephens, a situation which at once secured him an easy competence, and freed him from the rival-

ry of his jealous competitors. The friend who hastened to communicate to Mozart the good fortune that had at last arrived, found him in bed, busy on the score of the requiem : at the announcement of his new appointment a faint smile passed over his pale face ; but when he looked on his beloved wife, so soon to be a desolate widow, surrounded by helpless orphans, the smile passed from his face, as a wintry sunbeam leaves the snow-covered landscape, and he replied, "*It is too late !*"

In a few days the magnificent Requiem, whose composition had, as it were, wrung the very life-drops from the heart of Mozart, was performed in the unconscious presence of the now mute composer : often since has it been heard at the funerals of the mighty and the celebrated throughout the cities of civilized Europe ; and thousands, as if penetrated by one feeling, swayed by one impulse, have bowed their heads to weep, overcome by the solemn grandeur of its harmony. His works are daily becoming more appreciated, and more widely spread, and form an imperishable monument to his memory. Had he lived to enjoy the competence that awaited him, he might have produced yet nobler works ; but he perished in the very meridian of life, his genius not exhausted, but crushed by the heavy hand of necessity. Like too many of the gifted ones of the earth, his fellow-men did not know how divine a spirit animated his clay till he parted from among them, and the knowledge came *too late*.

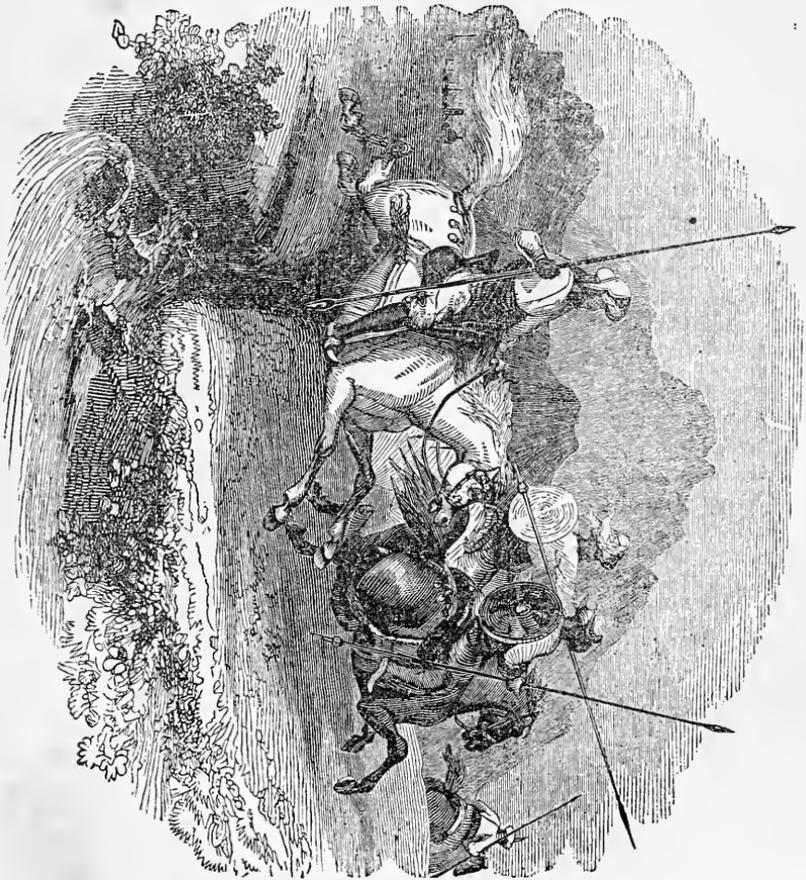
CASTES AND TRIBES OF INDIA.

MAHRATTAS.

IN the latter half of the seventeenth century, in the reign of Aurungzebe, the last powerful and energetic monarch who ruled over the Mogul empire in Hindustan, there descended from the range of inaccessible hills which runs along the western coast of India fierce and wild bands of plunderers, whose devastating excursions spread dismay among the inhabitants of the neighboring plains. They

were the descendants of the Rajpoots, an old warlike tribe, who, being driven by the Moguls from the provinces of Hindustan, fled to the mountains of western India. Inured to hardship, accustomed to the poorest fare, and armed with excellent sabres, they formed, like the Cossacks, with their hardy horses, a formidable cavalry, which was the terror of the neighboring provinces. They were educated for war, and in battle intoxicated themselves with wild hemp, which they smoked like tobacco. The Mogul dynasty, after a brilliant existence of little more than a century and a half, was fast sinking into a state of paralysis and corruption, and these freebooters flocked like vultures round the expiring body. As they were Hindus, and professed the religion of Brahma, their standard had attractions for the patriotic as well as the greedy, and the Mohammedan power soon learned to tremble at their boldness and energy. Not being able, in the early part of their power, to maintain themselves in the countries which they ravaged, they laid them under contribution, and, for a fixed proportion of their revenues, exempted them from further incursions. This also gave them an opportunity of extending their devastations to new provinces, while the growing weakness of the Mogul empire rendered it incapable of protecting itself against a power which was destined, in the end, to be one of the chief instruments of its destruction. When Aurungzebe attacked the Coromandel coast, the inhabitants called in the Mahrattas, and he entered into a treaty very favorable to them ; for though, it is true, he frequently defeated them in the plains, his efforts were ineffectual to rout them from their strongholds in the mountains. Sevajee, who may be considered as the founder of the Mahratta empire, having united the various tribes of which the nation was composed into a monarchy, died in 1682, and Aurungzebe put his son to a cruel death a few years afterward. Aurungzebe himself died in 1707, when the Mogul dominion declined with frightful rapidity. The Mahrattas now extended their territories, their original country, though large, being wild and uncultivated. The capital of Sevajee's new kingdom was Sattarah. From rob-

Mahrattas.



bers the Mahrattas became conquerors. The successors of Sevajee assumed the title of "Maha rajah" (grand prince). Half the provinces of the empire were turned into Mahratta principalities. Freebooters, sprung from low castes, and accustomed to menial employments, became mighty rajahs. The Bonsls, at the head of a band of plunderers, occupied the vast region of Berar. The Guicowar, which is, being interpreted, the Herdsman, founded that dynasty which still reigns in Guzerat. The houses of Scindia and Holkar waxed great in Malwa. One adventurous captain made his nest on the impregnable rock of Gooti. Another became the lord of the thousand villages which are scattered among the green rice-fields of Tanjore.

Full of energy and audacity, bold, politic, and cunning, the Mahrattas had all the qualities which rendered them formidable to a power hourly decaying and becoming more imbecile. They gloried in rapid flight as well as in bold daring, and did not hesitate to invite robbers and plunderers of all kinds to their standard. The real Mahratta possessed, however, in spite of a cruel and relentless disposition, a manly simplicity of character, which was generally retained even when fortune had raised him to the highest rank. His patience under privation in the field was, if possible, exceeded by his policy in the arts of dealing with men. At first the Mahrattas conciliated the proud, and paid respect to the prejudices of the ignorant, by affecting a sense of inferiority in the provinces which they had despoiled, and of which they were the real masters. In the height of their power their provinces stretched across the peninsula from sea to sea.

The formidable confederation of the Mahrattas was put an end to in 1817, after a struggle maintained for many years against the British power in India.

The failings of good men are commonly more published in the world than their good deeds; and one fault of a deserving man shall meet with more reproaches than all his virtues praise.

PLEASURES AND PAINS OF MEMORY.

"That man is little to be envied, whose patriotism would not gain force upon the plain of Marathon, or whose piety would not grow warmer among the ruins of Iona."—*Johnson*.

THE pleasures and pains of memory are so intimately united and blended, that, while man enjoys one, he suffers also a degree of the other; and such a great degree that the former are called *painful* pleasures. Youth is the season of most happiness in life, if that can be termed happiness which is mixed with the least alloy. Man, who possesses a sensibility, in some cases increased from early childhood, is capable of experiencing the most exquisite pleasure; but that sensibility also exposes him to feel misery, armed with its greatest and most poignant sting. But youth, which is marked with but a small measure of this nice perception, mingles with the scenes around, and adapts itself to the ever-varying prospect; and, if care should at any time seize hold of its employments, its influence on the affections is transient. Hence it appears that, although man enjoys pleasure in a greater degree than youth, he is also "tremblingly alive" to the impressions of pain, which generally overbalance the sensations of happiness. It would seem, perhaps, that the agreeable feelings attendant on youth might be properly classed under the general name of *contentment*; but this is allowed to be merely a calm state of the mind, whereas youth really *exults*, which is produced by a livelier emotion than mere tranquillity. Man, then, experiences greater pleasure, but suffers also a greater degree of pain. If, however, he patiently bears his disappointment, the sting of misery will become less acute and permanent in its effects, and consequently more happiness will be attached to his situation. Let man therefore be contented with his lot; although pain be mingled in his pursuits and his delights, yet exquisite pleasure invites his acceptance. And what being is there who would not rather seize a higher degree of enjoyment through the medium of anguish, than *suffer* a torpid existence, marked but by the listlessness and weariness of inactivity, and void of the ardent

glow of happiness, and the fervor of luxuriant, chaste imagination? Nay, is not this state peculiarly appropriated to the situation of man, by the dictates of unerring Wisdom? Is he not doomed to experience the *pangs* of death? and would such a doom be consistent with the favorite attribute of the Deity, MERCY, if no alleviation of distress should be afforded to cheer the gloom of despondency? *That balm is given.* Dissolution of his corporeal frame is but the medium through which inconceivable happiness is presented to his view, and offered for his acceptance.

When we trace with the retrospective eye the scenes of past times, memory adds new colors to events, which, at the time when they happened, did not strike the mind with so much force and brilliancy. Fancy also lends her aid. A thousand graces rise into form by her power. We tread with reverential awe the ground which is hallowed in affection's eye by the deposit of the ashes of our fathers, or as the spot *once* rendered sacred by a structure consecrated to devotion; and while imagination is busy in gilding the transactions which memory, or the faithful historic page, presents to her notice, the mind is expanded with the most benevolent emotions, and rises superior to the sphere in which it is placed; the fervent glow of devotion enkindles within the bosom, while all the tender affections of our nature fan the flame: these sensations not only tincture the soul with a sensibility honorable to the human character, but animate it to form, and strengthen it to fulfil resolutions, excited by the contemplation of the worth and virtues of a long line of ancestry, and a noble desire of imitating their performances. The man, over whom many rolling summers have passed, and whose cheek successive dreary winters have furrowed, is enabled to recal each scene to his mental eye, which is endeared to him by tender remembrance. While he is viewing the ruins of a sacred temple, he sees before him the venerable pastor again bending from the pulpit—he feels again the impressions which he experienced long ago, while the truths that spoke peace dropped from his lips, like the refreshing rain of heaven on the

parched plant; while heavenly wisdom beamed on his forehead! Again are the events of his early years presented, by an association of ideas, to his attention. He contemplates them with pleasure; but the sweet delusion quickly vanishes—the vivid colors disappear—he awakes, as from a dream, when he views the contrast!

It is really admirable to observe the intimate connexion which subsists between the different transactions of the life of any individual; and highly pleasing to mark with an attentive eye that chain, each link of which has naturally drawn on the next, until circumstances, unlooked for and unsuspected, have occurred, and a large superstructure has been created from small trifles, which has astonished the world! In this the wisdom of Providence is displayed, and the benevolence of those motives which directed the secondary means that he uses evinced in its greatest purity and beauty. All the traits of character have originally arisen from minutæ, that, gradually enlarging and receiving new additions, have formed the *whole* which excites admiration; like the small stream, increasing by tributary rills, which forms the majestic river, and finally mingles with the ocean, through whose means commerce expands her wings, and wafts her stores to the different nations of the earth!

Let any person endeavor to retrace, by the aid of retentive memory, the scenes of his youth, and occasions for the indulgence of pleasure and wonder will present themselves, excited by observing the progress of his life from one incident to another. He will recollect situations which, at the time he was placed in them, were unheeded; but these his present experience proves to have been decisive of his subsequent existence—to have been pregnant with misery, or productive of happiness. From *these retrospects* arise some of the greatest pleasures we enjoy; but pain as often attends them. The happiness that we experience through life mostly originates and exists in anticipation:—

“Hope springs eternal in the human breast;
Man never *is*, but always *to be* blest!”

Hence, when we observe the destruction

of the evanescent dreams of an indulged and heated imagination, by the means which sad and oftentimes *fatal* experience affords, then we *regret* that, in the moments when the brilliancy of the morning of youth irradiated our minds, and cheered us with a favorable prospect, we yielded ourselves up to its fascinating appearance, and heeded not the cause which produces the clouds that steal over and obscure the noon of manhood, and veils with deleterious power those faculties which would otherwise have been bright and vigorous.

THE HOOPOE.

THIS handsome bird, the *Upupa Epops* of Linnæus, is generally an annual, though a rare visitant. We most probably owe their visits to their periodical migrations, when a few stragglers reach us. The bird in the summer months is abundant in the south. Sweden is mentioned by some as its northern limit, where the country people are said to consider its appearance as ominous; and in Great Britain it was formerly looked upon by the same class as the harbinger of some calamity. Montagu relates that it is plentiful in the Russian and Tartarian deserts; and Sonnini saw it on the banks of the Nile: Africa indeed and Asia are supposed to be its winter quarters.

In a state of nature moist localities are the chosen haunts of the hoopoe. There it may be seen on the ground, busily searching with its long bill for its favorite insects (chiefly coleopterous).

The hole of a decayed tree is the locality generally preferred for the nest, which is made of dried grass, lined with feathers, wool, or other soft materials, and is generally very fetid from the remains of the insects, &c., with which the parent-birds have supplied their young. This offensive odor most probably gave rise to the story adopted by Aristotle, that the nest of the hoopoe was formed of the most disgusting materials. When a hollow tree is not to be found, the places selected are sometimes the fissures of rocks, and the crevices of old buildings. The

eggs are generally four or five in number, of a grayish white, spotted with deep gray or hair-brown.

Few birds are more entertaining in captivity: its beautiful plumage, droll gesticulations, and familiar habits, soon make it a favorite. When it perceives that it is observed, it begins to tap with its bill against the ground (which, as Bechstein observes, gives it the appearance of walking with a stick), at the same time often shaking its wings and tail, and elevating its crest. This latter feat, which is performed very frequently, and especially when the bird is surprised or angry, is effected by a muscle situated on the upper part of the head for the purpose. Its note of anger or fear is harsh and grating, something like the noise made by a small saw when employed in sawing, or the note of a jay, but nothing like so loud. It gives utterance to a soft note of complacency occasionally, and is not without other intonations. The grating note is not always indicative of anger or fear, for the bird generally exerts it when it flies up, and settles on its perch.

The following extract from a letter written by M. Von Schauroth, given by Bechstein in his interesting little book on cage-birds, can not fail to interest our readers:—

“With great care and attention,” writes M. Von Schauroth, “I was able last summer to rear two young hoopoes, taken from a nest which was placed at the top of an oak-tree. These little birds followed me everywhere, and when they heard me at a distance, showed their joy by a particular chirping, jumped into the air, or, as soon as I was seated, climbed on my clothes, particularly when giving them food from a pan of milk, the cream of which they swallowed greedily; they climbed higher and higher, till at last they perched on my shoulders, and sometimes on my head, caressing me very affectionately: notwithstanding this, I had only to speak a word to rid myself of their company; they would then immediately retire. Generally they would observe my eyes to discover what my temper might be, that they might act accordingly. I fed them like the nightingales, or with the universal paste, to which I sometimes added in-



The Hoopoe.

sects; they would never touch earth-worms, but were very fond of beetles and may-bugs; these they first killed, and then beat them with their beak into a kind of oblong ball; when this was done, they threw it into the air, that they might catch it and swallow it lengthwise; if it fell across the throat, they were obliged to begin again. Instead of bathing, they roll in the sand. I took them one day into a neighboring field, that they might catch insects for themselves, and had then an opportunity of remarking their innate fear of birds of prey, and their instinct under it. As soon as they perceived a raven, or even a pigeon, they were on their bellies in the twinkling of an eye, their wings stretched out by the side of their head, so that the large quill-feathers touched; they were thus surrounded by a sort of crown, formed by the feathers of the tail and wings, the head leaning on the back, with the beak pointing upward; in this curious posture they might be taken for an old rag. As soon as the bird which frightened them was gone, they jumped up immediately, uttering cries of joy. They were very fond of lying in the sun; they showed their content by repeating, in quivering tones, 'vec, vec, vec;' when angry their notes are harsh, and the male, which is known by its color being redder, cries 'hoop, hoop.' The female had the trick of dragging its food about the room; by this means it was covered with small feathers and other rubbish, which by degrees formed into an indigestible ball in its stomach, about the size of a nut, of which it died. The male lived through the winter; but, not quitting the heated stove, its beak became so dry that the two parts separated, and remained more than an inch apart; thus it died miserably."

Buffon gives an account of one which was taken in a net when full grown, and became very much attached to its mistress, to whom it would fly for protection. It had two very different tones: one soft and inward, seeming, as Buffon says, to proceed from the very seat of sentiment—this it addressed to its beloved mistress; the other sharp and more piercing, which expressed anger and fear. It was not confined; and though it had the full range of the house, and the windows were often

open, it never showed the least desire to escape, its love of liberty not being so strong as its attachment.

The hoopoe was not without its uses in the old *materia medica*. Thus we read that its heart was good against pains in the side; that the tongue suspended (round the neck, we suppose) helped a bad memory; while a fumigation of the feathers was a vermifuge, and the skin cured the headache when placed on the ailing part.

Moreover, he who wished to dream astonishing dreams had only to anoint his temples with hoopoe's blood, and the wonderful vision was sure to follow.

Jonston, who enumerates these *formulae*, adds with great gravity, that he disbelieves the assertion that the right wing of the bird and a tooth, suspended at the head of a sleeper, will keep him in slumber till it be removed.

The plumage of the bird is too well known to need description here. The female is similar to the male, with the exception that her tints are less bright. Those who have tasted the flesh describe it as very unpalatable. A specimen was bought lately at Vienna, and brought to this country. The bird soon after it was purchased became tame, and was remarkably bold, not showing the least fear of a favorite dog, when allowed to come out of his cage. But the severe weather killed it, notwithstanding the great care taken to protect it from cold, and our drawing was copied, by permission, from a plate in Mr. Gould's splendid work, the "Birds of Europe."

AN ESSAY ON TIME.

"I celebrate the mysteries of Time."

H. K. White.

THE wisdom of an all-wise Power created Time, decreed that years should succeed each other, and that the seasons should return in regular succession, with all their numerous charms: the counsels of the Infinite also appointed to man, during his continuance on earth, Time; and told him, by his use of it, it would either

prove a blessing or a source of sorrow. Since God thus wisely ordained Time to be, many nations have perished from the earth; their glory and their splendor are forgotten—all that industry and labor erected is left to the sport of decay—their pride, their superiority, lie buried in obscurity. The rulers of the earth, the sceptred monarchs, have exchanged their state for the grave—their royalty for the gloom of death; no impassioned harangues break from the lips of ancient lawgivers; no citizens are roused to a consciousness of the inward promptings of liberty by the energetic entreaties of fellow-countrymen. Cities, that formerly were wealthy and great, are now either unknown, except by name, or are in that state of desolation, that their streets are empty—their proud and lordly buildings are in ruins, revealing to the reflective mind, that Time, in his unchecked career, is making rude havoc with earth and its vanities. Where formerly the shouts of assembled multitudes applauded the feats of daring gladiators, is now seen naught but a crumbling pillar, and wild trailing blossoms; those streets that re-echoed the clang of arms, and the wailing of captive numbers at a Roman hero's heels, are now desolate and deserted. The eye can discover but few vestiges of former greatness, for the work of the destroyer is visible in every direction; fertile meadows, whose luxuriance smiled, and from whose fragrant flowers the bees sipped sweets, can now display naught but rank weeds, or the soil is a barren waste; the laugh of evening crowds assembled on the village green, 'neath some shadowy tree, is no more heard; the lovely girl and the blooming youth that led the dance—the prattling child that gathered the hawthorn and the dogrose—the sage, the delight of the hamlet, who told glad tales of the days of his grandsire—all, all are passed away: silence reigns around, waking sombre meditation in the bosom of the musing stranger; the murmurs of the harsh north wind are audible, and the screams of the solitary bird; sad, sad are the scenes that in every direction meet the eye, bearing a deep impress of the ravages of Time. Look at yonder heap of bricks—beneath is the dust of a warrior, one who was welcomed home

from the wars with shouts and triumph—one whom a nation tried to honor with earth's proudest titles; death summoned him from the delights of this world; and though ambition decked his grave with a marble pyramid, a laurelled monument, to teach posterity to reward brave deeds, yet nothing remains of such pomp except the heap of bricks in yon recess. Time, mighty Time has conquered the conqueror of nations! How extensive then are the traces of the work of Time! Every day discovers to us the truth, that Time waits for nothing; we look back on the past year, and, compared with eternity, what a bubble it seems! The life of man (which is seldom long enough for him) is, though years compose it, merely a span; weeks and days are in reality a breath; calamity is heaped on calamity, and human life generally wears a dreary and sombre aspect. True, we meet with gay countenances, smiling eyes, and happy bosoms, that beat exultingly, as though they had never experienced a sorrow, as though no bitter care had ever eaten on the mind. Oh! cruel is old Time: the tortures they are to endure are only being reserved for them; the hour is coming when the passions shall have full scope for play, when the bosom shall be agonized with pangs of grief; yes, the well of misery shall supply them with draughts of bitterness; they shall behold the goal that is exciting them on to hope for and expect happiness; but every wished-for spot, every heroic struggle on their part, shall fail and be thwarted. To these it is that existence is always so truly miserable; these are they who possess a bleeding heart, and an aching bosom, tortured with woes, and sorrows occasioned by blighted hopes, frustrated designs, and projects overthrown by misfortune; these are they who imagine the moments fly along most sluggishly, so slowly, indeed, as to make death preferable to life. May that God who inflicted, heal their wounds!

Time is a gift most valuable, most important! It is entirely with man to make Time profitable, and so prove a blessing; or to render it disadvantageous, and so to turn it as a curse. Time was not made to be squandered in idleness and frivolity—to be perverted, and employed to a very

different purpose from that which God intended—to be spent in injuring the welfare and character of the honorable—exulting in the cries of the afflicted—rendering the sickbed of the young and uninitiated a thorny couch, instead of one softened by the kind voice of affection, and smoothed by the gentle hand of love : to such as thus pervert Time, how awful will death be ! They will shrink from the thought of being hurried into the presence of Him who judgeth all. On the contrary, how happily and peacefully do they leave life's troubled deep for a purer realm, where sorrow is never heard, nor the sound of mourning ; they who, having benefited mankind by devoting all their time to the good of man, let self occupy a secondary consideration ; who know that the hand which afflicted the sick and needy wanderer ; which made the youth, who prided himself on his vast demesne, a poor peniless beggar ; which deprived the shivering widow of her son, the support of her declining years, when sickness and infirmity should attack her frame ; can in one moment similarly deprive and afflict them. Conscious of this, their time is passed in doing good only ; and oh how great is that pleasure, that internal satisfaction they experience !—that satisfaction which ever flows from a knowledge of having done right : with these Time is never useless—the morning dawns upon them busy, and the evening closes over them fully occupied ; their good deeds in Time, long after life has ceased, are spoken of with joy and delight.

“Redeem the Time,” is the injunction of Scripture : and few value it, or act up to the precept, though it is imperative on them, for “the days are evil,” “few and evil.” The precious moments are abused by many, and thus made the means of bringing disgrace on human nature : strange is it, that man, formed to contemplate the wonders of creation, to behold the spacious firmament on high, and the flowery lap of earth below, to study the wisdom manifested in every tree and blade of grass, should allow his hours to pass by, as though they were of no importance—should let opportunities escape that can never be recalled. “Let it, however, be our concern,” as Harris writes,

“to employ our time to the best advantage—to shun the slothful, and seek the diligent ; then will our bosoms glow with noble pride, our hearts be filled with satisfaction and delight ; for industry imparts health and vigor to the frame, it sweetens every action of our lives ; and time well spent can always be reviewed with pleasure. Such feelings, such reflections, cheer the old man on his dying bed, solace his few remaining hours, and spread around him the balm of consolation. Cherish, therefore cherish the sacred hours, and make them subservient to some useful end. Then, with expanded intellect and with invigorated constitution, we may stand the buffets of the world, without a knowledge of the bitter stings of a guilty conscience. Since this world is transitory, and subject to decay, and shall ere long be burned, as holy writings declare, may we so devote our sojourn here to the gaining of that better world of happiness, purity, and immortality, that, when Time shall be no more, we may be found worthy to share the joys of heaven, and reign with our Father for ever.

THE TOMBS OF THE CHINESE.

In the south of China the natives form no regular cemeteries or churchyards, as we do in Europe ; but the tombs of the dead are scattered all over the sides of the hills, generally in most pleasant situations. The more wealthy generally convey their dead to a considerable distance, and employ a kind of fortune-teller, whose duty it is to find out the most proper resting-place. This individual goes with the corpse to the place appointed, and, of course, pretends to be very wise in the selection of the spot, as well as the choice of the soil in which the ashes of the dead are to mingle in after years ; and, upon trial, should the particular earth appear unsuitable, he immediately orders the procession off to some other place in the neighborhood, where he expects to be more successful in the choice of soil. I believe many of the Chinese have all these points settled before they die ; for

one day, when one of our principal merchants in China went to call on old Howqua, the late Hong merchant at Canton, a tray was brought in, with several kinds of earth upon it, which the old man examined with great care, and then fixed on one to accompany his remains in the grave. A particular kind of situation on the hillside is also considered of great importance. A view of a beautiful bay or lake, or perhaps, what is better, a winding stream, which in its course passes and almost returns again to the foot of the hill where the grave is to be made, is considered a most eligible situation, and always chosen when it can be found. The director of the ceremonies above alluded to, with a compass in his hand, settles the direction in which the body is to lie, which is another point of great importance. An intelligent Chinese, with whom I was acquainted, informed me that this individual is often very eloquent in his descriptions of the future happiness of those who obey his directions; he informs them that they, or their children, or some one in whom they are much interested, will enjoy riches and honors in after life, as a reward for the attention and respect they have paid to the remains of their fathers; that as the stream, which they then behold when standing around their father's grave, flows and returns again in its windings, so shall honors, and riches, and everything which they can desire, flow into their possession. These fellows are generally great rogues, and play upon the prejudices of the people. It frequently happens that, after interment has taken place for some time, they call upon the relatives, and inform them that, from some cause, it is absolutely necessary to remove and reinter the body. Should the relations object to this, the answer is: "Very well, I don't care; but your children and relations will also be regardless of you when you die, and you will be miserable in your graves." The feelings of the poor deluded Chinese are thus wrought upon, and a further sum of money is extracted in the finding of a more suitable grave for the relative in question.

In my travels in the south of China, I often came upon graves in the most retired places among the hills: they were all

more or less of the same form, namely, a half circle out of the hillside, having the body interred behind it. Sometimes, indeed generally, there were several of these half circles, with a succession of terraces in front of the grave; and in the cases of the more wealthy, the semicircles were built of brick or stone, and on rather a more extensive scale. In the centre of the semicircle, and of course close to the body, the gravestone is placed with the inscription. M. Callery, who is an excellent Chinese scholar, informed me that these inscriptions are of the most simple kind, merely stating the name of the deceased, that he died in such a dynasty, in such a year. This is the plain and unflattering tale which the Chinese tombstone tells, and might, perhaps, be a useful lesson to those who are so fond of flattering on tombstones in Europe. In some instances—I can not tell if in all—after the body has decayed, the bones are dug up, and carefully put into earthenware cans, and placed on the hillside above ground. These, as well as the graves, are visited at stated times by the relatives: they go first to the patriarch, or father of the tribe, and then to the others in rotation; there they perform their devotions, offer incense, and dine together after the ceremonies are over.

Near Amoy, which is a very populous place, the scattered mode of interring the dead has been departed from, and perhaps necessarily, from its immense population: in the country, however, near that place, I often found tombs in retired and inaccessible parts of the hills, as well as in the more southern provinces; but these were certainly the property of the more wealthy inhabitants.

As the traveller proceeds northward, the circular form of constructing the tombs is less common, and they become more varied in their appearance. In Chusan, Ningpo, and various other places in that district, a great proportion of the coffins are placed on the surface of the ground, and merely thatched over with straw. You meet these coffins in all sorts of places, on the sides of the public highways, on the banks of the rivers and canals, in woods and other retired parts of the country. Sometimes the thatch is completely

off, the wood rotten, and the remains of the Chinamen of former days exposed to view. On one hillside on the island of Chusan, skulls and bones of different kinds are lying about in all directions, and more than once, when wandering through the long brushwood, I have found myself with my legs through the lid of a coffin among the bones of a poor Chinaman, before I was aware of the circumstance.

The wealthy in these districts, I believe, generally bury their dead, and some of them build very chaste and beautiful tombs. There are three or four very fine ones in the island of Chusan, where the paving in front of the mound which contains the body is really beautiful, and carving elaborate and superb, the whole of the stonework being square, instead of circular, as in the tombs in the south of China. Here, as at home, and I believe in almost every part of the world, the pine tribe are great favorites, and harmonize well with the last resting-places of the dead. The Chinese frequently plant them in half circles around the tombs; *Photinia serrulata* is often used in Chusan for the same purpose.

In the Shanghae district I frequently visited large houses, which seem to have been built by the rich to hold their bodies when they die. In these houses I generally found a coffin in one of the principal rooms, and an altar, with all the trappings of idolatry, where incense on high days is burned to the memory of the deceased, and various other ceremonies are gone through by the relatives. These houses are generally in a pine wood, and sometimes the body is buried out of doors, the altar and the records only being kept in the house, where a Chinese with his family is always placed to look after them.

But the most curious tomb of all was one once met with during a journey in the interior, near the town of Lun-kiang-too. It was placed on the side of the hill, and evidently belonged to some very wealthy or important personage in that city. From the base of the hill to where the tomb was—which was about half way up—the visitor ascends by a broad flight of steps, on each side of which a number of figures carved out of stone were placed. As far

as I can recollect, the following was the order in which the figures were placed: First, a pair of goats or sheep, one on each side; second, two dogs; third, two cats; fourth, two horses saddled and bridled; and fifth, two most gigantic priests; the whole presenting a most strange and striking picture to the view. I have since seen another, or two of the same kind, near Ningpo, but on a much smaller scale.

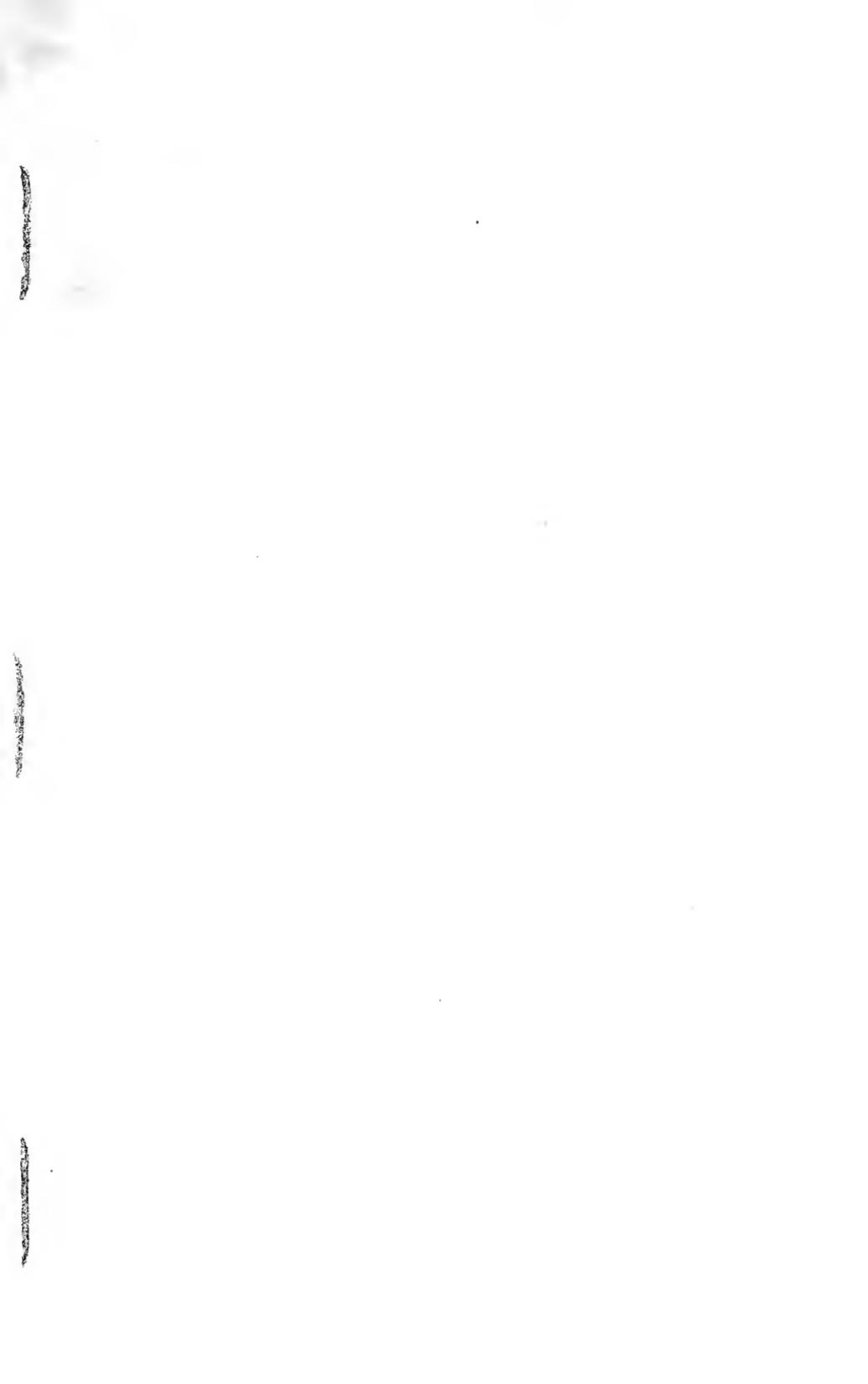
The poor, as well as the rich, often keep their dwelling-houses for a long time after they die: I should imagine, from the numerous coffins which I met with in such circumstances, that many are thus kept for years. The coffins are thick and strong, and the joints carefully cemented, in order to prevent any unpleasant smell from being emitted during the decay of the body. Much of this respect which is paid by the Chinese to the memory of their deceased relatives is, doubtless, a mere matter of form, sanctioned and rendered necessary by the customs of ages; but, in charity, we must suppose that a considerable portion springs from a higher and purer source, and I have no doubt that, when the Chinese periodically visit the tombs of their fathers to worship and pay respect to their memory, they indulge in the pleasing reflection, that when they themselves are no more their graves will not be neglected and forgotten, but will also be visited by their children and grandchildren, in whose hearts and affections they will live for many, many years after their bodies have mouldered into dust.

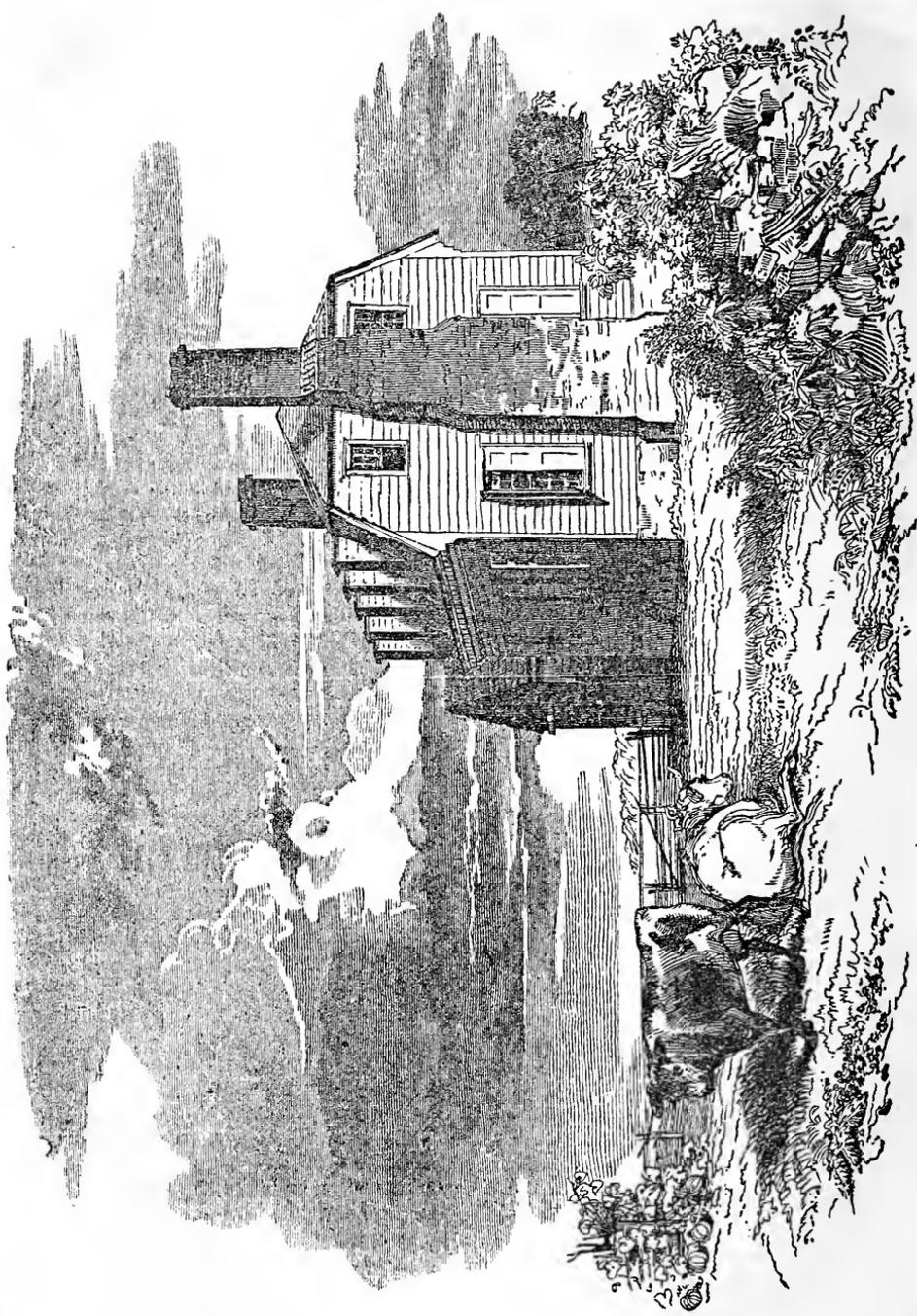
HINTS TO YOUNG MEN.—Always have a book within your reach, which you may catch up at your odd minutes.

Resolve to edge in a little reading every day, if it is but a single sentence. If you can gain fifteen minutes a day, it will be felt at the end of the year.

Regulate your thoughts when not at study. A man is thinking even while at work. Why may he not be thinking about something that is useful?

Revolve in your mind what you have last been reading.





MOORE'S HOUSE, YORKTOWN, VA.,
In which Lord Cornwallis signed Articles of Capitulation to the combined American and French Forces, Oc 19, 1781.

MOORE'S HOUSE AT YORK TOWN.

YORK is a small town in the southeastern part of Virginia, and situated on the banks of the beautiful stream whence it derives its name. It is, in fact, upon a peninsula, formed by James river on the south, and York river on the north; both of which enter into the Chesapeake bay a few miles below. Gloucester is situated upon the north side of York river, directly opposite York town. There is a sweep or bend in the river at this point, and the distance over from York to the headland of the opposite shore is but about a mile.

York town is celebrated for being the place where Cornwallis, by a series of manœuvres, conducted with great skill by Lafayette on land, and the Count de Grasse at sea, was compelled to surrender the posts of York and Gloucester, which he occupied with so much fancied security, reduced indeed, with his army of seven thousand men, to the humiliating necessity of capitulating on any terms his conquerors might propose. And here, in a field a little above York town, did the whole of that great army march out, with colors cased, and lay down their arms in front and in view of the American posts.

When Cornwallis saw that he was completely invested by the allied armies by land and sea, and knew that he was cut off from reaching Clinton at New York, and from receiving aid from any quarter, he sat down in despair, and wrote the following note to General Washington:—

YORK, 17th October, 1781.

SIR: I propose a cessation of hostilities for twenty-four hours, and that two officers may be appointed by each side, to meet at Mr. Moore's house, to settle terms for the surrender of the posts of York and Gloucester. I have the honor to be, &c.

CORNWALLIS.

After some further preliminary correspondence, the commissioners accordingly met at Mr. Moore's house, and arranged the articles of capitulation.

A view of Mr. Moore's house is exhibited in the opposite engraving. There it is, in its primitive simplicity, invested as it is with all its glorious associations, pre-

cisely as it stands at this very moment, just as it was then. The same house—the same windows—the same clapboards—the same dormant roof—the same old kitchen—the same green pasture in front—and the identical beautiful York river, stretching off with its mirrored surface in the distance. The message, however, has changed hands; it is now owned by a Virginia planter—the soil is under cultivation—the house is occupied by the overseer of the plantation, and those cows, peradventure, appertain to the dairy thereof.

The articles of capitulation were arranged by Colonel Laurens and the Viscount de Noailles, commissioners on the part of General Washington, and Colonel Dundas and Major Ross, on that of Earl Cornwallis.

The ratification of the articles of capitulation by the officers of the respective armies, shows so significantly their relative position that we here insert it:—

Done at York town, in Virginia, October 19th, 1781.

CORNWALLIS,
THOMAS SYMONDS.

Done in the trenches before York town, in Virginia, October 19th, 1781.

GEORGE WASHINGTON,
Le Comte de ROCHAMBEAU,
Le Comte de BARRAS,
En mon nom & celui du
Comte de GRASSE.

The success of the siege of York town, it is generally understood, decided the revolutionary war. "The infant Hercules," says Dr. Franklin, "has now strangled the two serpents,* that attacked him in his cradle. All the world agree that no expedition was ever better planned or better executed." For the "great glory and advantage" of the surrender of York, Washington afterward acknowledged himself chiefly indebted to the French alliance. And in the proceedings of Congress upon the matter, it was, among other things, "Resolved, That Congress cause to be erected at York town a marble col-

* The armies of Burgoyne and Cornwallis.

umn, adorned with emblems of the alliance between the United States and France, and inscribed with a succinct narrative of the events of the siege and capitulation."

LEGENDS RESPECTING TREES.

NUMBER II.

OUR former selection of legends from Loudon's "Arboretum" concluded with a quotation from an old Christmas carol in praise of holly, assigning to it a chief place in the hall, while ivy is made to stand without door, being "full sore a-cold." This suggests, as an appropriate beginning for our present gleanings, the mythological allusions to the latter evergreen.

The Ivy was dedicated by the ancients to Bacchus, whose statues are generally found crowned with a wreath of its leaves; and, as the favorite plant of the god of wine, its praises have been sung by almost all poets, whether ancient or modern. Many reasons have been given for the consecration to Bacchus of this plant. Some poets say that it was because the ivy has the effect of dissipating the fumes of wine; others, because it was once his favorite youth Cissus; and others, because it is said that the ivy, if planted in vineyards, will destroy the vines, and that it was thus doing an acceptable service to that plant to tear it up, and wreath it into chaplets and garlands. The most probable, however, seems to be, that the ivy is found at Nyssa, the reputed birthplace of Bacchus, and in no other part of India. The ancient Greek priests presented a wreath of ivy to newly-married persons, as a symbol of the closeness of the tie which ought to bind them together; and Ptolemy Philopater, king of Egypt, ordered all the Jews, who would abjure their religion, and attach themselves to the superstitions of his country, to be branded with an ivy leaf. The ivy is symbolical of friendship, from the closeness of its adherence to the trees on which

it has once fixed itself; hence, also, it has become a favorite device for seals—some of the best of which are, a sprig of ivy with the motto, "I die where I attach myself;" and a fallen tree still covered with ivy, with the words, "Even ruin can not separate us."

The Jasmine is no less celebrated for the delicacy of its odor and flowers, than for the pretty love legend connected with its European history. The custom which prevails in some countries, of brides wearing jasmine flowers in their hair, is said to have arisen from the following circumstance: A grand-duke of Tuscany had, in 1699, a plant of the deliciously-scented jasmine of Goa, which he was so careful of that he would not suffer it to be propagated. His gardener, however, being in love with a peasant-girl in the neighborhood, gave her a sprig of this choice plant on her birthday; and he having taught her how to make cuttings, she planted the sprig as a memorial of his affection. It grew rapidly, and every one who saw it, admiring its beauty and sweetness, wished to have a plant of it. These the girl supplied from cuttings, and sold them so well, as to obtain enough of money to enable her to marry her lover. The young girls of Tuscany, in remembrance of this adventure, always deck themselves on their wedding-day with a nosegay of jasmine; and they have a proverb, that "she who is worthy to wear a nosegay of jasmine, is as good as a fortune to her husband."

The Mountain Ash has long been considered in Britain as a sovereign preservative against witchcraft. Lightfoot, in his *Flora Scotica*, observes: "It is probable that this tree was in high esteem with the Druids; for it may to this day be seen growing more frequently than any other in the neighborhood of those Druidical circles so often seen in the north of Britain; and the superstitious still continue to retain a great veneration for it, which was undoubtedly handed down to them from early antiquity. They believe that a small part of this tree, carried about them, will prove a sovereign charm against all the dire effects of enchantment and witchcraft. Their cattle, also, as well as themselves, are preserved by it from evil; for the dairymaid will not forget to drive them

to the shealings, or to the summer pastures, with a rod of the rowan-tree, which she carefully lays up over the door of the sheal-booth, or summer-house, and drives them home again with the same. In Strathspey, they make on the first of May a hoop with the wood of this tree, and in the evening and morning cause the sheep and lambs to pass through it." This superstitious belief was recently, or is still prevalent in Wales and the north of England; and the compiler of this article has seen, within the last ten years, a bundle of rowan-tree rods wrapped round with red thread, and placed over the door of a Lowland cottager's byre, on the ground that

Rowan-tree and red thread
Put the witches from their speed.

It is remarkable that nearly the same belief should exist also in India. "I was amused and surprised," says Bishop Heber, "to find the superstition which in England and Scotland attaches to the rowan-tree, here applied to a tree of similar form. Which nation has been in this case the imitator? or from what common centre are all these notions derived?"

The Myrtle was an especial favorite among the ancients, by whom it was held sacred to Venus. The name is said to have been taken from that of Myrsine, an Athenian maiden, a favorite of Minerva, who, suffering love to overpower her wisdom, was changed into a myrtle by her offended mistress, and taken pity on by Venus. Others say that Venus, when she first sprang from the sea, had a wreath of myrtle round her head. The temples of this goddess were always surrounded by groves of myrtle; and in Greece she was adored under the name of Myrilla. Pliny says that the Romans and Sabines, when they were reconciled, laid down their arms under a myrtle-tree, and purified themselves with its boughs. Wreaths of myrtle were the symbols of authority worn by the Athenian magistrates; and sprigs of it were entwined with the laurel wreaths worn by those conquerors, during their triumphs, who had gained a victory without bloodshed.

The Rose has been a favorite subject with the poets in all countries and in all ages; and in mythological allusions it is

equally fertile. It was dedicated by the Greeks to Aurora, as an emblem of youth, from its freshness and reviving fragrance; and to Cupid, as an emblem of fugacity and danger, from the fleeting nature of its charms, and the wounds inflicted by its thorns. It was given by Cupid to Harpocrates, the god of silence, as a bribe to prevent him from betraying the amours of Venus; hence it was adopted as symbolical of silence. The rose was, for this reason, frequently sculptured on the ceilings of drinking and feasting rooms, as a warning to the guests, that what was said in moments of conviviality should not be repeated; from which what was intended to be kept secret was said to be told "under the rose." The Greek poets say that the rose was originally white, but that it was changed to red—according to some, from the blood of Venus, who lacerated her feet with its thorns when rushing to the aid of Adonis, and according to others, from the blood of Adonis himself. The fragrance of the rose is said by the poets to be derived from a cup of nectar thrown over it by Cupid; and its thorns to be the stings of the bees with which the arc of his bow was strung. Another fable relating to the birth of the rose is, that Flora, having found the dead body of one of her favorite nymphs, whose beauty could only be equalled by her virtue, implored the assistance of all the gods and goddesses to aid her in changing it into a flower which all others should acknowledge to be their queen. Apollo lent the vivifying power of his beams, Bacchus bathed it in nectar, Vertumnus gave its perfume, Pomona its fruit, and Flora herself its diadem of flowers. A beetle is often represented, on antique gems, as expiring surrounded by roses; and this is supposed to be an emblem of a man enervated by luxury—the beetle being said to have such an antipathy to roses, that the smell of them will cause its death.

Among the Romans, the rose was an especial favorite. They garnished their dishes with it; wore garlands of it at their feasts; strewed their banqueting apartments with its leaves; and their ladies used rose-water as a perfume. Throughout the East it was still more extensively celebrated; the poetical allu-

sions and legends relating to the rose being numerous enough to fill an ordinary volume. That which represents the nightingale as sighing for its love is perhaps the prettiest, and has given rise to some of the most exquisite verses both in our own and in the Persian language. The origin of the fable is thus told in the *Language of Flowers*: "In a curious fragment by the celebrated poet Attar, entitled *Bulbul Nameh*—the Book of the Nightingale—all the birds appear before Solomon, and charge the nightingale with disturbing their rest, by the broken and plaintive strains which he warbles forth all the night in a sort of phrensy and intoxication. The nightingale is summoned, questioned, and acquitted, by the wise king, because the bird assures him that his vehement love for the rose drives him to distraction, and causes him to break forth into those passionate and touching complaints which are laid to his charge." The Persians also assert, that "the nightingale in spring flutters round the rose-bushes, uttering incessant complaints, till, overpowered by the strong scent, he drops stupefied on the ground."

The catholic church has also added considerably to the legendary history of the rose. A golden rose was considered so honorable a present, that none but crowned heads were thought worthy either to give or to receive it. Roses of this kind were sometimes consecrated by the popes on Good Friday, and given to such potentates as it was their particular interest or wish to load with favors; the flower itself being an emblem of the mortality of the body, and the gold of which it was composed of the immortality of the soul. The custom of blessing the rose is still preserved in Rome, and the day on which the ceremony is performed is called *Dominica in Rosâ*. The rose was always considered as a mystical emblem of the catholic church, and enters into the composition of most of their ecclesiastical ornaments. As a symbol of beauty and innocence, it was customary, in some countries, to award a crown of roses to the girl who should be acknowledged by all her competitors to be the most amiable, modest, and dutiful in their native village—a custom which, till lately, was annually

performed in some districts of France. In the middle ages, the knights at a tournament wore a rose embroidered on their sleeves, as an emblem that gentleness should accompany courage, and that beauty was the reward of valor. About this period the rose was considered so precious in France, that in several parts of the country none but the rich and powerful were allowed to cultivate it; but, in later times, we find it mentioned among the rights of manors, that their owners were empowered to levy a tax, or tribute, on their tenants of so many bushels of roses, which were used not only for making rose-water, but for covering the tables with, instead of napkins. The French parliament had formerly a day of ceremony, called *Bailliee de Roses*, because great quantities of roses were then presented.

Shakspeare, who no doubt followed some old legend or chronicle, derives the assumption of the red and white roses by the rival houses of York and Lancaster, from a quarrel in the Temple gardens between Richard Plantagenet, duke of York, and the earl of Somerset, the partisan of Lancaster. Finding that their voices were getting too loud, Plantagenet proposes that they shall

"In dumb significance proclaim their thoughts."

adding,

"Let him who is a true-born gentleman,
And stands upon the honor of his birth,
If he supposes I have pleaded truth,
From off this brier pluck a *white* rose with me."

To which Somerset replies,

"Let him who is no coward, nor no flatterer,
But dare maintain the party of the truth,
Pluck a *red* rose from off this thorn with me."

Their respective followers gathered the different colored roses; hence tradition says these flowers were adopted as the badges of the houses of York and Lancaster during the civil wars which afterward desolated the country for more than thirty years. The York-and-Lancaster rose, which, when it comes true, has one half of the flower red and the other white, was named in commemoration of the union of the two houses by the marriage

of Henry VII. of Lancaster with Elizabeth of York.

The *Rosemary* is mentioned as emblematic of that constancy and devotion to the fair sex which was one of the characteristics of the days of chivalry. Garlands and chaplets were formed of myrtle, laurel, and rosemary, and put on the heads of the principal persons in feasts. It was formerly held in high estimation as a comforter of the brain and a strengthener to the memory; and on the latter account is considered as the emblem of fidelity in lovers. Formerly it was worn at weddings, and also at funerals, and is still grown for that purpose in many parts of the continent. Many allusions have been made to both customs by the poets, and also to its being a symbol of remembrance; thus Shakspeare makes Ophelia say, "There's rosemary for you; that's for remembrance."

The *Rue*, like the rosemary, being an evergreen, and retaining its appearance and taste during the whole year, is considered an emblem of remembrance and grace. It was anciently named herb-grace, or herb of grace; and it is to this day called ave-grace in Sussex, in allusion, doubtless, to *Ave Maria, Gratia Plena*. Warburton says that rue had its name, "herb of grace," from its being used in exorcisms. Among the ancients, it was also used in several superstitious practices: "You are not yet at the parsley, nor even at the rue," was a common saying with the Greeks to those persons who, having projected an enterprise, had not begun to put it into execution. In ancient times gardens were edged with borders of parsley and rue, and those persons who had not passed these borders, were not accounted to have entered a garden; hence, says Reid in his "Historical Botany," the proverb originated.

The *Laurel*, or sweet bay, was considered by the ancients as the emblem of victory, and also of clemency. The Roman generals were crowned with it in their triumphal processions; every common soldier carried a sprig of it in his hand; and even the despatches announcing a victory were wrapped up in, and ornamented with, leaves of bay. The aromatic odor of these trees was supposed

by the ancients to have the power of dispelling contagion; and, during a pestilence, the Emperor Claudius removed his court to Laurentine, so celebrated for its laurels. Theophrastus tells us that superstitious Greeks would keep a bay-leaf in their mouths all day, to preserve them from misfortune. In later times, it was supposed to be a safeguard against lightning; and Madame de Genlis mentions the device of the Count de Dunois, which was a bay-tree, with the motto, "I defend the earth that bears me." It was the custom in the middle ages to place wreaths of laurel with the berries on round the heads of those poets who had particularly distinguished themselves; hence our expression, poet-laureate. "Students," says Mr. Philips in his *Sylva Florifera*, "who have taken their degrees at the universities, are called bachelors, from the French *bachelier*, which is derived from the Latin *baccalaureus*, a laurel berry. These students were not allowed to marry, lest the duties of husband and father should take them from their literary pursuits; and in time all single men were called *bachelors*."

The *Yew*, so celebrated for its churchyard associations, and from its being employed in the manufacture of bows—the weapon principally used by our warrior ancestors before the introduction of firearms—has fewer legends connected with it than one would be led to suppose. The custom of planting yew-trees in churchyards has never been satisfactorily explained. Some have supposed that these trees were placed near the churches for the purpose of affording branches on Palm-Sunday; others, that they might be safe there from cattle, on account of their value for making bows; others, that they were emblematical of silence and death; and others, that they were useful for the purpose of affording shade or shelter to those places of worship when in more primitive form than they now appear. Other writers have entered more philosophically into this question, and presume that the yew was one of those evergreens which, from its shade and shelter, was especially cultivated by the Druids in their sacred groves and around their sacrificial circles; that when Christianity superseded Druid-

ism, the same places were chosen as the sites of the new worship; and that in this manner arose the association of the yew-tree with our churches and church-yards. It was also employed in funerals — 'by shroud of white, stuck all with yew:' in some parts of England dead bodies were rubbed over with an infusion of its leaves, to preserve them from putrefaction; and many of our poets allude to its connexion with ideas of death.

Cheerless unsocial plant, that loves to dwell
Mid skulls and coffins, epitaphs and worms.

ELIZABETH CASTLE, JERSEY.

THE channel islands, though now for nearly seven centuries (since the Norman conquest) an appendage of Great Britain, have been, until lately, comparatively little known. The nature of the government of the islands, their peculiar privileges, the manners, customs, and even the language (a corrupt Norman French) of the inhabitants, the former importance of the islands, with respect to commanding the British channel, &c., are all matters of interest, which might naturally be supposed to excite curiosity.

Our present object is not to enter into any account of the islands, but simply to describe the object delineated in the engraving. The bay of St. Aubin's in Jersey is the largest in the island: the tides rise and fall upward of forty feet in it, so that the contrast between high and low water is very singular. At the head of the bay are the towns of St. Aubin and St. Helier's, the one at the eastern, the other at the western side; and between the two stretches a sandy, shelving beach, studded with Martello towers. St. Helier's is the chief town of Jersey. In the centre of the bay, within about three quarters of a mile from the pier of St. Helier, is a large rock, not less than a mile in circumference, the surface of which is covered with the buildings and fortifications of Elizabeth castle. The only access, on foot or horseback, from St. Helier's to the castle during low water, is by a natural causeway, or beach of pebbles

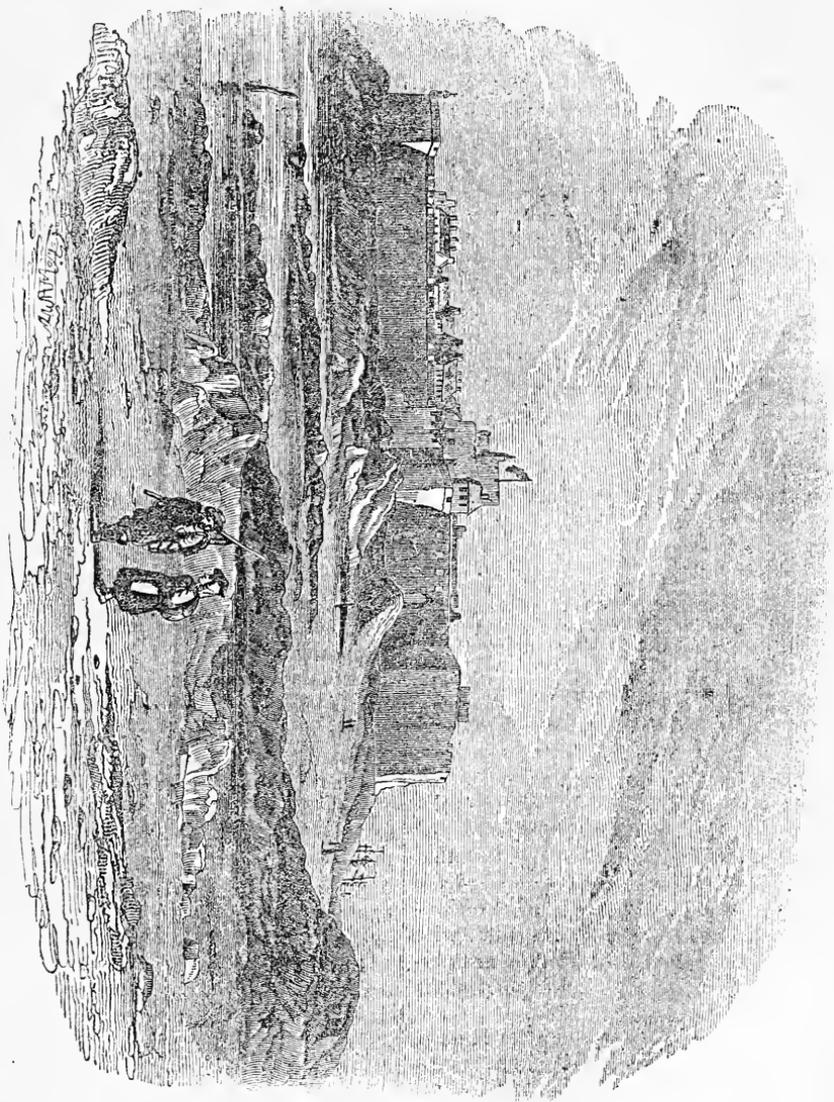
and sand, termed the bridge. When the tide is full the castle must be approached by water.

The Rev. Mr. Falle, speaking of Queen Elizabeth, says: "That incomparable princess, knowing that 'tis a great part of wisdom, in the profoundest peace, to be prepared for war, had even at that time a careful eye on the safety of these islands. She began that noble castle in Jersey, which from her is to this day called Castle Elizabeth, but lived only to finish that part of it which is above the iron-gate, and is called the upper ward, the lower parts having been since added to that fortification." Many additions were made to the castle in Charles I.'s time. There is a tradition, mentioned by Inglis, that in order to defray the original expense of building Elizabeth castle, all the bells of the churches and chapels of Jersey were seized, and shipped for St. Malo, to be sold; but that the vessel which carried them foundered in a storm, to the satisfaction of those who regarded the seizure as a sacrilegious act, and the loss, therefore, as a judgment from Heaven. Falle simply says that an order in council was made in 1551, enjoining the bells of the island (leaving one in every church) to be sold, and the money to be applied to the building of the castle.

During the civil war, the inhabitants of the channel islands adhered to the royal cause; and Elizabeth castle, which was the residence of the governor of Jersey, made a stout resistance to the parliamentary forces; but the garrison were ultimately obliged to surrender. Sir Edward Hyde, afterward the celebrated Lord Clarendon, resided in Elizabeth castle nearly two years, during which he composed a large portion of his well-known history.

Elizabeth castle, as a fortification, has been thrown into the shade by a huge fortress, termed Fort Regent, which was begun in 1806. It was erected at an expense of 800,000*l.*, as stated by Mr. Inglis, who seems also to be of opinion that the utility of the work bears no proportion whatever to the immense sum of money which it cost.

Of the present state of Elizabeth Castle, the following quotation from Mr. In-



Elizabeth Castle, Jersey.

glis's work will give a sufficient account—the concluding sentiment will, we are sure, be assented to by every reader:—

“The rock on which Elizabeth castle is built is not less than a mile in circumference; and I was surprised, on passing through the gateway, to find a wide grassy level, terminated by extensive barracks and their appurtenances. In war-time, this fortress was an important place, and, no doubt, presented to the eye and ears of the traveller a very different scene from that which it now presents. Decay seems now to be creeping over it; and although a solitary sentinel is still to be seen pacing to and fro; and although pyramids of shot still occupy their accustomed places, grass and weeds have forced their way through the interstices; and the rows of dismounted cannon show that the stirring days of war have gone by. May the weeds long grow, and the rust continue to creep over the engines of death!”

On the top of a rock, situated a little to the south of Elizabeth castle, and, like it, accessible at low water, may still be seen the rude remains of a hermitage, the canonized tenant of which is said to have given name to St. Helier's.

LOVE OF NATURE.

LORD BACON speaks of the contemplation of nature as a means of health; and certainly a love of nature is, in its influence on the mind and body, one of the healthiest of our affections. But this love needs cultivation—there are few with whom it is spontaneous, and they are persons of keen sensibility, quick perception, and accurate observation.

This love, like everything else, is to be acquired by *attention*. If you are in the habit of observing the face of nature, you will certainly grow to love it.

Is it not deplorable that multitudes should live through a long life, and die without touching the feast everywhere spread before them? They are insensible to the

“Sweet approach of eve or morn.”

They are blind to the beautiful processes of the season, and the wonder-working changes of the atmosphere. For them in vain is the bloom of spring, and the hues of the summer harvest-fields. In vain for them the magnificent swelling of the ocean, the water-falls, the flowery brooks; “eyes have they, but they see not—ears, but they hear not.” Now, that you may not pass through life with the absolute loss of a pure, certain, and permanent source of happiness, I pray you to make the beauties of nature a *study*. If you live in the city, you are nearly debarred of the means. The book is closed upon your eye; but even in the city there is here and there a scattered leaf. There are parks and squares where the fresh grass springs, and flowery shrubs give their sweet odors to the air. In every street, amid brick, mortar, and pavements, that speak only of man, are trees, God's witnesses. Observe them, and they will express to you in characters of beauty, the changing seasons. See their freshening stems and swelling buds in spring, their wealth of leaves in summer, their brilliant hues in autumn, and in winter the naked, graceful forms of those limbs, over which the green garments of summer hung.

Man can not cover up or efface rivers and bays, those glorious works of God on which cities are planted. You may occasionally get a glimpse of these, even if you are buried in the heart of a city. Watch the vessels gliding on the water, and the beautiful effect of wind and light upon them. Turn your eyes upward. Your firmament is circumscribed, but you can see its lights, the most soul-stirring objects that meet the eye of man.

If you are so happy as to live in the country, the book of nature is at your command, and you may con your lessons on every hillside. The roughest, most barren, most monotonous landscape, has an expansive firmament, sunshine, and clouds, a forever-changing and perpetual beauty. You may not have the prairie-gardens of the west, but nature, if you love her, will teach you to make gardens of your own; and kind mother earth will yield you the wherewithal.

But it may be your happiness to live

amid beautiful scenery. Do not, then, be like those of whom Byron says—

“Poor paltry slaves! yet born 'mid noblest scenes;
Why, Nature, waste thy wonders on such men?”

Do not be negligent of your great privilege. Next to having friends and books, we esteem it the greatest happiness of life, to have a home in a beautiful country, amid tree-crested hills, where the streams gushing from their mountain sources, leap and dance along their descending channels, the symbols of youth and happy liberty; where the summer-harvest waves on the hillside; where a quiet river winds through the thick standing corn; where the happy homes of the deep valley just peep through the trees that embower them; where the secluded lake mirrors the silver beauties that cluster round it; and where each season seems to the lover of nature, as to the boy in the fable, the most beautiful.

Each season, we say, for it is only those who are unobservant of nature, that think the winter dreary and devoid of beauty. We do not allude to rare and transient appearances, when it seems as if nature kindly spread her purest garment over her blighted earth, or to those brilliant days when the earth appears sheeted with glass, when every spear of withered grass is sheathed in crystal, and the trees are hung with jewels, but to the ordinary effects of winter in our rigorous climate.

Do you not love to mark the wavy outlines of the hills that were hidden by the summer foliage; to see the windings of the river, that now its veil has dropped, gleams, or rather smiles upon you all along its course; to see the lake sparkling up like a gem from the bosom of the valley? Have you never observed the effect of the atmosphere in our cold climate; the excessive brightness of the stars in a clear cold night; the purple and rose-colored light that steals along the south and western hills at the rising of the sun; the transparency of the air in the middle of the day, when the distant mountains look like walls of sapphire; and above all, the indescribable glories of the sunset, when the mountains seem bathed in showers of molten gold and silver; when every cloud that floats along the horizon

has the tints of the rainbow; and the sun, that perhaps a moment before had been obscured, shines forth from his pavilion of glowing clouds, and then disappears in a sea of glory?

There is no hyperbole in this. The sunsets are not always so brilliant, but if you will observe, you will admit there is rarely a day that they are not marked by some beauty. Words but feebly express the glories of God which the heavens declare. Nor does it need any peculiar gift to admire them.

THE TEACHINGS OF HISTORY.

THE rise and fall of nations are sublime subjects for moral contemplation. The fabric of empire is composed of mind as well as matter; and when the revolutions of destiny are permitted by Providence to encroach on nations, and to resolve them into their original elements, the component parts still inherit the principles of vitality. Like those blocks of living marble dug up from Grecian ruins, these scattered fragments may be collected in some future day, to build a nobler temple of dominion.

History warns the powerful to tread lightly on the oppressed. Let armies as countless as the locusts which overspread Egypt in the day of God's anger, pass over any given territory, tracing their march with the wildest havoc, and sweeping the bare soil to its very dust with the desolating cannon—still let not the oppressors triumph. In some secret cavern of the earth—in some untravelled glen—in some sunless gorge, a few miserable beings may shelter themselves until the blast of war has overblown. These may be the fathers of a great people, whose first work, in the great drama of Providence, may be that of a bloody retribution.

“Let not the oppressors triumph,” says a great voice from heaven. God abhors the proud. The sighing of the prisoner comes up before him. The robe of sackcloth is as beautiful in his eyes as the gorgeous attire of palaces—and the human form bowed in dust is as acceptable

to its Maker, as the pampered and delicately-beautiful countenance of him whom the winds of heaven have not been permitted to visit too roughly.

The analogies of all the conquered nations warrant these introductory remarks. The conquered have in their turn been the conquerors—the captives have become the masters—the harp hung on the drooping willows has lost its moaning sound, and in the renovated hand of its possessor has poured out the martial song of the triumphing trumpet. What sight more deeply affecting to the sympathies of humanity could have been witnessed than those spectacles of earth's deepest sorrow so often seen in the luxuriant vales of Palestine, when God had given up his chosen people into the hands of their enemies? The eye red with weeping might rest on some of the mighty stones of the first temple, or on some lonely monument, crowned with a name dear to Judah, strong and immortal in death. But no! away over hill and valley, over brook and meadow—away over mountain and river, these exiles, forlorn and weary and broken-hearted, must go, while over them hangs the apparent probability, that the beautiful places that had once known them should know them no more. Prophet and king, prince and counsellor, the care-worn man of war and the drooping virgin, chained together in ranks, with feeble age and infancy along, darkened thy hills, Judea, more than once, with their mournful procession, formed under the eye, and urged along by the spear of the Assyrian. No song is heard among these thousands; the inconceivable weight of national sorrow stifles and hushes the very groan—tears only, sad and hopeless ones, fall in silent showers on a soil soon destined to become sand under the blast of desert winds. Far north—to the cold waters of the Babylon—go sit down and mourn—yet, not in quietness; the task-master's scourge shall resound in your ears; heavy burdens shall press you down; your delicately-formed young men shall stand as menials in the courts of strange monarchs—and they that carry you away captive shall require of you mirth, saying, Sing us one of the songs of Zion.

This picture of deep and immense na-

tional sorrow is one of truth—a retrospective one, copied from the pages of God's word. Yet a land so swept by the tempest of war, and so emptied of its dwellers, has, after a lapse of years, a solitary succession of winter and spring, and summer and autumn, voiceless, desolate, and dreary, heard again a turtle-dove raise its sweet melancholy voice, and next an old man, who could just remember the day of the spoiler when he was a little boy, with tottering step, after a captivity of seventy years, traces with his staff the outline of city, temple, and tomb, and calls upon the Lord God of Israel until the old echoes awake again in the hoary mountains, and beat against the brazen heavens. Then comes a virgin along the valley, and as she lifts her song and takes her timbrel, the spring breathes over the land; the verdure breaks forth; the rose blushes beneath the rock; Kedron murmurs once more over its shining pebbles; the valley of Jehoshaphat is burdened with unwonted exuberance; Bethlehem seems to smile above the ramparts of white rocks, and Jerusalem gathers around her stately form the clouds of power, while the crown of dominion begins to settle on her brow.

DR. EDWARD JENNER.

It affords matter for grateful reflection that many of the evils to which the human race are subject do not altogether appear to be hopeless, however distant may be the period in which their severity will be abated. While the small-pox was destroying its tens of thousands, there existed the means of rendering it innocuous; and so it may be with other evils for which we see no immediate remedy. It is a beneficent ordination, indeed, that the means of diminishing the force of any evil are not usually to be obtained without the exercise of many of the best powers of the mind; thus stimulating zeal, observation, and reflection, and by the operation of these qualities raising the character and intellect.

The greatest triumph ever yet obtained over disease we owe to an intelligent but



Edward Jenner, born May, 1749, died February, 1823

unpretending medical practitioner, who lived in comparative retirement at the village of Berkeley, in Gloucestershire. Edward Jenner, who first applied vaccine matter to counteract the fatal ravages of the small-pox, was born in the vicarage-house at Berkeley. His father was of an old and much respected family, and besides being vicar, was in the enjoyment of an independent fortune. He died at an early age, and the education of Edward, who was the third son, was continued by his elder brother, who succeeded his father in the living. A love of natural history appears to have been the earliest indication of character which marked Jenner's youth. At the usual period he was apprenticed to Mr. Ludlow, a surgeon at Sodbury, near Bristol. One day, a young countrywoman, employed in a dairy as a milker, incidentally remarked in her master's surgery, that she had no fear of the small-pox, as she had taken the cow-pox. This incident was one of the proximate causes of Jenner devoting himself to the study of the nature of the latter disease. When nearly twenty-one, he came to London, and during two years resided with John Hunter, on terms exceedingly gratifying to a young pupil. Their friendship continued through life. During his residence in London, Jenner arranged the specimens of natural history which Sir Joseph Banks had collected during Cook's first voyage. The manner in which he executed his task was so satisfactory, that a situation as naturalist was offered him in Cook's second expedition. Such an offer to a youth of two-and-twenty is a proof how successfully his zeal for natural history had stimulated his talents. Singular enough, this tempting opportunity of enjoying an almost unlimited gratification of his taste was not embraced. A few years afterward he declined the offer of a lucrative appointment in India; and in 1775, a proposal of his friend John Hunter, to establish a school of natural history, including medicine, in London. He preferred the seclusion of a country practice and the pleasures of a country life to struggling for distinction in a more active sphere. It is also probable that the subject of vaccination employed his thoughts, and that an indistinct notion of

his future discovery determined him upon selecting and remaining in a position which would enable him to work out his ideas. He soon acquired a valuable and extensive surgical practice at Berkeley; and in 1792 he found himself under the necessity of limiting his exertions, and having purchased (as was then customary) a doctor's degree of the University of St. Andrews, he practised in future only as a physician.

During the leisure which an active professional career permitted, he enjoyed the society of friends, music, the literature of the day; and natural history and geology (the latter then a new study) varied and lightened his daily duties. A paper in which he gave an account of the habits of the cuckoo from many years' observation, procured him the honor of being elected a Fellow of the Royal Society. But little was previously known of the life of this singular bird. Dr. Jenner also frequently contributed valuable original papers to two medical societies to which he belonged. He is said to have enlarged so frequently upon the cow-pox that at one of these societies his medical brethren protected themselves by jocosely putting an interdiction on the subject, treating it as a forbidden topic, as they would have done a dogma in politics or theology. These details of Jenner's life brings us to the question in connexion with which his value to the world at large is now so well appreciated.

The small-pox is propagated by infection. In the year 1717, Lady Mary Wortley Montagu, who was then at Constantinople, where her husband was ambassador, had her son inoculated with the virus of the small-pox. The practice had been long known in Turkey, and it was found that the disease produced artificially was less violent than the casual disorder. In 1721 inoculation was tried in England on seven criminals, and a few years afterward the children of the royal family were inoculated. Inoculation, however, never became anything like universal, because, though in many cases the disease appeared in a milder form, yet its fatality was not abated to so great an extent as had been hoped, and the rate of mortality, before inoculation was known, and after

it was practised, did not differ so materially as to offer a sufficient inducement voluntarily to encounter the disease. The circumstance which led Jenner to direct his attention to the cow-pox has already been noticed. This disease makes its appearance on the animal's udder, from which the milkers take the infection. Similar vesicles are raised on parts of the body, slight fever ensues; but after a few days these symptoms disappear, and at this inconsiderable disarrangement of the general health the small-pox is rendered innocuous. Such was the preservative to which the countrywoman alluded in the surgery of Jenner's master at Sodbury. This protective power was not unknown to medical men, yet to introduce the virus of a diseased animal, by artificial means, into the human system, was an innovation which had not entered into their heads, and Jenner's proposal consequently often excited not a little ridicule and prejudice. To form some idea of the reception which such a project would be likely to meet, we may just imagine the repugnance that would be felt if a proposal were now made to inoculate the human subject from the virus of a pig in the measles, in order to counteract that disease, or to obtain immunity against some other disorder by the absorption of the eruptive matter which characterizes the *grease* in horses. And yet in Jenner's time the latter disease was regarded as similar in character to the eruptive disorder in the cow. No man but Jenner ever thought of applying the vaccine lymph to a sore produced for the purpose on the human body, in order that it might enter the system; and yet his medical friends were made acquainted with each step in the progress of his inquiry, and his friend Hunter, so early as 1770, was accustomed to allude to his views in his lecture-room in London. It was not, however, until above a quarter of a century had elapsed, during which he had given the subject his best attention, that the direct application of vaccine matter in the manner which is now common was made for the first time by Jenner himself.

On the 14th of May, 1796, he inoculated a boy in the arm from a pustule on the hand of a young woman, who had re-

ceived the infection from one of her master's cows. The disease made its appearance, and the symptoms were as mild and favorable as could have been desired. On the 1st of July, the boy was inoculated for the small-pox; but the virus, which had so often been mortal in its effects, was deprived of its power. This was the first of Jenner's triumphant cases. His feelings during the period in which the experiment was proceeding, do credit to his sensibility. He says himself:—"While the vaccine discovery was progressing, the joy I felt at the discovery before me, of being the instrument destined to take away from the world one of its greatest calamities, blended with the fond hope of enjoying independence and domestic peace and happiness, was often so excessive, that in pursuing my favorite subject among the meadows, I have sometimes found myself in a reverie. It is pleasant to me to recollect that these reflections always ended in devout acknowledgments to that Being from whom this and all other mercies flow." With a rare prudence and caution in a mind of rather sanguine turn, Dr. Jenner waited for two years in order that he might strengthen his discovery, and it was not until June, 1798, that, in a memoir written with great modesty and good taste, he published a detail of twenty-three cases of the casual and inoculated disease, in the latter being included one of his own sons.

The progress of vaccination was as rapid as such innovations usually are. In the summer of 1799 a declaration was signed by seventy-three of the most eminent members of the medical profession in London, in testimony of its safety and efficacy. In 1802 a committee investigated the merits of vaccination, and Dr. Jenner's claims to the discovery, and on its recommendation parliament voted him a grant of 10,000*l.*; and in 1807 he received an additional grant of 20,000*l.* In 1803 a society was established in London for the encouragement of vaccination, called the Royal Jennerian Society; which, by Jenner's advice, was merged in 1808 in the National Vaccine Institution. Dr. Jenner continued to make Berkeley his permanent residence, and here he

lived honored and respected by every civilized people throughout the earth, until his death in 1823.

In the "Report of the National Vaccine Institution" for 1837, it is stated that "many persons still continue to prefer inoculation to vaccination." This is a sad prejudice, though it is not surprising that it should exist among us. It was not until 1822 that even the medical officers of the London Small-pox Hospital discontinued inoculation. Such is the sluggish rate at which men move from a practice essentially imperfect, to one which it can be shown on the clearest demonstration is far superior; for it is a fact founded upon accurate observation, that if 300 children be vaccinated, one will be susceptible of small-pox afterward, but only in a mild and perfectly safe form; whereas, if 300 be inoculated, one will surely die.

It appears from the carefully-kept registers of deaths in Prussia, that during the fifteen years ending 1834, the deaths from small-pox were about 1 in 122. This is probably the proportion which prevails in Great Britain. Throughout the last century the mortality from this disease in London varied from 1 in 10 to 1 in 16, during the ten decades. The vaccine lymph is sent gratuitously to medical men in all the large towns, and to every village, however remote, and it is only through neglect that the small-pox can again become formidable. It is stated in a work of the time, that from September, 1671, to April, 1672, there were 800 deaths from small-pox in Glasgow, which then contained a population of 13,000. The deaths in such an amount of population during a period of eight months would not at present ordinarily exceed 182; and in the same city, the population of which exceeds 200,000, the cases of this disease which prove mortal do not amount annually to one sixteenth part of the number which occurred in one third of the time among a population of nearly fifteen times less amount.

Socrates was esteemed the wisest man of his time, because he turned his acquired knowledge into morality, and aimed at goodness more than greatness.

NEW SOUTH WALES.

THE Australian colonies, from their peculiar origin, their remote position, their curious productions, their extent of territory, the vicissitudes which have marked their progress, and the undefined destinies which await them, naturally excite a considerable degree of interest.

The great southern archipelago abounds in novel material for the naturalist, the geologist, the philanthropist, the philosopher, and the politician. To all these the Australian colonies afford a new and extensive field for exploration and exercise, as they afford to the speculator in bank stock one among a hundred other modes of investment, and to the poor and industrious family the prospect of a home, where labor has room to employ itself, and where energy, coupled with frugality, are sure to meet with their reward. Anything, therefore, professing to appear in the shape of an ample and ingenious account of one of these distant settlements, pointing out their progress, affording an outline of their social condition, sketching the manners, habits, and modes of life, which prevail in them, defining the hardships to be endured by the settler, and the returns which his industry is likely to secure him, and all interspersed with interesting adventure, and lively descriptions of scenery, and coupling the first impressions imprinted by the whole on an intelligent mind, with the knowledge of the subject which a protracted residence amid the scenes described, and among the people portrayed, has afterward imparted, must be an acceptable offering to the public. The following extracts from a work on New South Wales, by Mrs. Charles Meredith, will, we doubt not, be interesting to the reader:—

Mrs. Meredith left her native country early in June, 1839, and after a voyage which terminated about the beginning of the following October, and relieved by many incidents, which are told in a playful and attractive style, arrived at Sydney, the Australian metropolis. In passing through Bass's straits, where they were much incommoded by fogs, among other objects which arrested her attention were the "mutton birds," as they are most un-

poetically called, and which, if her account of them be correct—and she takes her husband, “whose early wanderings familiarized him with many of the native creatures of the Australian islands,” as her authority—are very peculiar both in their form and habits. “The birds are about the size of a wild duck, with handsome black plumage, shot with metallic shades of green or brown, according as the light falls on them: they are web-footed, and the beak is similar in form to that of the albatross family. They live wholly at sea the chief part of the year; but on one particular day in spring, November 1st (how strange to our ears does November sound as a spring month!) never varying many hours in the time, they come in from sea in countless myriads, filling the air with clouds of their dark wings, as they hurry ashore on some of the islands in Bass’s straits, where their ‘rookeries,’ as the sailors term them, are made. These are burrows in the earth, and the first care of the birds, on returning, is to scratch them out clean from any rubbish that has accumulated, and put them in order for habitation, and often to make new ones. This preparatory business occupies about a fortnight, and then the swarming squadrons put to sea again for another fortnight or three weeks, not a bird remaining behind. At the end of this time they return in a body as before, and take up their abode in the rookeries, and there lay their eggs and sit. They remain on shore (the parent birds sitting by turns) until the young ones are a third part grown, and immensely fat, like masses of blubber, when the old birds leave them and go off to sea. The young ones, unable to leave the rookeries, are sustained meanwhile by their own fat; and by the time that is tolerably reduced, their wings are grown strong enough for flight, and they also quit the rookery, and go to sea.” We do not think Audubon, in his celebrated and extensive work upon the birds of America, has presented a species with habits more singular and peculiar than those characterizing the “mutton bird.” Their prudence, in preparing every necessary comfort for their anticipated brood, is instructive to unfeathered bipeds; and if they do desert their offspring when they are yet

in a helpless condition, it must not be forgotten that, before quitting them, they make a competent provision (of fat) for their sustenance. These birds can only take wing from the water. That their name is a palpable misnomer, will be allowed when it is understood that, when cured for sale, their flavor is similar to that of a *red herring*.

The approach to Port Jackson, one of the most magnificent harbors in the world, is thus described: “The entrance to the port is grand in the extreme. The high dark cliffs we had been coasting along all the morning suddenly terminated in an abrupt precipice, called the South Head, on which stand the light-house and signal-station. The north head is a similar cliff, a bare bluff promontory of dark horizontal rocks; and between these grand stupendous pillars, as through a colossal gate, we entered Port Jackson.” The scenery of this noble estuary is much enhanced by the many bays and inlets by which it indents the land. “A fresh vista every minute opened to the view, each, as it seemed, more lovely than the last; the pretty shrubs growing thickly among the rocks, and down to the water’s edge, adding infinitely to the effect especially as they were really green—a thing I had not dared to expect; but it was spring, and everything looked fresh and verdant.” The neighborhood of Sydney is adorned with villas, “encircled with gardens and shrubberies, looking like the pretty *cottages ornées* near some fashionable English watering-place.” With the exception of these, the first appearance of the capital is not promising.

The town of Sydney, with its mixed population, is described in a lively off-hand manner. Its chief feature is the main street, “George street,” which traverses its whole length, about a mile and a half. Here are all the “fashionable emporiums,” and it is the chosen promenade, and the theatre for display, for high life in Sydney; abandoning, much to the astonishment of Mrs. Meredith, a beautiful rustic retreat in the vicinity, called the “domain,” for the crowded and dusty street. “No lady in Sydney believes in the possibility of walking, so that the various machines upon wheels, of all de-

scriptions, are very numerous, from the close carriage and showy barouche, or *būtaka*, to the more humble four-wheeled chaise and useful gig." There is but little exercise on horseback, "few ladies venturing to risk their complexions to the exposure of an equestrian costume."

The Sydney market is abundantly supplied, particularly with fruits and fish, some species of the latter being excellent, although fashion proscribes them as a dish to be presented at a dinner-party; preserved and cured cod and salmon from England being substituted at great expense, in their place. Among the nuisances to which the town is subjected, a very serious one is *dust*. "Unless after a very heavy rain, it is always dusty, and sometimes, when the wind is in a particular point, the whirlwinds of thick fine powder that fill every street and house are positive miseries." Flies and mosquitoes abound; and to protect one's self from the latter during the night, the same mode, of spreading a gauze curtain over the bed, is adopted as prevails in the West Indies and in the southern states.

Mrs. Meredith had ample opportunity of indulging her enthusiastic fondness for flowers during a ride, in a varied and picturesque country, to the lighthouse on the South Head. The road appeared to lead through one continued garden, and she gathered handfuls of flowers in the open air such as she "had cherished in pots at home, or begged small sprays of in conservatories or greenhouses," together with many "yet more lovely denizens of this interesting country, of which I know not even the name." The "Australian library" contains a good and extensive selection of books; but literary taste would appear to be at rather a low ebb in Sydney, so that the library is not frequented as it should be. A large proportion of the population are emancipated convicts, or their immediate descendants, "and a strong line of demarcation is in most instances observed between them and the free immigrants and settlers." Some of them are the wealthiest men in the colony; but the most that their riches do for them, is to modify the prejudice against them. Mrs. Meredith justly inveighs against the shallow, petty pride, or rather vanity, "which

causes so many heartburnings, and such eager rivalry, among those who can ill afford its cost." As in all colonies, the very worst features of a graduated scale of society are here the most prominent; and the lines of demarcation and exclusion are arbitrarily and foolishly drawn.

Shortly after her arrival, Mrs. Meredith made a journey to Bathurst, one hundred and twenty miles into the interior. Her observations by the way are interesting, and full of the instructions so much needed by intending emigrants. The mode of clearing the land in the woody districts is precisely similar to that adopted in Canada and the states, by cutting down the trees, leaving their stumps to rot in the ground, or destroying them by the process of "girdling." An industrious people are generally a well-housed people. Little that is favorable can be inferred of the industry or the notions of comfort of the Australian laboring classes from the following description of their habitations: "Their huts or hovels are built of heaped turf, or more frequently of slabs set on end, like a strong paling, and thatched, and which, if plastered with mud, would be weatherproof and comfortable [we doubt it]; but for the most part the slabs are all falling asunder, the thatch is half torn off, the window, or rather the place for one, stopped with pieces of wood, hides, and old rags, and the door, without hinges, inclining against the wall." A very little trouble might procure abundance of fruit and vegetables, by cultivating a small garden; but such an appendage to a residence of this sort is seldom if ever to be met with. At the time of which Mrs. Meredith speaks, idleness was the prevailing vice, occasioned by the high rate of wages, which enabled a man, by working only the third of his time, to get sufficient wherewith to spend the remaining two thirds in drunkenness and laziness. Unfortunately such is to some extent still the case in the colony, and the imperial government has been recently applied to to take some steps for procuring an additional supply of labor for the colony—both to lower the present ruinous rate of wages, and to compel the dissolute and idle to work a proper time for their subsistence.

Several "chain-gangs"—the lowest

class of convicts—were passed upon the road, and the following account of them present a startling contrast to the condition of masses of our home population: "Even the chain-gangs do not perform, on an average, the third part of the labor which our mechanics or laborers do gladly and cheerfully. Their rations of food are wholesome and abundant, and their huts or barracks provided with every necessary. When sick, they have the best medical care, and whatever additional luxuries their state may require." This should teach philanthropists, whose delight it is to have their fields of operation at a distance, to look nearer home for objects on whom to bestow their compassion and exercise their benevolence.

Passing the village of Penrith, the authoress soon found herself ascending the "long range of the Blue mountains." "Among these lofty mountains, and in their shady recesses, the trees and shrubs grew in unchecked luxuriance, and yielded me many a new and beautiful flower. As we slowly wound up the steep ascent, and the folding hills narrowed the view behind us, the scene was most picturesque and striking. Far on before us we could see the white gleaming road still climbing higher and higher; gigantic crags, piled high overhead, were mingled with an endless variety of tree, shrub, and flower; and far below, from the depths of the ravine, the opposite side of the pass rose almost perpendicularly, till its upper trees seemed to cut against the bright unclouded sky." The picture given of a country inn is anything but attractive, being, both in its internal arrangements and external accompaniments, well adapted to offend even an ordinary nicety of taste. The gigantic ant-hills, common to many parts of New South Wales, are "great conical heaps of finely-worked earth, cemented into a hard mass, and from six to ten feet high, with no visible orifice outside; nor did I see a single ant about them, though I closely examined several. When cut open, they display numerous small cells, and the earth of which they are formed is so finely prepared by the little architects, that it is used by the settlers in the neighborhood as plaster, and as cement for floors." The road, in the main, was of the worst de-

scription, and sterility and monotony characterized the scenery as they advanced into the mountainous district. Near Mount Victoria, clustering richly around the shrubs, Mrs. Meredith saw for the first time the native indigo of New South Wales. "It is a delicate little climbing plant, with slender stems, long, narrow, blunt leaves, and a profuse quantity of small violet-blue, pea-shaped flowers, growing in long sprays, and completely clothing any bush or fence where it flourishes." By this road the produce of the interior is principally conveyed to Sydney; the apprehensions excited by the bush-rangers making it prudent for the farmers to travel in companies, similar in some respects to an African caravan.

Bathurst, which is described as the last township on the "up-country road," did not find much favor in the eyes of Mrs. Meredith. Her visit to it was, however, confessedly at an unfortunate period, being shortly after one of those tremendous and blasting droughts with which the interior of the country is sometimes visited, withering up every shrub and blade of grass, and strewing the upper country with the bones of famished cattle. Everything procurable was dear. A pound a night was the price of accommodation for a horse; and wheat was so high, that the flour in use was adulterated with inferior grain. Once, during her residence in the colony, wheat was as high as 10*l.* 10*s.* a quarter in Sydney. The climate of Bathurst is unpleasant. Situated in the midst of a vast plain, surrounded by mountains, the only breezes with which it is visited are the "hot winds" from the northwest, which, wherever they prevail, mark their course with blasting and desolation. "I have seen large tracts of cultivated land covered with luxuriant green crops of wheat, barley, or oats, just going into ear, scorched, shrivelled, absolutely blackened, by the heat, and fit for nothing but to cut as bad litter."

Mrs. Meredith dwells at some length upon the manners and peculiar characteristics of the natives. They are fond of dancing; their principal festival, at which this species of amusement is immoderately indulged in, being the *corrobory*, at which their doctors, or "crodjies," deliver them

certain charms, which are supposed to possess the highest virtue. They prepare themselves elaborately for this important ceremony; full dress being painted "nudity." A fire is lighted, around which they dance; and while thus engaged, the tableau is represented as "fearfully grand." The following is but little calculated to inspire us with a very high idea of the aborigines. "One of the aboriginal dances is called the 'kangaroo dance;' and one man, wearing a long tail, drops down on his hands and feet, pretending to graze, starting to look about, and mimicking the demeanor of the animal as nearly as possible; the others, in the character of dogs and hunters, performing their part of the play in a circle round him, at a very short distance." Their wives are called "gins;" and getting married is, with the men, "equivalent to keeping a servant;" so that the bachelor, who has no wife or wives to drudge for him, is universally denominated a "poor fellow." A wife with them leads but a miserable existence, being "a slave in every social sense, and not even permitted to feed but at her husband's pleasure, and off the offal he may choose to fling her, although on her devolves the chief care of providing the materials for the repast." The natives are not over-nice in their diet; "their usual food is kangaroos and opossums roasted whole, without any portion being rejected." After the husband has "gnawed" at the animal till he has gorged himself, it is handed over his shoulder to his wife, who sits behind, and afterward to the children; the whole family, after the repast, going to sleep around the fire. They are fond of children who have "survived the perils of infancy;" but infanticide is nevertheless a common crime; and the mother of a babe, when asked for her infant, will reply with the greatest possible coolness, "I believe dingo patta"—that is, "I believe the dog has eaten it." They are exceedingly treacherous, and, in the main, cowardly. They have very imperfect notions of a beneficent Supreme Being; but have an idea of an evil spirit, which they denominate "Yahoo," the "devil-devil," of whom they live in the greatest terror, and have conceived the most grotesque imaginings. "Their fondness for Eu-

ropean clothing is well known, and I have heard many amusing instances of its display. One Wellington boot was sometimes worn, unaccompanied by any other article of apparel; and great were the pride and grandeur of him who could but-ton his upper man in a dress coat, that alone being considered sufficient costume." Each tribe has its own allotted territory, and wo be to him, if caught, who commits a trespass upon the domains of a neighboring tribe, and this even when accompanying settlers on their journeys. Their idleness is "wholly unconquerable; the utmost effort they ever make toward the formation of a residence being to raise a few slips of bark slantingly against a tree, under which they crawl during bad weather."

The habits of the native (not aboriginal) servants, or as they are sometimes denominated, the "currency," in opposition to the "sterling" (the immigrants), are generally, in a moral point of view, of rather a low and depraved order. The prevalence of drunkenness among them is astonishing, as it is deplorable. "Age and sex make no difference; your dainty lady's maid or pretty young nurse girl is just as likely to be over-liberal in her libations to Bacchus, as your groom or shoe-black; and no threats, bribes, or punishments, avail to keep the besotted creatures from the dram-bottle, if it be by any means, or in any shape, accessible. I have known a female servant drink camphorated spirits of wine, and suspect her of consuming a pint of hartshorn, its evident strength being no doubt too tempting. Eau-de-Cologne and lavender-water I know they drink whenever these are left about, or anything else believed to contain spirit. The universality of this vice is dreadful to contemplate, and far worse to witness and endure." Describing a farmhouse at which she alighted on her way back to Sydney, she says, "This universal addiction to drink, and consequent neglect of all industry and decency, are truly shocking. Here was a substantial farmhouse (sometimes performing in another character—a tavern—it is true), with the female inmates half intoxicated, and scarcely out of bed at 10 o'clock on a summer's morning; rooms unswept, beds unmade,

and the whole establishment telling of plenty, sloth, and drunkenness." The description of an immigrant settler's house affords a more pleasing picture, although the establishment is frequently the scene of the grossest incongruities—costliness and inconvenience, extravagance and discomfort, being often met with in intimate juxtaposition.

THE

LYRE-BIRD, OR SUPERB MENURA.

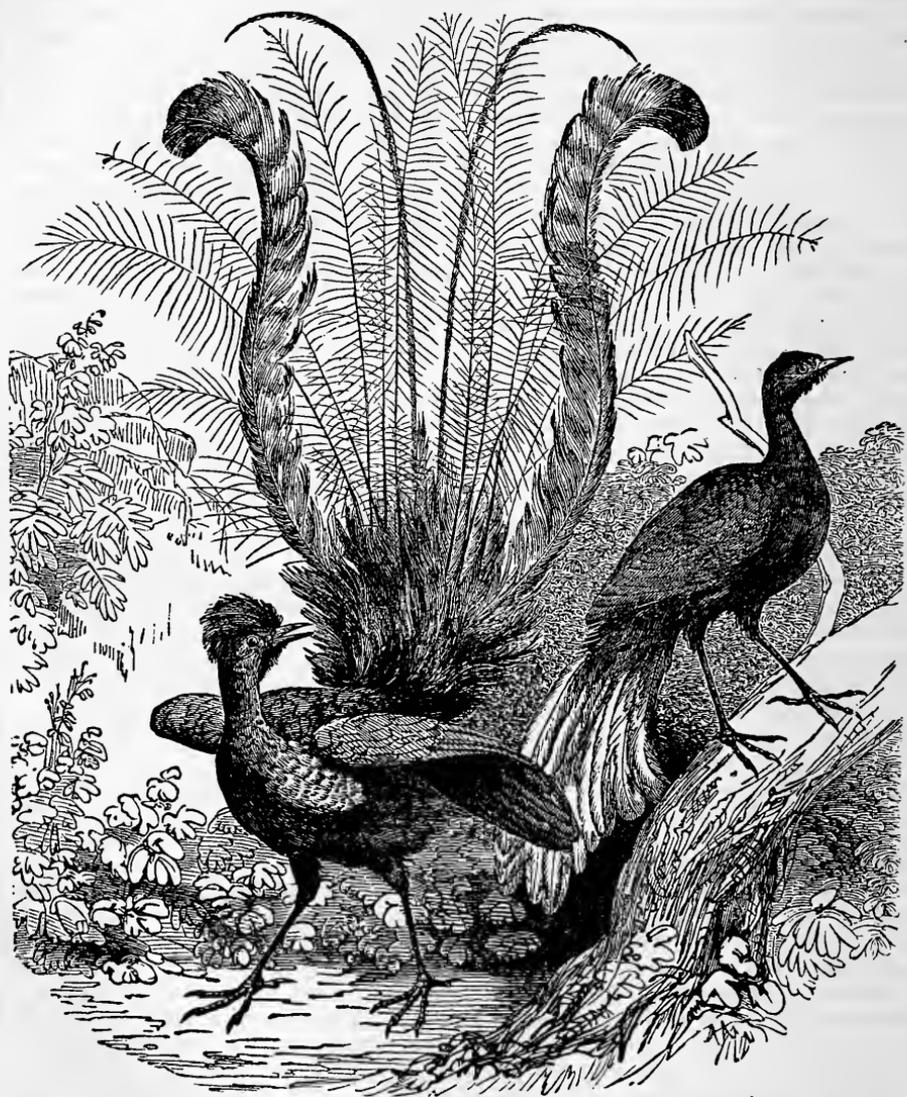
THE beautiful bird of which the annexed engraving represents a male and female, is a native of Australia, and both from its appearance and the difficulty experienced in determining its affinities, has attracted the attention of naturalists. M. Vieillot figures the lyre-bird (*menura superba*) under the title of *Paradisea Parkinsoniana*, in honor of J. Parkinson, Esq., of the Levarian Museum, through whose means he received a drawing of it. Vieillot, however, was preceded in his description by Davies, who, in the year 1800, with juster views respecting the bird in question, characterized it as the type of a new genus, and gave it the appellation of *menura superba*, which is now its established title.

With respect to the affinities or natural situation in the arrangement of the feathered tribes, which the *menura* holds, there is considerable difference of opinion among ornithologists. Baron Cuvier places it among the "*passereaux*," or passerine order, observing that although "its size has induced some to associate it with the *gallinaceous group*, the *lyre-bird* evidently belongs to the *passerine order*, its toes, except the outer and middle, which are united together as far as the first joint, being separated; it comes near the thrushes in the form of the beak, which is triangular at the base, and slightly compressed and notched at the tip; the membranous nostrils are very large, and partially covered with feathers as in the jays."

That the lyre is not a *gallinaceous bird*, we have little hesitation in affirming; its size, as Cuvier observes, and more espe-

cially its terrestrial habits, which may in some respects resemble those of a fowl, have contributed to the establishment of this opinion, which the name *mountain pheasant*, given it by the colonists, has probably helped to confirm, but which general currency does not necessarily render true. Neither in the beak, the feet, nor (we may add) the plumage of the lyre-bird, do we recognise the characters of one of the *gallinaceous order*. On the other hand, there are certain genera (*pteroptocus*, *scytalopus*, and *megapodius*) usually regarded as forming part of the family of thrushes (*merulidæ*), to which in every essential character the genus *menura* closely approximates, and with these it will, we think, be found to be in immediate affinity. As, however, our object is not to enter into an abstruse account of the affinities of genera, we shall add nothing (and much might be added) to the above observation, but confine ourselves to the description and the habits of this interesting and elegant bird.

The *menura* equals a common pheasant in size, but its limbs are longer in proportion, and its feet much larger; the toes are armed with large arched blunt claws; the hind toe is as long as are the fore-toes (the length of these being nearly equal), but its claw is larger than that of any of the others; the scales of the tarsi and toes are large bold plates, and their color is glossy black; the head is small, the beak, as Cuvier has described it, is triangular at the base, pointed and compressed at the tip; in the male the feathers of the head are elongated into a crest; the wings are short, concave, and rounded, and the quill-feathers are lax and feeble; the general plumage is full, deep, soft, and downy. The tail is modified into a beautiful plume-like ornament, representing, when erect and expanded, the figure of a lyre, whence the name of lyre-bird. This ornamental tail is, however, confined to the male. In the female the tail is long and graduated, and the feathers are perfectly webbed on both sides of the shaft, although their texture is soft and flowing. In the male the tail consists of sixteen feathers, of these the outer one on each side is broadly but loosely webbed within, its outer web being narrow;



The Male and Female Lyre-Bird.

as it proceeds it curves outward, bends in, and again turns boldly outward and downward, both together resembling the framework of an ancient lyre, of which the intermediate feathers are the strings; these feathers, except the two central, which are truly but narrowly webbed on the outer side, consist each of a slender shaft, with long filamentous bubules, at a distance from each other, and springing out alternately. The appearance of these feathers, the length of which is about two feet, is peculiarly graceful; their color is amber brown, but the two outer tail-feathers are gray, tipped with black, edged with rufous, and transversely marked on the inner web with transparent, triangular bars. The general plumage of the *menura* is amber brown above, tinged with olive, and merging into rufous on the wings, and also on the throat. The under parts are ashy gray. With respect to the habits of the lyre-bird much yet remains to be known. Shaw, in the account he collected, observes that its powers of song are very great: "At the early part of the morning it begins to sing, having a very fine natural note; and gradually ascending some rocky eminence, scratches up the ground in the manner of some of the pheasant tribe, elevating its tail, and at intervals imitating the notes of every other bird within hearing; and having continued this exercise for about two hours, again descends into the valleys or lower grounds."

It is in the hilly districts of Australia that the *menura* is to be found, and its manners are shy and recluse; it is almost exclusively terrestrial, seldom taking wing, and when forced to do so flying with labor and difficulty. Dr. Latham remarks: "It is said that it will frequently imitate the notes of other birds so as to deceive most people;" and we may here add that the musical powers of this bird, which we have been inclined to doubt, have been confirmed to us by the testimony of a gentleman, who, during his residence in Australia, had many opportunities of gaining information on the subject, and he assured us that not only were its own notes rich and melodious, but that it imitated those of other birds with surprising tact and execution.

The lyre-bird is a bird of heavy flight, but swift of foot. On catching a glimpse of the sportsman, it runs with rapidity, aided by the wings, over logs of wood, rocks, or any obstruction to its progress; it seldom flies into trees except to roost, and then rises only from branch to branch. They build in old hollow trunks of trees which are lying upon the ground, or in the holes of rocks; the nest is merely formed of dried grass, or dried leaves scraped together; the female lays from twelve to sixteen eggs, of a white color, with a few scattered light blue spots; the young are difficult to catch, as they run with rapidity, concealing themselves among the rocks and bushes. The lyre-pheasant, on descending from high trees, on which it perches, has been seen to fly some distance; it is more often observed during the early hours of the morning and in the evening, than during the heat of the day. Like all the *gallinaceous* tribe, it scratches about the ground and roots of trees, to pick up seeds, insects, &c. The aborigines decorate their greasy locks, in addition to the emu feathers, with the splendid tail-feathers of this bird when they can procure them.

"SAVE ME FROM MY FRIENDS."

"SAVE me from my friends, I can take care of my enemies," was the exclamation of some one to whom it was suggested by circumstances which rendered it no paradox. It has since fixed itself in the popular mind because occasions are perpetually occurring when men and causes appear in much more danger of being injured by their friends than by their enemies. It is indeed a most lamentable truth, that friends are more generally seen to be operative for evil than enemies, as if it were a law that that which is sweetest and best in this world should always carry in itself the greatest bitter. Respecting unfortunate princes, the remark has almost become an axiom. Laud and Strafford evidently did more to bring their master Charles I. to the block, than Pym and Hampden. James II. lost his throne, not through the manly English opposition

of his enemies, the whigs, but by those men who called themselves peculiarly his friends, the drivelling bigots who flattered him with their preachings of passive obedience, and changed their religion to please him. So it was also with Louis XVI. If he had had no friends within and without the country, plotting for his restoration to a power which for the time was impossible, to all appearance he would have settled into a quiet limited monarch, and transmitted his crown to his children. He was not destroyed because there were enthusiastic republicans in his country, who were the enemies of his kingly function and person, but because there were extravagant ultra-monarchists, who would not be corrected out of the ideas of a former age, and were so absorbed in their attachment to his single person, that they had no sympathy for the millions placed under him. Even French republicanism itself was allowed to be destroyed, not by its enemies, but by its friends, and not by the most lukewarm of these, but by the hottest. Robespierre, Marat, Barrere, the most enthusiastic of its lovers, the men who would have sacrificed anything for it, these were the men whom Providence appointed to make it odious for a series of ages in the eyes of mankind, by its phrensies, its heartlessness, and its immeasurable thirst for blood.

Take any great *cause* of modern times, and it will be found that its greatest difficulties and dangers are from those who esteem themselves as most peculiarly its friends. To contend against a great majority, to struggle with powerful prejudices and interests serried on the other side, to wait for the slow progress of truth in converting men's minds, these are easily submitted to: they are the common fate of all aspiring causes. And in all these contentions with what is declaredly inimical, there is elicited an active and cheerful spirit, well calculated to carry the rational votary over all sense of hardship. But very different is it to see the noble prospects in view dashed by a few hot-heads, who love the cause not wisely, but too well. Often will one rashly-spoken word from these men undo all the good that has been done by the multitude of the ju-

dicious. Their inconsiderate proceedings in general form the very bane of the cause. Yet all the time, they usually consider themselves as the only honest, consistent, efficacious persons in the whole fraternity. Those who pause for combined movements, they regard as indifferent and obstructive. In the partial compromise of opinion which must attend all union, they see only dereliction of principle. They neither can wait for a good time, nor stoop to take advantage of ordinary maxims of policy. If the thing can not be carried exactly in the way they wish, and in the form and to the extent of their wishes, all is to them naught. In fact, these heady co-sociates, who think themselves the only true friends of the cause, are simply the men of greatest self-esteem, obstinacy, and narrowness of judgment, in the party—a class of unmovable and impracticable dolts, who attend all parties to their confusion and vexation, doing infinitely more daily damage, and occasioning infinitely more peril, than could be produced by enemies ten times more powerful.

It is very curious to find the same principle operating to a large extent in the scientific world. Mr. Vigors, in a paper on the classification of birds, makes the following remarks on the great Swedish naturalist, his friends and enemies; "It has been his [Linnæus's] fate, in common with every exalted character who may be considered the founder of a school in science or philosophy, to have suffered more by the injudicious zeal and overweening partiality of his professed supporters, than from the undisguised attacks of those who would raise themselves upon his subversion. The former, regardless of the state of this department of nature [ornithology] at the period when he undertook to arrange it, and forgetting that the first efforts, even of his great mind, in reducing his subject into order, were necessarily but the rudiments of the science; mistaking, in fact, the foundation of his system for its perfect consummation, and thus making the grasp of the infant Hercules the measure of the powers of his manhood; these his injudicious supporters, I repeat, adhering solely to the letter of his works, but unmindful of their

spirit, have palmed upon him a confined and restrictive mode of arrangement, as foreign from the enlarged views of his own enlightened mind, as from the disposition of that Nature of which he was so faithful an interpreter. What was intended to have been applied to her works on a general and expanded scale, they would apply upon the minutest; they would make that system which they wish to uphold a universal and unalterable standard for the adjudication of every object that may be referred to it, however great or however contracted may be its dimensions. They would preserve this system, in short, as it came from their master's hands, unenlarged and undiminished; admitting no increase to suit the increasing knowledge of the times, no modification to embrace the accumulating modifications of nature. It is not therefore to be wondered at, that the adversaries of this great man should have rejected *in toto* a system which either their interest or inclination did not permit them to investigate, much less treat with justice, and which, thus modelled to their hands, they found unsuited to any practical purpose."

It was in the same way that the Aristotelian mode of reasoning, and Aristotle's philosophy in general, lost all repute among mankind. It passed through a period of intense worship; it had friends too enthusiastic, and who blinded themselves to all its obvious defects. They were able to keep it up for a time, for its sake rejecting what was better. But truth was victorious at last; and when it had fallen, men denied it the merits actually belonging to it, simply from disgust at the extravagant demands which had been made in its behalf. And this will ever be the case among mankind. The most that any great intellect can do, is to excogitate something considerably ahead of his own age. It is great for the time; but it can not be ever great, seeing that the general ideas of men make progress, and that what was once an outpost in the backwoods, becomes at length a decayed city, left in the rear of civilization. But the friends of the idea—the school—can not see this. It has been to them an authority and an idol for ages. Concentrating their attention upon it alone they per-

ceive not how the march of mind is passing it. They therefore worship on, after it has ceased to be a proper object of worship; their extravagant claims in its behalf continue—not a jot of its value will they abate—till at length they and it sink together in universal ridicule and contempt. In fact, the adherents of all great ideas are different men at different times. Such ideas are taken up at the first by the active and enterprising intellects, who care not for authority when their reason is satisfied. Latterly, they are clung to by the timid and the stupid, who can not stand for a moment without the support of authority; while the class of minds, such as first adopted them, are gone on far in the van in pursuit of something newer and better. All these ideas, nevertheless, are entitled to a respectable place in the history of mental progress. They served an end in their day, and the origination of them was a meritorious act. And such a place would they generally have, with not a voice raised in detraction from their credit, were it not that they have previously been made a hissing, if not a curse to mankind, by their injudicious friends.

We see this principle largely developed in private life; and it must ever be so, while it is so much more easy to be partial than to be wise, and while partiality is so apt to overset wisdom. The unfortunate property of a friend is, that his feeling is exclusive; he sees nothing which tells against the object of his attachment, and admits no limit to what may be compassed by his abilities. He is sanguine for him, when he would not be sanguine for himself; and excuses him, where he would condemn himself with the greatest severity. If a relationship of a tender kind exist between the parties, the danger is all the greater. How often is a really promising youth ruined because his friends have thought too well of him, and done too much for him! Compared with this evil, the utmost efforts of declared or even secret enemies would be as nothing; for, from the nature of things, such efforts can rarely be of much avail in any circumstances. But the dangers from a friend who would make us aspire to that for which we are unfit, who would send us every hour of our lives into false

positions from an overweening zeal for our interest, and whose flattering counsels tend to sap away every inclination to those exertions and self-denyings from which alone any good can be expected, these are indeed dangers! They are the greater dangers, that they are usually the first which we encounter in life, and that they occur when we have least fear and most self-confidence. Happy is he who, meeting such dangers, contrives to get over them without utter shipwreck.

Another of the penalties which we seem bound to pay for the happiness of having friends, is, that we must listen to all that their candor and anxiety for our welfare induce them to say to us. To commit occasional imprudences and absurdities, to make false moves in the business of life, to say things which we ought to have kept in eternal silence, are the lot of the wisest; for to err is human. Generally, we never hear a word upon the subject from the polite world. I must do the polite world the justice to say that I never heard an allusion from it to any error I ever committed. The heart becomes conscious of these errors itself; it confers with itself upon them, confesses the wrong, and forms sincere resolutions of amendment for the future. If now left to ourselves, all would be right. But how often does it happen that, just at this crisis, comes in a friend—perhaps one with a very tender claim upon our bosom's best feelings—eager for our interest, deeply, cordially anxious to see us all that we ought to be—and opens a lecture upon our guilt, prefaced by ten thousand caveats as to good intentions, and the duty of a friend; or perhaps, what is far worse, makes only a number of faint and delicate, yet significant general allusions to our criminality, which we can not take up with any view to self-defence; and thus, by galling us about that for which our own conscience already sufficiently upbraids us, sends our feelings off in perhaps quite the opposite channel, and undoes all the good that penitence had effected, besides leaving a deep and abiding sense of mortification! Nor is this all; for, few natures being quite angelic, it is scarcely possible to help feeling some anger at the author of the humiliation—and

—“to be wroth with one we love,
Doth work like madness in the brain.”

It is thus that we often find our greatest vexations arise from what appear our greatest blessings, and have occasion to say, with bitterness of spirit, “I care not for my enemies, but—save me from my friends!”

Who would be without friends? Who does not believe that friendship is one of the main cordials designed to support us through this varied scene? Yet who has not to recollect that many great errors of his life have been prompted by friends? Who has not to reflect, with bitter regret, that from the mouths of friends have proceeded nearly all the disagreeable, spirit-humiliating, unpalatable things that have ever been said to him? Well has it been observed, the shrub which bears the most beautiful of flowers is that which also bears the keenest of thorns.

THE RIVER ST. CLAIR AND THE CHIPPEWAY INDIANS.

LAKE Superior, the true source of the St. Lawrence, is the greatest fresh-water lake on the globe. Its waters are carried off into Lake Huron, which is only second to Lake Superior in extent, by a river called St. Mary's river, or strait. Lake Huron also receives the waters of Lake Michigan, which is nearly 300 miles long, with an average width of 75 miles. The river St. Clair, which issues from the south point of Lake Huron, carries off the waters of these three inland seas; after running about 30 miles between moderately high banks, it expands into Lake St. Clair, which is only about 30 miles in diameter. Lake St. Clair is connected with Lake Erie, whose circumference is computed at 658 miles by the river Detroit. Again, Lake Erie is connected with Lake Ontario by the Niagara, on which are the celebrated falls of that name. From Lake Ontario the river commences, though it is not termed the St. Lawrence until it reaches Montreal. The following table gives the course of the St. Lawrence, computing it



Scene on St. Clair River, Upper Canada.

as flowing through these various lakes until it reaches the sea.

If we consider Lake Superior as the true source of the St. Lawrence, the course of the river is between 600 and 700 miles shorter than that of the Mississippi, as the following table shows:—

| | |
|---|-----------|
| Lake Superior, along a curved line drawn through its centre | miles 400 |
| Straits of St. Mary | 40 |
| Lake Huron, also along a curved line through its centre | 240 |
| River St. Clair | 30 |
| Lake St. Clair | 30 |
| Detroit River | 29 |
| Lake Erie | 230 |
| River Niagara | 33 |
| Lake Ontario | 155 |
| St. Lawrence, up to Cape Roziere | 692 |

The sketch from which our engraving has been derived, was taken a mile below the spot where the river St. Clair issues from Lake Huron. The river forms a boundary between Upper Canada and the United States. The waters of lakes Superior, Michigan, and Huron, poured through this narrow channel, flow with considerable velocity, but their force is partly broken by the curves or bends of the river. The vessels in the foreground, and the steamer in the distance, indicate the rapid advance of civilization. A few years ago, steamboats were unknown on our rivers, and when they were first started, people ventured into them with something of that tremulous apprehension with which they would now step into the car of a balloon. They have already converted the rivers and lakes of America, which but yesterday, as it were, were only visited by the Indian, into great highways of commerce.

The spot represented by the engraving has an interest from its being a favorite resort of the Chippeway Indians, even while retreating before the advance of European emigration. Whatever definition we may give of the word "civilization," there can be no dispute that the life of the North American Indian does not come within it. His habits and customs, his state of precarious existence, his alternate indolence and violent activity, are altogether averse to the improvement or permanent happiness of man. Still we can not but feel a deep interest in the history of so remarkable a race, who, gene-

rally speaking, can not or will not amalgamate with the whites, and who are falling fast before their power or their vices.

The Crees and Chippeways constitute at present one of the most numerous and most widely-extended of the Indian tribes or nations inhabiting the interior of North America. The Chippeways inhabit the country about lakes Superior, Michigan, and Huron. It is stated that all the nations which are within the limits of the United States, north of the Ohio, and east of the Mississippi, speak languages which may be considered as only dialects of that spoken by the Crees and Chippeways. The Lanapi, one of these tribes, have a tradition among them, that "their ancestors, coming from the westward, took possession of the whole country from the Missouri to the Atlantic, after driving away or destroying the original inhabitants of the land, whom they termed Alligewi. In this migration and contest, which endured for a series of years, the Mengwe or Iroquois kept pace with them, moving in a parallel but more northern line, and finally settling on the banks of the St. Lawrence, and the great lakes whence it flows."

Some years since, when the Chippeways were selling the ground about the river St. Clair to the British government, their predilection for this favored spot which contains many graves, where are laid "the bones of their fathers," induced them to reserve for their own use and future occupation, sixteen square miles, besides some smaller reservations down the river. The log huts represented on the left bank of the river belong to them. There are about thirty of these houses here; and the affairs of the resident Indians are managed by a British superintendent, who has a good house; there is also a resident missionary; and among the buildings are a chapel, schoolhouse, and an Indian storehouse.

The Crees, like the other tribes of North America, live upon the produce of the chase and fisheries in the numerous lakes and rivers by which their country is watered. No kind of agriculture has been introduced among them, as among those tribes that inhabit the southern portions of the United States. This is chiefly

to be ascribed to the general sterility of the countries which they inhabit, and partly to the rigor of the climate. Even in the European settlements no attempt to sow and plant has been made north of Carlton House, on the Saskatchewan, and at the latter place only on a small scale. The hardships to which their manner of life frequently exposes them, and the want of food for some weeks together, sometimes compel them to commit cannibalism. Instances of this kind are on record, even of parents having fed on their own children; but these extreme cases are of rare occurrence. They commonly evince a strong affection for their offspring, and bewail for a length of time the loss of their relations.

MENTAL DISSIPATION.

LOCKE, whom there is no reason to suspect of being a favorer of idleness or libertinism, has advanced, that whoever hopes to employ any part of his time with efficacy and vigor, must allow some of it to pass in trifles. It is beyond the powers of humanity to pass a whole life in profound study and intense meditation, and the most rigorous exacters of industry and seriousness have appointed some hours for relaxation and amusement.

It is certain that, with or without our consent, many of the few moments allotted us will slide imperceptibly away, and that the mind will break from confinement to its stated task into sudden excursions. Severe and connected attention is preserved for a short time, and when a man shuts himself up in his closet, and bends his thoughts to the discussion of any abstruse question, he will find his faculties continually stealing away to more pleasing entertainment, and often find himself transported, he knows not how, to distant tracts of thought, and return to his first object as from a dream, without knowing where he forsook it, or how long he has been abstracted from it.

It has been observed, that the most studious are not always the most learned. There is, indeed, no great difficulty to

perceive that this difference of proficiency may arise from the difference of intellectual powers, in the choice of books, or the convenience of information. But I believe it likewise frequently happens, that the most recluse are not the most vigorous prosecutors of study. Many impose upon the world, and many upon themselves, with an appearance of severe and exemplary diligence, when they, in reality, give themselves up to luxury of fancy, please their minds with regulating the past, or planning out the future; place themselves at will in situations of happiness, and slumber away their days in voluntary visions. In the journey of life, some are left behind, because they are naturally feeble and slow; some because they miss the way; and many because they leave it by choice, and instead of pressing onward with a steady pace, delight themselves with momentary deviations, turn aside to pluck every flower, and repose in every shade.

There is nothing more fatal to a man whose business it is to think, than to have learned the art of regaling his mind with those airy qualifications. Other vices or follies are restrained by fear, reformed by admonition, or rejected by the conviction, which the comparison of our own conduct with that of others may in time produce. But this invisible riot of the mind, this secret prodigality of being, is secure from detection, and fearless of reproach. The dreamer retires to his apartments, shuts out the cares and interruptions of mankind, and abandons himself to his own fancy; new worlds rise up before him, one image is succeeded by another, and a long succession of delights dances around him. He is at last called back to life by nature, or by custom, and enters peevish into society, because he can not model it to his own will. He returns from his idle excursions with a peevishness, though not with the knowledge of a student, and hastens again to the same felicity with the eagerness of a man bent upon the advancement of some favorite science. The infatuation strengthens by degrees, and, like the poison of opiates, weakens his powers without any external symptom of malignity.

It happens, indeed, that these hypocrites

of learning are in time detected, and convinced by disgrace and disappointment of the difference between the labor of thought and the sport of musing. But this discovery is not often made, till it is too late to recover the time that has been fooled away. A thousand accidents may, indeed, awaken these drones to a more early sense of their danger and their shame. But those who are convinced of the necessity of breaking from this habitual drowsiness, too often relapse, in spite of their resolution; for these ideal seducers are always near, and neither any particularity of time nor place is necessary to their influence; they invade the soul without warning, and have often charmed down resistance before their approaches were perceived or suspected.

This captivity, however, it is necessary for every man to surmount, who has any desire to be wise or useful, to pass his life with the esteem of others, or to look back with satisfaction from his old age upon his earlier years. In order to regain liberty, he must find the means of flying from himself; he must, in opposition to the *stoic* precept, teach his desires to fix upon external things; he must adopt the joys and the pains of others, and excite in himself the want of social pleasures, and amiable communications.

It is, perhaps, not impossible to promote the cure of this mental malady, by close application to some new study, which may pour in fresh ideas, and keep curiosity in perpetual motion. But study requires solitude, and solitude is a state dangerous to those who are too much accustomed to sink into themselves. Active employment, or public pleasure, is generally a necessary part of this intellectual regimen, without which, though some remission may be obtained, a complete cure will scarcely be effected.

This is a formidable and obstinate disease of the intellect, of which, when it has once become radicated by time, the remedy is one of the hardest tasks of reason and virtue. Its first attacks, therefore, should be watchfully opposed; and he that finds the frigid and narcotic infection beginning to seize him, should turn his whole attention against it, and check it at the first discovery by proper counteraction.

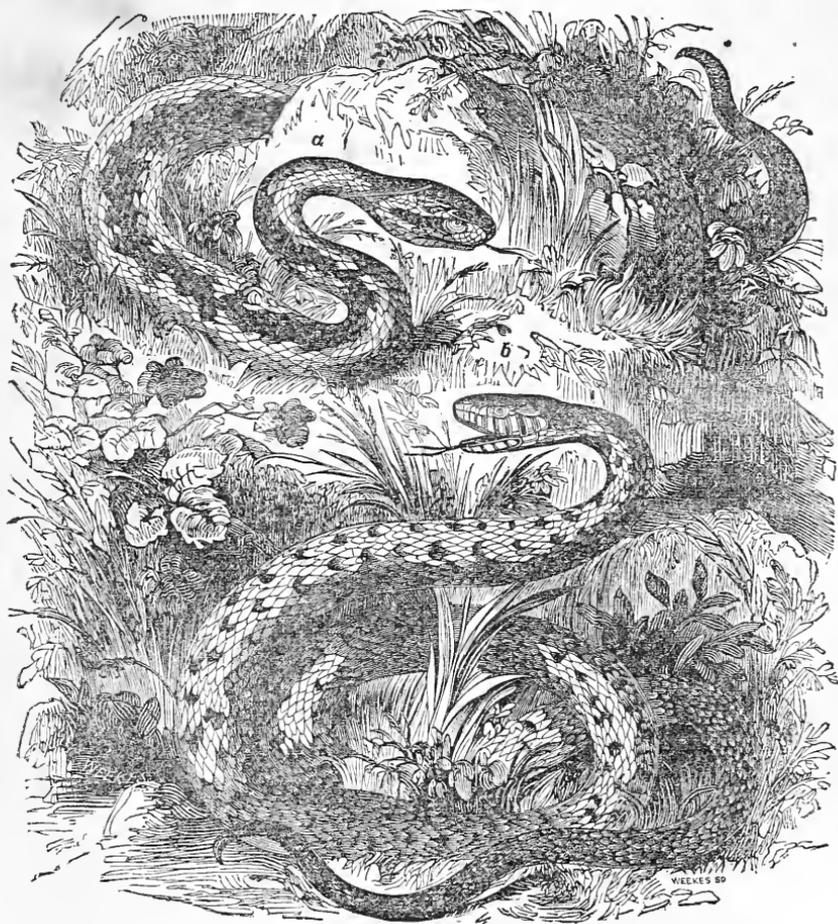
The first resolution to be formed, when happiness and virtue are thus formidably attacked, is, that no part of life be spent in a state of neutrality or indifference, but that some pleasure be found for every moment that is not devoted to labor; and that, whenever the necessary employments of life grow irksome, or disgusting, an immediate transition be made to diversion or gayety.

After the exercises which the health of the body requires, and which have themselves a natural tendency to actuate and invigorate the mind, the most eligible amusement of a rational being seems to be, that interchange of thoughts which is practised in free and easy conversation; where suspicion is banished by experience, and emulation by benevolence; where every man speaks with no other restraint but unwillingness to offend, and hears with no other disposition than the desire to be pleased.

There must be a time in which every man trifles; and the only choice that nature offers us, is, to trifle in company or alone. To join profit with pleasure, has been an old precept among men who have had very different conceptions of profit. All have agreed that our amusements should not terminate wholly in the present moment, but contribute more or less to future advantages. He that amuses himself among well-chosen companions, can scarcely fail to receive from the most careless and obstreperous merriment which virtue can allow, some useful hints; nor can converse on the most familiar topics, without some casual information. The loose sparkles of thoughtless wit may give new light to the mind, and the gay contention for paradoxical positions rectify the opinions.

SNAKES.

THE common or ringed snake (*natrix torquata*) is a beautiful and harmless creature, and may be readily tamed. It is abundant in low moist woods, damp meadows, and hedge-rows, especially in the neighborhood of water, to which it delights to resort, and in and around which



a, Common Adder. *b*, Ringed Snake.

its favorite food, the frog, is always to be procured. It often frequents gardens, attracted by the warmth of hotbeds and heaps of manure, in which the females deposit their eggs; for the same reason, as we can personally testify, snakes often frequent the sides and bases of limekilns composed of large rough masses of stone and turf, forming a thick mound, between the crevices of which they habitually conceal themselves. White, in his "History of Selbourne," complains that snakes lay chains of eggs every summer in his melon-beds, in spite of all that can be done to prevent them: the eggs, he adds, do not hatch till the spring following; hence it follows that where they are not laid in such places as manure heaps, or in the crevices of limekilns, as above noticed, and so subjected to what may be termed artificial heat regularly kept up, they have to undergo the natural cold of our winter. In all cases, most probably, they are so secured as to be defended against severe frost. The eggs are invested with a membrane, and are eighteen or twenty in number, connected together, by a glutinous matter, in a long string or chain.

The snake swims well, and very gracefully, with the head arched above the surface, and it can remain a considerable time below. It is probable that snakes pursue frogs and water-shrews in this element; but they also delight in it, for we have watched them swimming about without any apparent object beyond the pleasure of the bath: we have also known them take to the water in order to escape when chased; on one occasion we suddenly surprised a large dark-colored female basking on the edge of a large pond or sheet of water in Cheshire; on endeavoring to seize her, she plunged instantaneously into it, swam directly across to the opposite side, where the bank was high and precipitous, and there entered a hole, apparently the burrow of a water-rat. In this fondness for water the snake differs from the blind-worm, which avoids it, and from the viper, which prefers dry localities, seldom if ever voluntarily attempting to swim.

The snake is very voracious, and pursues its prey with great determination. It feeds on mice, nestling birds, and frogs,

especially the latter, of which it is a great destroyer. We have several times seen snakes in the act of swallowing a frog, their jaws forced asunder, their neck swollen, and so absorbed in their laborious efforts to engulf their prey, all the while alive, that they have made no attempt to escape. In taking the frog, the snake generally seizes one of the hind-legs, and first draws it in, then the whole body, portion after portion, till the whole disappears. This indrawing of the prey is not an act of simple suction, but is connected with the mechanism of the jaws, of which the bones are distinct, being united together and to the cranium only by elastic ligaments. This plan insures the necessary dilation of the mouth, for the prey swallowed generally exceeds the circumference of the snake; and next allows the opposite side of each jaw, above and below, the power of independent motion; the upper jaw on each side has two rows of sharp teeth; the lower jaw has one row. The process is as follows:—The frog being seized, the snake advances as far as possible the corresponding branches of the upper and lower jaw of one side, fixing the teeth into the skin of the victim; this done, and a secure hold taken, it advances the branches of the opposite side, and so on alternately, till the whole is gradually forced into the gullet, stretched almost to bursting. The poor frog is swallowed alive, and has been distinctly heard to utter its peculiar cry of distress some minutes after having been swallowed: this piteous cry it utters when chased by the snake, of which it has an instinctive terror; when fairly seized, however, it gives itself up to its fate, and seldom attempts to struggle. Mr. Bell relates a curious circumstance of two snakes seizing one the hind-leg, the other the fore-leg of the same frog, and continuing their inroads upon the victim till their upper jaws met, and they bit each other in turn. After one or two such accidents, the most powerful of the snakes commenced shaking the other, which still had hold of the frog, with great violence from side to side. In a short time the other returned the attack, and this was repeated till the one which had the slightest hold was regularly sha-

ken off, when the victor swallowed his prey in quiet. The contest being over, a frog given to the unsuccessful combatant was immediately seized and swallowed. In taking birds, lizards, &c., the snake swallows them head foremost. After gorging its food it becomes lethargic, and continues in a state of inaction till the whole is digested, when it seeks a fresh supply.

A celebrated naturalist, M. Schlegel, has ventured an opinion that snakes never drink; this is far from being correct. Dr. Cantor observes that the greater number of Indian serpents are partial to the water, and, with the exception of the tree-snakes, not only drink, but moisten the tongue, which, as this organ is not situated immediately in the cavity of the mouth, becomes two different acts. The same has been observed respecting African serpents, and the same applies to our common snake. Not only does it drink, but it is extremely partial to milk. Mr. Bell states that a tame one in his possession was accustomed to come to his hand every morning for a draught of milk, which it did of its own accord, and both in England and on the Continent it is accused of invading the precincts of the dairy in order to obtain its favorite beverage. When irritated, the snake hisses violently with anger, vibrates its "double tongue," and elevates its head; its eyes sparkle, its body swells, and it emits a disgusting odor. It is, however, a timid animal, and is disposed rather to escape than oppose an enemy. That it can be tamed, numerous experiments prove, and further, that it acquires feelings of attachment to its protector. In Sardinia the young women, according to Lacépède, tame the ringed snake, feed it themselves, putting into its mouth the food they have prepared; and the inhabitants of the country regard these snakes as animals of good omen, suffer them freely to enter their houses, and would think that they had driven fortune away, if they put to flight these innocent little creatures.

The Viper (*Pelias Berus*) commonly frequents dry woods, sandy heaths, peatlands, and sunny banks, and similar places. Vipers vary considerably in color; hence we have the black viper, the

blue-bellied viper, the red viper, the common viper, &c., which some naturalists have ventured to regard as distinct species—whereas the truth is they are mere varieties, as is now satisfactorily demonstrated.

It is by no means so dangerous as reported. It never commences an attack, and turns to bite only when driven to self-defence or suddenly molested; nor is its bite necessarily fatal. We have ourselves known persons bit by vipers—one a relative; he was punctured on the thumb; the part swelled and inflamed, and the inflammation (with considerable pain and constitutional irritation) ascended the absorbents to the axillary glands; with a little care, however, in a few days every bad symptom was removed. We have, indeed, heard of cases in which death has resulted from a viper's bite, but we have never been able positively to authenticate an instance, though we are willing to admit that, as the effects are much more severe in some instances than others, persons of a highly excitable or feeble temperament may have sunk under the action of the poison, especially if the animal was in full vigor and activity when it inflicted the wound. It is a remarkable fact that the poison of venomous snakes may be swallowed with impunity, that is, if the mouth or throat be utterly free from any wound or abrasion of the cuticle; internally taken it is perfectly inert—and this has been proved by repeated experiments. The venomous fluid is pellucid, tasteless, and resembles a thin solution of gum-arabic in water. It evidently contains an acid, for it slightly reddens litmus-paper; Dr. Cantor found this the case with the poison of numerous species of terrestrial Indian serpents, and several species of marine serpents, and Dr. Harlan observed the same in his experiments with the poison of the rattlesnake. The poison is secreted in a sac at the base of each poison-fang, which is tubular, or rather, which encloses a groove on its external part; and through this the fluid passes when the animal inflicts a wound. In a state of rest, the poison-fangs fold backward along the margin of the jaw, and are covered by a fold of skin; but when the viper is about to strike, it

erects these fangs, throws itself into a coil, elevates its head, abruptly bends backward its neck, launches its head forward, strikes its teeth into its assailant, and instantly reassumes its position, the whole being the work of a single moment. Small animals, as mice, rats, birds, &c., are immediately affected by the poison, and soon perish. The viper often attempts to swallow prey too large to pass down the œsophagus, which perhaps is not as capable of dilation as in the common snake. Mr. Bell has in his possession a small viper taken on Poole Heath, in Dorsetshire, which was taken in a dying state, having forced down a mouse, which had caused the skin of the neck to burst in several places.

The viper is oviparous, the young being excluded from the egg previously to parturition. So requisite is the heat of the sun for this development of the young, that the female viper may be often seen extended in the genial rays, basking with flattened body, and unwilling to remove from the spot on the approach of danger. The young vary in number from ten to twenty, and are alert and active from their birth.

We have often heard it asserted, though we have never been able to verify the statement, that the young vipers when alarmed hastily retire within the mouth of their parent, and lodge in the stomach or œsophagus till the danger is passed. One man relates that he has himself seen as many as thirteen young vipers thus enter the mouth of their parent, which he afterward killed, and opened for the purpose of counting them. The following extract shows that the habit is common to other venomous serpents, all of which are, I believe, without exception oviparous. It is stated of the rattlesnake, in Hunter's "Memoirs of a Captivity among the North American Indians," that "when alarmed, the young ones, which are eight or ten in number, retreat into the mouth of the parent, and reappear on its giving a contractile token that the danger is passed."

In many parts of England the viper is better known by the name of 'adder; *neidr* being the ancient British and modern Welsh name. It seldom exceeds two feet in length.

DANGERS OF LIFE.

HUMAN life is a sort of gossamer thread, frail and brittle, even to a proverb. And amid the thousand dangers to which it is exposed, over the rough-and-tumble of its brief and rapid journey across time's narrow isthmus, it is almost a miracle that it holds on a year.

"Strange that a harp of thousand strings
Should keep in tune so long."

The invisible hand of the Great Architect alone could keep the beautiful and complicated machinery of the human frame in harmonious motion for a single day. And yet what multitudes daily and hourly forget the hand that sustains and protects them amid these visible and invisible dangers. Not unfrequently the wheels of this wondrous machine get out of order from furious and intemperate driving of some sort, and then the wheels go whizzing and buzzing till reason totters on its throne, or their slow, sluggish movement gives indications of a final collapse. The whole structure feels the shock, and it requires all of nature's recuperative influence, aided by the skill of the *materia medica*, to restore it to healthful and vigorous action. But the strangest thing of all is, that he who dwells in and conducts the movements of this beautiful and wonderful machine, has no more sense of dependance, and no more feeling of gratitude to Him whose inspiration sends daily and hourly the warm currents through all its channels, giving it life and health, and vigor of motion.

We hold our existence, says a fine writer, at the mercy of the elements; the life of man is a state of continual vigilance against their warfare. The heats of noon would wither him like the severed herb; the chills and dews of night would fill his bones with pain; the winter frost would extinguish life in an hour; the hail would smite him to death, did he not seek shelter and protection against them. His clothing is the perpetual armor he wears for his defence, and his dwelling the fortress to which he retreats for safety. Yet even there the elements attack him; the winds overthrow his habitation; the waters sweep it away. The fire, that warm-

ed and brightened it within, seizes its walls, and consumes it, with his wretched family. The earth, where she seems to spread a paradise for his abode, sends up death in exhalations from her bosom; and the heavens dart down lightnings to destroy him. The drought consumes the harvest on which he relied for sustenance; or the rains cause the green corn to "rot ere its youth attains a beard." A sudden blast engulfs him in the waters of the lake or bay from which he seeks his food; a false step, or a broken twig, precipitates him from the tree which he had climbed for its fruit; oaks falling in the storm, rocks toppling down from the precipices, are so many dangers which beset his life. Even his erect attitude is a continual affront to the great law of gravitation, which is sometimes fatally avenged when he loses the balance preserved by constant care, and falls on a hard surface. The various arts on which he relies for protection from the unkindness of the elements, betray him to the fate he would avoid, in some moment of negligence, or by some misdirection of skill, and he perishes miserably, by his own inventions. Amid these various causes of accidental death, which thus surround us every moment, it is only wonderful that their proper effect is not oftener produced; so admirably has the Framer of the universe adapted the faculties by which man provides for his safety, to the perils of the condition in which he is placed.

BULL-HUNTING.

THE Spanish bull-fight has been often described, but that species of bull-fight which, while it affords pastime to the people, subdues the noble animal to be a partaker of the labors of the husbandman is, we believe, little or not at all known in this country. The peninsula abounds with extensive forest-lands, which, though reaching over a wide extent of country, is sufficiently open to afford pasture and food to herds of wild cattle who roam almost unmolested among their wild shades. The great forest of the Alemtejo is an apt

illustration. In this some hundreds of square miles of country are occupied by growing timber; but within its bounds large open spaces exist which serve for pasturages, and occasionally a farm, a vineyard, or an olive-grove may be seen struggling, as it were, for existence, amid the vast solitudes. But though occasional glimpses of culture appear, they are far too few and far between to offer any serious check to the increase and independence of the herds which roam around them undisturbed. It was in this forest that I witnessed for the first time the method of capturing the wild bulls. I had received intimation that the village of Alcoxete, on the Tagus, was to be the scene of a bull-fight, and that the villagers for many miles round were invited to join in the hunt, which was to take place on the following day; I accordingly crossed the river in company of about twenty persons, mostly military, each being provided with a long pole, having a small spike fixed in one end, and mounted as inclination or ability suited. When we arrived on the opposite bank, a little before day-break, we found about 250 or 300 persons assembled, some mounted on different sorts of quadrupeds, from the noble Andalusian horse to the humble hack-donkey, and very many on foot. They were all armed in a similar manner to ourselves. As soon as daylight began to appear we all marched off toward the forest. The morning was peculiarly fine, and the interest of the beautiful scenery was heightened by the varied costumes of the persons by whom we were surrounded. As soon as we had advanced some distance into the wood we halted for the purpose of refreshment, before the arduous and somewhat perilous duties of the day began. After a hasty meal, we divided into two parties, one stretching in a long line to the right and the other to the left. We had not advanced far in this manner before we fell in with a herd of cattle having twelve bulls with it, which no sooner descried us than they bounded off with the speed of lightning. The sport had now begun; we put our horses to the utmost speed, threading our way among the tall pine-trees as well as we could, and endeavoring by wild cries to drive the bulls



Wild Bull Hunting.

toward the other party. At length, after about an hour's chase, some half dozen of us who were better mounted than the rest came up with them, and commenced the attack with our long poles. The manner was this: One person riding at full speed gave the bull nearest him a sharp prick with the goad, which it no sooner felt than it turned upon its assailant and gave chase; another horseman then coming up attacked it on the other side, when, leaving the first assailant, it turned upon the second; he in like manner was rescued by the third, and so on. The attention of the infuriated animal thus distracted, prevented his escape, and gave time for the other hunters to come up. The bulls were thus at length separated from the herd. A sufficient number having arrived to form a circle round them, we commenced operations for the purpose of driving them toward the town: all the skill of the riders was now necessary, and all the activity possessed by both man and horse, to keep clear from the pointed horns which on every side were directed against him, as well as to prevent the herd from breaking through the living net with which it was surrounded. This was perhaps the most difficult part, and was attained by keeping each bull separately engaged, and thus preventing united action; for what line was sufficient, armed as we were, to resist the simultaneous rush of these most powerful animals? The continued activity and exertion requisite had knocked up many of the poor jades who had started in the morning, and the circle became smaller and smaller as the day advanced; several, too, had been carried off severely gored by the horns and feet of the bulls. I, however, and the party with whom I started, were resolved to see the conclusion, and redoubling our efforts we at length, about four o'clock in the afternoon, succeeded in driving them into an enclosure where were a number of oxen (all at one time wild) with bells, quietly grazing. Here they were kept till required for the next day's sport.

The square of Alcoxete had been fitted up in the form of an arena, with seats or rather standing places all round; the centre was carefully cleaned, all stones removed, and fresh sand strewn. At one

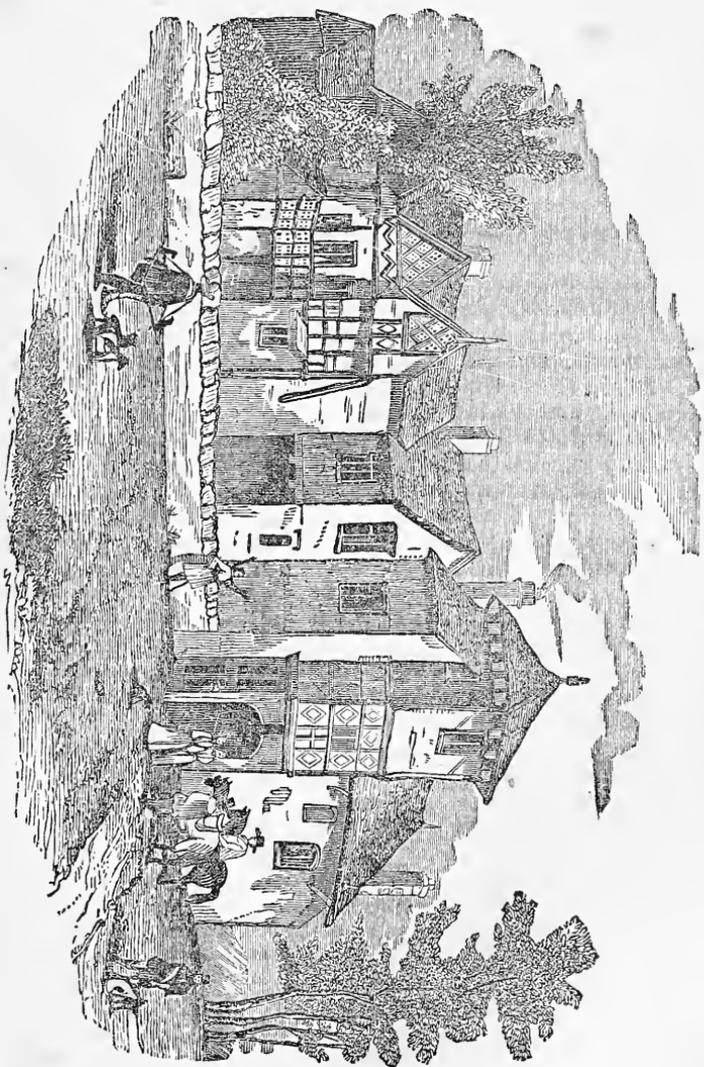
side a cart was stationed for a purpose to be presently described; at the other a pen was fitted up for the reception of each bull as it was to make its appearance, communicating by a door with the place where the herd was enclosed. The difficulty of bringing the bulls from their temporary resting-place to the scene of their humiliation was not less than that of their original capture. Through the forest they had only the trees and shrubs before them, to which they were accustomed; and if the line of huntsmen alone was sufficient to awaken their rage and terror amid scenes familiar to them, how much more must those feelings have been excited when passing through the streets of a town crowded with people, the houses gayly decorated with red, blue, white, and green hangings, and greeted with a thousand tongues in the joyousness of expectation? Twice the terrified and furious here turned and dashed through the assembled crowd, tossing and goring all who ventured to oppose them, and twice the circling horsemen brought them back. One fine black bull took to the river and swam out about two miles before a boat could be put off to recapture it. Several of the English soldiers who were quartered near the town swam after it, and one of them, an excellent swimmer, had nearly reached it, when a fishing-boat came up, and fixing a cord round the bull's horns towed it in. The soldier, however, was resolved not to have his trouble for nothing, and mounting on its back, was landed safely amid the shouts of the spectators. The sport of bating the bulls for the purpose of taming them, began at three in the afternoon, when the heat of the sun had somewhat abated. Six of the wild animals were ushered into the circus, surrounded by a band of mounted picadores, and accompanied by several tame cattle with bells, when one by one they were secured with cords to the cart, and a leathern cap placed on the points of the horns, after which they were all driven into the pen. The circus was then cleared, and the Spaniards entered, gayly attired in the Andalusian costume, the grace and elegance of which must be seen to be properly understood. The hair, which is worn long, is confined in a black silk bag,

which is fastened with bows of black ribbon: the light-colored velvet jacket covered with gold lace and silver gilt buttons, the velvet vest richly embroidered, the lace shirt, red silk sash, velvet breeches, and silk stockings; all harmonizing in color and form, set off the figure to the best advantage, and add to the grace and elegance for which the Andalusian is so justly celebrated. These men, of whom there were five or six, are accustomed from their infancy to the dangerous employment of bull-fighting, and the agility and dexterity displayed in evading the furious attacks of the bull are astonishing. After carefully examining the arena, they each armed themselves with four short barbed darts, and waited for the coming of the bull: they had not to wait long; the door was thrown open and the animal rushed into the centre, greeted by the shouts and vivas of the spectators. One of the Spaniards advancing invited the attack, when the bull, who at first, bewildered and amazed, had stood tearing up the earth with its feet till almost hid from view by the cloud of dust, lashing itself into fury with its tail, rushed upon its opponent. All who were not accustomed to such spectacles thought the man must inevitably have perished; but just as the long and powerful horns seemed to touch his body, he stepped nimbly aside, and turning smartly round, planted all four darts in the animal's neck just behind the horns. Loud shouts of applause rewarded his dexterity, and the bull, more enraged than ever, ran round the area tearing up the earth and bellowing with rage, until encountered by a second picadore with like success. After the Spaniards had exhausted themselves in exciting the rage of the bull, they quitted the area, and the populace were admitted to throw the bull: this was generally done by one man leaping between the horns, upon which he supported himself in an upright posture till relieved by his companions, who threw the bull to the ground. The cry of "largo, largo," was the signal for its liberation, when some tame cattle being admitted, it was led by them to the pen. Three weeks afterward I had these very animals under my charge as baggage oxen, as tame and gentle oxen as could be desired.

OLD ENGLISH TIMBER HOUSES.

IN England previous to the reign of Henry VII., houses were commonly built with a framework of timber filled up with plaster. Even the humble cottage had its timber supports and "smoky rafters," though clay and turf might be used to fill up the spaces between the timbers, and thatch covered the rafters. Not only single houses in the country, but streets in villages, towns, and cities, were formed of this kind of timber and plaster-work. In districts where stone was abundant, stone houses were occasionally built, but they were far from common. In London, indeed, where, from the large number and contiguity of the houses, fires were more frequent and extensive than elsewhere, an order was issued, as early as the first year of the reign of Richard I., which directed that the lowest story should be built of stone, and the roof covered with slates or tiles. In other cities and towns, however, where no such regulation existed, the entire skeleton of the house continued to be made of wood. There are still numerous remains of this street architecture in the more ancient towns of England, such as Exeter, Bristol, Chester, and Coventry, where specimens may be seen worthy of the study of the painter, as well as the architect: it has not been entirely swept away by the flat uniformity of brick walls even from the streets of London: specimens of it, but old and dingy, and not in the best style, may still be seen. In some towns large and lofty houses still continue to be built with a timber framework and plaster walls.

The art of building with brick was introduced into England by the Romans, but in the troubled times which followed their departure it seems to have fallen into disuse, and so continued till the reign of Henry VII., though churches and castles, and occasionally houses were built of stone. The mansions of the nobility were nearly all castles, with solid stone walls and massy gates, and those of the classes next below the nobility were castellated and fortified, at least all such mansions as were not within walled towns. The churches alone were safe; and, under the the encouragement of kings and



Holme Hall, Lancashire.—Front View.

nobles, and wealthy churchmen, ecclesiastical architecture reached a degree of perfection which has not been surpassed in any age or country.

Little attention appears to have been paid to the external appearance of these half-timber houses in the disturbed and warlike times which preceded the reign of Henry VII. ; but from that period a great change took place. The wars of the rival houses of York and Lancaster were at an end. The terrors and anxieties which had accompanied those wars were no longer felt. Peace came upon the land like a calm after a succession of destructive storms, and the people's hearts, which had so long been "brimful of fear," were now as brimful of thankfulness and joy. Then there were games and sports in town and country, processions and masks, and the glorious old drama of England. Singing in parts was practised throughout the whole country, and madrigals and glees, and songs, resounded, not only in palaces and halls, but in villages and farms, and the lonely cottage.

This was, comparatively, at least, a happy time, and through six successive reigns of peace, the domestic architecture of England continued to be cultivated, and, as far as regards external appearance, reached its highest state of perfection. The homes of England became as fair to look upon without, as they were happy within.

In the reign of Henry VII. some of the nobility and wealthy classes began to build their houses with brick ; but timber continued in use with the great body of the people, rich as well as poor. Not only houses in the country, but streets in villages and towns were formed of timber in the indigenous old style, but with especial regard to beauty of appearance.

This style of domestic architecture, which, in its earlier state is called the Tudor style, and in its later state the Elizabethan style, may perhaps be appropriately called the style of the sixteenth century, commencing, as it did at the latter end of the fifteenth century, and terminating in the early part of the seventeenth. In its chief characteristics it is essentially Gothic, resembling that of the

ecclesiastical buildings, but some parts are altered and others added to suit the difference between church architecture and house architecture. In the gables, with their crowning pinnacles, in the porches, the doors, and the general forms of the mullioned windows, the resemblance is obvious ; but chimneys, which are not required for the church, are characteristic of the house, and the overhanging of the floors and projection of the windows are still more striking characteristic differences. As the walls were formed of nothing more substantial than timbers and plaster, the overhanging of the stories was perhaps chiefly required to protect the walls from the weather. For the overhanging of the first-floor story there was another reason, which especially applied to streets. Commodities of all kinds were exposed for sale in the open fronts of the shops, and were protected from the weather by the overhanging story. Less than half a century ago there still remained a silversmith's shop on Ludgate Hill which had a projecting story, and open front, the plate and jewellery being offered to view in separate glazed frames. The convenience of the passengers also would doubtless be attended to in those times when umbrellas had not been brought into use. Ladies might go a-shopping even on a wet day, and walk the length of whole streets under a complete covering of overhanging stories.

Hulme Hall, of which we have given a representation, was one of these ancient timber manor-houses. It was situated at a short distance from Manchester, on the bank of the Irwell. The manor in the time of Edward I. belonged to the family of De Rossindale. In the reign of Henry VI. it had passed to the family of Prestwick, in which it remained till 1660, when it was purchased by Sir Richard Moseley. In 1751 it was bought by George Lloyd, Esq., who, in 1764, sold it to the duke of Bridgewater, in whose family it still remains. The manor-house had been long in a state of decay, and was let out to different tenants. It has been very recently pulled down, our drawing having been taken by T. F. Marshall just previous to its demolition.

THE SILENT ACADEMY OF ISPAHAN.

THERE was at Ispahan an academy, of which the first law was, "The academicians shall think much, shall write little, and shall speak as little as possible. It was called the Silent Academy, and there was not a true philosopher in all Persia who was not ambitious of obtaining admission. Dr. Zeb, the author of an excellent work on silence, heard in the distant province where he dwelt, that there was a place vacant in the academy. He set out immediately, arrived at Ispahan, and presenting himself before the hall where the academicians were assembled, requested the officer to hand this billet to the president: "Doctor Zeb humbly begs the vacant place." The officer executed his commission without delay: but the doctor and his billet arrived too late, and the place was already filled up.

The academy was much vexed at this disappointment, but their laws forbade the increase of their number, and they were compelled to refuse even the learned Dr. Zeb. The president, charged with announcing the disagreeable tidings, after pondering a little how he should make the communication, ordered a large glass to be filled with water, so that a single drop more would make it overflow. He then ordered the candidate to be introduced, who appeared with that air of simplicity and modesty which always announces true merit. The president rose, and, without saying a single word, pointed with a most doleful countenance to the emblematic cup. The doctor understood the symbol; but without losing his presence of mind, he wished to make them understand, that one supernumerary academician could produce no derangement. Seeing at his feet the petal of a rose, he picked it up, and placed it gently on the surface of the water, and did it so neatly, that not a single drop escaped.

Every one applauded this ingenious reply; the laws were for that day suspended, and Dr. Zeb was admitted by universal acclamation. He was forthwith presented with the register of the academy; he inscribed his name, and there only remained, that, according to custom, he should deliver a single sentence of ac-

knowledgment. But Dr. Zeb, true to the principles of the academy, returned thanks without saying a word. He wrote on the margin the number 100, which was that of his new associates, and prefixed a cipher (0100), to signify that the former value was neither increased nor diminished. The president, however, soon politely shifted the modest cipher of the doctor, to where it indicated that the worth of the society was raised tenfold (1000).

In this eastern story, we are taught that silence is often the most expressive language of the philosopher, and that humility is the highest of philosophic as well as of Christian virtues.

ORIGINAL PURCHASE OF THE ISLAND OF
NEW YORK.*Hooghe Moghende Heeren :*

Here is ghister "t schip" Wafen van Amsterdam aengekomen, en is den 23 September uyt Nien Nederlandt gezylt uyt de rivier Mauritius. Rapporteren dat ons volk daer kloec is en vreedigh leven, hare vrouwen hebben ooc kindered aldaer gabaert; hebben 't eyland Manhates van de Wilde gekocht voor de waerde van 60 gulden; is groot 11,000 morgen. Hebben der alle koren half Mey gezeyt en half Augusro gemavd. Daervan veynden de munsterkins van Zomer-Koren, als tarrew, rogge, garst, haver, boucweyt, knarizaet, boontjens en vlas. P. SCHAGHEN.

Amsterdam, 5 Nov., 1626.

[TRANSLATION.]

High and mighty Lords—Yesterday arrived the ship "The Arms of Amsterdam;" she sailed from the river Mauritius [Hudson], in the New Netherlands on 23 September. They report that our folk there are prosperous and live in peace; their women have borne children there already; they have purchased from the Indians, for the sum of 60 guilders,* the island Manhattan, which is 11,000 morgen† large. They have already sowed grain by the middle of May and reapt by the middle of August; samples of summer crops have come, such as wheat, rye, barley, oats, buckwheat, canary-seed, beans and flax.

P. SCHAGHEN.

Amsterdam, 5 Nov., 1626.

*24 dollars.

† 13,920 acres.

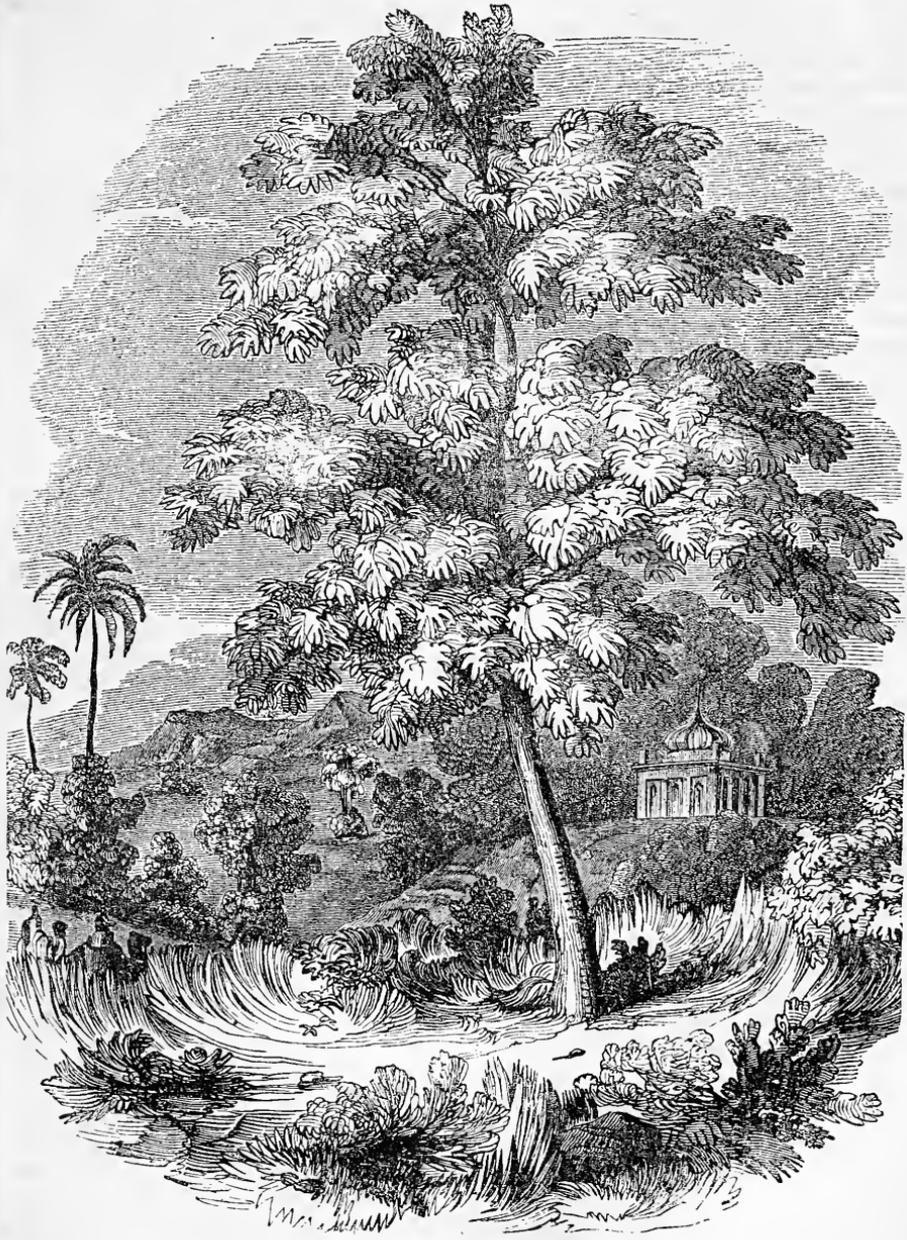
THE CAOUTCHOUC-TREE.

THE remarkable substance known as caoutchouc is produced from several different plants of the same genus as the common fig-tree. The number of species of ficus is indeed considered to be as great as that of any arborescent plant, but they flourish only in tropical countries or in the warmest regions of the temperate zone. Some creep like the ivy, while others rear their heads as high as any of the trees of the forest, their large leaves affording a thick shade and a delightful shelter from a tropical sun. For a man to sit under his own fig-tree in the climate where those trees are indigenous, conveys associations of the pleasantest kind. Fraser speaks thus of what he saw of their habits in the forests at Moreton bay, in New Holland: "I observed several species of ficus upward of 150 feet high, enclosing immense iron-bark trees, on which originally the seeds of these fig-trees had been deposited by birds. Here they had immediately vegetated, and thrown out their parasitical and rapacious roots, which, adhering close to the bark of the iron-tree, had followed the course of its stem downward to the earth, where, once arrived, their progress of growth is truly astonishing." Some of the genus are remarkable for throwing out roots from their branches, which, on reaching the ground, establish themselves there, and an individual tree thus extends itself over a considerable space of ground, forming a series of leafy alcoves. The banyan-tree is an instance of this peculiar habit. The *ficus religiosa* is planted near houses in India for the sake of its grateful shade. The Hindoo deity Vishnoo is fabled to have been born under its branches.

The juices and produce of the ficus genus possess various qualities, some species yielding deadly poison, and others cooling and refreshing fruits. The milk of the common fig is extremely acrid when the fruit is in an unripe state, but in its progress toward maturity the chymical elements of which it consists enter into new combinations, and fortunately lose the acrid quality which would otherwise render them unfit for the consumption of man. A species of the fig-tree in Suma-

tra is known to botanists as *ficus toxicaria*, and in Tanjore another tree of the same class is termed *ficus demona*, from the virulent character of their juices. The Upas of Java, which contains most deadly poison, is of the ficus genus, and so also is the American cow-tree, which on the other hand yields a cool and agreeable beverage resembling milk. The leaves of some of the fici are tonic; in others they act as an emetic; in some as a caustic. The bark of others is used for tanning, and in several it may be taken as a tonic. Nature seems to have been profuse in investing the genus with an extensive range of qualities beyond that of almost any other class of plants; but nearly all of them yield caoutchouc.

The *ficus elastica*, from which caoutchouc is chiefly obtained, is a native of South America and India. It has shining, oval, pointed, thick leaves, small axillary uneatable fruits the size of an olive, and long pink or red terminal buds composed of the stipules rolled together. This species inhabits the Pundua and the Juntipoor mountains, which bound the province of Silhet on the north, where it grows to the size of the European sycamore, and is called kasmeer. It is chiefly found in the chasms of rocks and over the declivities of mountains, among decomposed rocks and vegetable matter. It produces when wounded a great abundance of milk, which yields about one third of its weight of caoutchouc. It grows with great rapidity; a tree is described as being twenty-five feet high, with the trunk a foot in diameter, when only four years old. The juice of this valuable plant is used by the natives of Silhet to smear over the inside of baskets constructed of split ratan, which are thus rendered water-tight. Old trees yield a richer juice than young ones. The milk is extracted by incisions made across the bark down to the wood, at a distance of about a foot from each other, all round the trunk or branch up to the top of the tree, and the higher the more abundant is the fluid said to be. After one operation the tree requires a fortnight's rest, when it may be again repeated. When the juice is exposed to the air it separates spontaneously into a firm elastic substance and a fetid whey-



The Caoutchouc Tree (*Ficus Elastica*).

colored liquid. Fifty ounces of pure milky juice taken from the trees in August, yielded exactly 15½ ounces of clean washed caoutchouc. This substance is of the finest quality, and may be obtained in large quantities.

The use of caoutchouc with which we are most familiar, is that of removing the marks of lead-pencil from paper, and its most common name is Indian-rubber. It is not much more than a century since it was introduced into Europe, and the manner of its production was at first unknown. In 1735, some members of the French Academy of Sciences visited South America, when they found it was the thickened juice of a Brazilian tree, and in the following year an account of its preparation was given to the Academy. The best time for obtaining the greatest quantity of caoutchouc is in the rainy season, when the trees being pierced, a thick juice, having neither taste nor smell, exudes, which on its first appearance is of a yellowish-white color, and afterward becomes darker by exposure to the atmosphere, and also solidified. Several coatings of caoutchouc being successively applied to the exterior surface of clay models of bottles, they are dried over fires, in the course of which each stratum of caoutchouc becomes blackened by the smoke. The lines usually visible on the exterior of a bottle of Indian-rubber are traced with a blunt tool. After being exposed to the drying effect of fire for a sufficient length of time, the clay is crushed and shaken out of the bottles, which are then ready for exportation. The Indians had long been in the habit of making boots of caoutchouc, which were perfectly waterproof, and the inhabitants of Quito were accustomed to employ it in the manufacture of cloth. Caoutchouc gives a soft and beautiful light, and before the demand in Europe became so great, the South Americans were in the habit of employing it in flambeaux. One of these, an inch and a half in diameter and two feet long, would burn during twelve hours. The caoutchouc obtained from India is prepared in a different manner from that which is followed in South America, being, when imported, in a solid flat state, and not blackened.

The chymical properties and affinities

of caoutchouc, which adapt it for a great variety of purposes, must be treated in connexion with its uses as a substance of growing importance in the manufacture of an increasing variety of articles.

CHARITIES THAT SWEETEN LIFE.

PLEASANT words! Do you know, reader, how potent a spell lies in a pleasant word? Have you not often thought of its power to sooth—to charm—to delight, when all things else fail? As you have passed on through the journey of life, have you not seen it smoothing many a ruffled brow, and calming many an aching bosom? Have you not noticed it in the house and by the way—at the fireside and in the place of business? And have you not felt that pleasant words are among the “charities that sweeten life?” Ah! yes, and their influence has come over your own soul. Not long since when you went bending to the earth, oppressed and weary with life’s manifold sorrows—when dark clouds have hovered over you—when you were ready to yield in despondency the pursuit of happiness, and give yourself up to unmitigated gloom—when no object of life seemed desirable, and even the friendship of earth were worthless in your eyes—when you would fain have passed the companion of your childhood unnoticed, as you meet him by the way—oh! you can tell how, in such an hour, the sound of a cheerful voice—one pleasant word has dispelled the gloom, and given you to the world again—a man—a hopeful, trusting man. You can tell us how like an angel-whisper was the kind inquiry of that companion, and how the tone of cheerful sympathy sent the dark clouds rolling from your sky, and, revealing the bright light of day, showing you that earth is not *all* a wilderness, nor man a being utterly deserted to wretchedness.

Or, when you come from the counting-room or workshop careworn and weary—when your brow has been furrowed and your thoughts perplexed—when troubles of the present and anxieties for the future have crowded every peaceful feeling from

your heart, and when you almost dreaded to return to your own fireside, lest the sight of dear ones there should increase your distress—tell us what has been the influence of a pleasant word at such a time. Tell us how that, ere you opened your door, the sound of glad voices reached your ear, and as you entered, how the troubles of your soul were laid at rest; and cares, for the present and for the future, fled before the pleasant words of your smiling children and the gentle greeting of your wife.

Or, when the *ire* of your spirit has been roused, and indignant feelings have reigned supreme in your breast—when the angry threat was just rising to your lips, or the malignant wish about to burst from your heart—what mighty spell caused the storm so suddenly to subside, and spoke the turbulent waves so quietly to rest? Was it the whisper of a *pleasant word* that restored calmness to your tempest-tossed soul? Did the *soft answer* turn away your wrath?

Reader, we might write a volume on this delightful theme. Go where we will, abide where we may, we feel its power. In every place we find some, who have but to *speak*, and gloom, unbidden, unwelcome guest, departs in haste, and the raging waves of passion are hushed, as by His voice who once said, "Peace, be still." But they are few. Among the multitudes of the earth, how small the number who habitually and from principle *speak pleasantly*. You have met them. Now and then they have crossed your path, and I doubt not your whole soul has blessed them as it ought, for the words which were balm to your wounded spirit. And did you not wish you were like them? Did you not feel that earth would be a paradise indeed, if all the tones of that matchless instrument, the human voice, were in harmony with the kind thoughts of a thoroughly kind heart? But, while you thus wished, did you resolve to add one to their number? Did you determine to imitate their example? Would that I could persuade you that it is your duty so to do—that henceforth you should make it a study. You think it a small matter requiring little effort. But I assure you it might cost you many a struggle ere you

could learn to speak in pleasantness to all whom you might chance to meet, even in one short day; and if you accomplished it perhaps it would be a better day's work than ever you did, and you might lay your head on the pillow of rest at night with feelings akin to those of spirits around the throne.

Oh, learn this art yourselves, all ye who have felt its kindly influence from others. Speak pleasant words to all around you, and your path shall ever be lighted by the smiles of those who welcome your coming, and mourn your departing footsteps.

Mother, speak pleasantly to the little ones who cluster around you—speak *ever* pleasantly, and be assured that answering tones of joy and dispositions formed to constant kindness shall be your reward.

Sister, brother, friend—would you render life one sunny day, would you gather around you those who will cheer you in the darkest hour? Let the law of kindness rule your tongue, and your words be pleasant as the "dew of Hermon," and as "the dew that descended on the mountains of Zion."

CASTALIA.

MOUNT Parnassus, the city of Delphi, and the Castalian fountain, are among the objects which ancient poetry has most delighted to consecrate.

As the abode of the Muses and Graces, as the shrine of Apollo, and the seat of the most famous of all oracles, as the source of poetical inspiration, the mountain, the city, and the stream, were endowed with all the charms that the fertile imagination of the susceptible Greeks could conceive. The poets of Rome, who were in most particulars followers of those of Greece, continued the same homage and fervent adoration; and even now, when Greek polytheism has given way to the Christian faith, this spot still retains something of its wonted influence. The bard still invokes the Muses from the sacred hill, honors the long-deserted shrine of Apollo, and prays for the inspiring draughts of the Castalian fountain.



View of the Castalian Fountain.

Unlike many other parts of Greece to which poetry and a most poetical superstition attached themselves, this peculiar district does not disappoint the expectation of those who have read the most glowing descriptions of it left to us by the ancients.

Parnassus rises in Phocis and extends as a chain of mountains far to the north ; at its southern extremity it terminates in a lofty mass, or two partially detached masses of rock. This was the portion that more exclusively claimed the honors of the sacred mount. In the chasm between the two rocks is the source of the Castalia, whose sparkling waters descend through the gloomy abyss. Beneath these dissevered masses on a shelving platform, surrounded on three sides by precipices, once stood the city of Delphi, enriched by the most numerous and inestimable treasures of ancient art, though now nothing exists there but a wretched village called Castri.

The chasm through which descend the "Castalian dews" is thus described by Sir John Hobhouse: "From this spot (Castri) we descended gradually toward the east, and leaving the town, in half a quarter of a mile found ourselves in a position, where, turning suddenly to our left, we saw an immense cleft rending the mountain from the clouds down to our feet. Down the crags of this chasm, the stream trickled into a stone basin sunk in the earth just above the path, overflowing whose margin, and enlarged in its progress by other rills, it was seen falling over the rocks into the valley beneath." We may add, that after its descent into the valley, the Castalian waters presently flow into the rocky bed of the Pleistus and augment that river.

Close to the stone basin sunk in the earth there is an excavation, like a bath, cut in the rock ; and in the face of the precipice, just above this excavation, is a large niche made anciently for the receptacle of some votive offering, "which," says Mr. Hughes, "has been turned into a Lilliputian chapel dedicated to Saint John, and adorned with an altar, before which a lamp is constantly kept burning."

Sir John Hobhouse found within this chapel part of the shaft of a large fluted

pillar of marble and a marble slab. A few other ancient fragments and half-defaced inscriptions lay scattered and neglected in the vicinity of the basin.

Ascending the chasm by the side of the falling rivulet, which the traveller can do by means of grooves cut in the rock, though they are now almost obliterated by the continual dripping of the water, he is pretty sure to scare away a number of majestic eagles who have their aeries on the lofty precipices above his head, and after clambering about one hundred yards, counting from the chapel of Saint John, he reaches the origin of the stream. The Castalian fount is small indeed, but its waters are sparkling and as clear as crystal, and to the taste, pure, light, and delicious.

"On the rocks of Delphi" (above the Castalia), says Doctor Sibthorpe, "I observed some curious plants ; a new species of *Daphne*, which I have called *Daphe Castaliensis*, afforded me singular pleasure. Several birds, the *Aves rupes- tres*, inhabited these rocks ; a species of *Sitta* different from the *Europea*, the *Promethean vulture*, the solitary sparrow, the sand-martin, the rock-pigeon, a small species of hawk, and numerous jack-daws."

From the summit of Parnassus, high above the fount of Castalia, Dr. Sibthorpe informs us he commanded "a most extensive view of the sea of Corinth, the mountains of the Morea on the one hand, and the fertile plains of Bœotia, on the other, of Attica, and the island of Eubœa." We do not find the elevation of the mountain anywhere accurately mentioned ; it is roughly given in several books at 8,000 or 9,000 feet. The distinguished naturalist from whom we have last quoted, informs us that among the numerous curious plants he collected on the mountain, few could strictly be called Alpine ; and that those of the highest region of all could be regarded only as sub-Alpine. While he reposed on the mountain-top an eagle hovered over his head, and the *Cornix graculus*, the Cornish chough, flew frequent among the rocks.

At the foot of this terminating mass of the Parnassian mount, and round about Castri, there are still sufficient ruins, ac-

ording to Dr. Clarke, by which to trace out the ancient Delphi. "There is enough, indeed, remaining," says this traveller, "to enable a skilful architect to form an accurate plan of *Delphi*; but it should be fitted to a model of Parnassus; for in the harmonious adjustment which was here conspicuous of the works of God and man, every stately edifice and majestic pile constructed by human labor were made to form a part of the awful features of the mountain; and from whatever quarter Delphi was approached a certain solemn impression of supernatural agency must have been excited, diffusing its influence over every object; so that the sanctity of the whole district became a saying throughout Greece, and "all Parnassus was accounted holy."

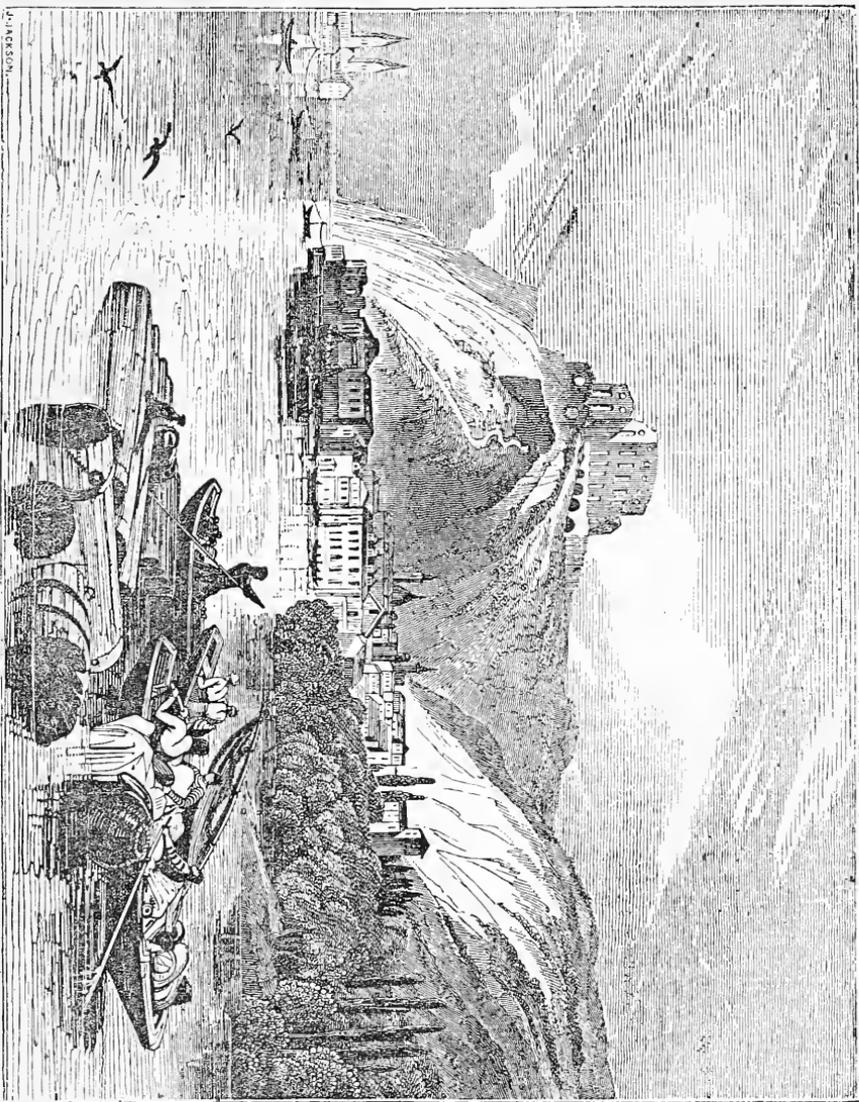
PERSECUTION OF NEW IDEAS.

HARVEY, who first discovered the circulation of the blood, was styled "vagabond or quack," and persecuted through life. Ambrose Parè, in the time of Francis I., introduced the *ligature* as a substitute for the painful mode of stanching the blood after the amputation of a limb—namely, by applying boiling pitch to the surface of the stump. He was, in consequence, persecuted with the most remorseless rancor by the faculty of physic, who ridiculed the idea of putting the life of man upon a thread, when boiling pitch had stood the test for centuries! Paracelsus introduced antimony as a valuable medicine; he was persecuted for the innovation, and the French parliament passed an act, making it penal to prescribe it; whereas it is now one of the most important medicines in daily use. The Jesuits of Peru introduced to protestant England the Peruvian bark (invaluable as a medicine), but, being a remedy used by the Jesuits, the protestant English at once rejected the drug as the invention of the devil. In 1693 Dr. Groenvelt discovered the curative power of cantharides in dropsy. As soon as his cures began to be noised abroad he was committed to Newgate by warrant of the president of

the college of physicians, for prescribing cantharides internally. Lady Mary Montagu first introduced into England small-pox inoculation, having seen its success in Turkey in greatly mitigating that terrible disease. The faculty all rose in arms against its introduction, foretelling the most disastrous consequences; yet it was in a few years generally adopted by the most eminent members of the profession. Jenner, who introduced the still greater discovery of vaccination, was treated with ridicule and contempt, persecuted and oppressed by the royal college of physicians; yet he subsequently received large pecuniary grants from government for the benefit he had conferred on his country, by making known his valuable discovery; and at the present time its observance is very properly enjoined by the whole medical profession and the legislature.

THE CASTLE OF EHRENBREITSTEIN.

ON the right bank of the Rhine, upon the summit of a rocky hill, directly opposite to the city of Coblenz, stands the castle of Ehrenbreitstein ("the broad stone of honor"). It is now one of the strongest fortresses in Europe, both in respect of its natural position, and its artificial defences. It was originally a Roman camp, was renovated in 1160, and afterward repaired and enlarged by the elector John, Margrave of Baden, who dug a well of the depth of 280 feet, which was afterward sunk 300 feet further. During the revolutionary war, the castle was exposed to many hazards. General Marceau blockaded it for a month when the French army first passed the Rhine, in September, 1795. It was twice blockaded in 1796, and cannonaded the second time from the neighboring heights of Pfaffendorf and Arzheim, without sustaining any injury. The French got possession of the height of Rellenkopf, but without any further success, and the retreat of General Jourdan obliged them to raise the siege. It was again blockaded in 1797 by the French general Hoche, who kept it so till the peace of Léoben; and in 1798 it was once more blockaded



J. JACKSON.

View of the Ehrenbreitstein from the Rhine.

by the French, while the congress of Radstadt was sitting, and was reduced to a state of famine. In spite of the exertions of the commandant, Colonel Faber, and his earnest representations to the congress, the castle was left to its fate, and finally surrendered to the French in January, 1799. The French blew up and otherwise destroyed great part of the works; and the view here given shows it in the state to which it was reduced by them. The convention of Paris at the termination of the war, in 1815, determined to re-establish the fortifications, and Ehrenbreitstein, with the adjoining fortifications of the Chartreuse and Petersberg, is now the most important fortress of the German frontier. The ancient monastery of the Chartreuse commands the approaches from Mayence and Hunds-ruch, Petersberg, those of Trèves and Cologne; and Ehrenbreitstein, the Rhine and the road from Nassau.

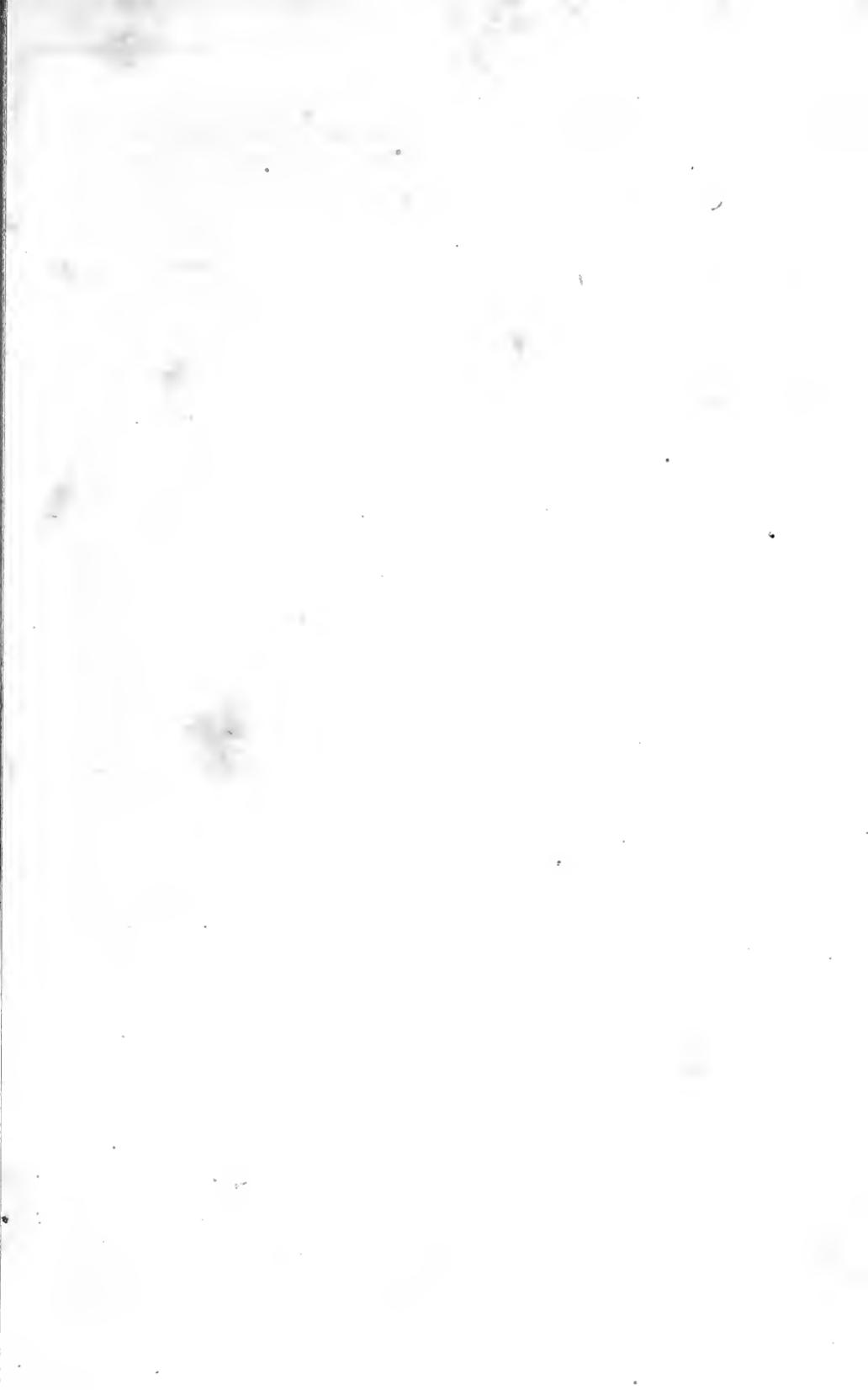
The view from the summit of the castle is a very rich and extensive one. Before you is Coblentz, its bridge of boats, and its two islands on the Rhine; behind it, the village and the beautiful ruins of the Chartreuse, upon a hill covered with vines and fruit-trees. The scope of the view embraces more than thirty towns and villages. The Rhine flows majestically beneath it, and is here at about the widest part of its course. The space of about 120 miles between Mayence and Cologne, in which Coblentz stands midway, is that where the Rhine is broadest, and its scenery the most picturesque. The view of this old castle naturally leads us to reflect on the degree in which modern Europe has ceased to resemble the classic ages in which Ehrenbreitstein was founded, or the feudal ages to which so much of its history belongs.

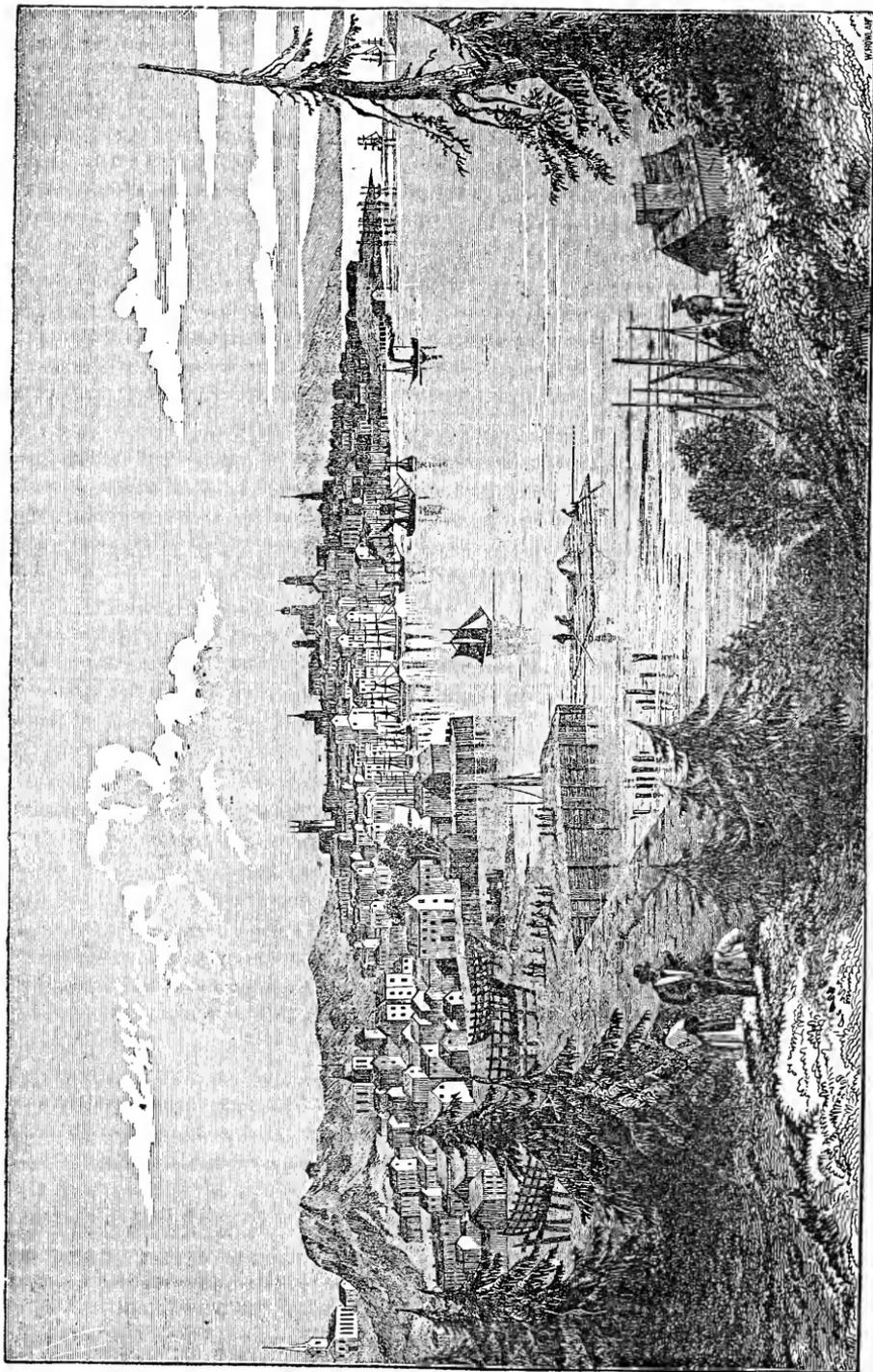
"MOVEABLE TYPES."

HAVE we true faith in "moveable types?" When Tamerlane had finished his pyramid of seventy thousand human skulls, and was seen standing at the gate of Damascus glittering in steel, with his

battle-axe on his shoulder, till his fierce hosts filed out to new carnage and new conquests, the looker-on might have fancied that nature was in her death-throes, for horror and despair had taken possession of the earth. Yet it might be that on the gala-day of Tamerlane, a little boy was at play upon the streets of Mentz, the history of whose "moveable types" is more important to men than that of twenty Tamerlanes. The Tartar Khan, with his fierce hosts, passed away like a whirlwind to be forgotten for ever; and that German artisan has wrought a benefit, which is yet unmeasurably expending itself through all time. Have we faith in the all-moving force of types? What are the serried ranks of living and breathing men? Squadrons in the panoply of war, led on by Napoleon and Tamerlanes—what are they in true moral force, to the types of Johannes Faust, with their appliances of power-press and steam-press? To-day an Alexander finds the deep places of the earth too shallow for the oceans of blood his ambition and his martial valor and force would spill. To-morrow, "he has become as we." His hosts of breathing and fighting men—countless as leaves in Vallombrosa—in force, resistless as the falling avalanche—are to-day "loud with life," to-morrow, the "kind earth has shrouded up their footprints." Their force and their valor are not, and their very names perish. How noiseless is thought, how noiseless are the moving force and the moral conquests of "types!" The deepest and truest force is ever the stillest. The tempest has power, but the still sunshine has greater power. Have we faith in the sublime still energy of thought? Henceforth, then, let us have confidence in the still, all-powerful energy of types.

GOOD MANNERS.—Good manners are the blossoms of good sense, and, it may be added, of good feeling too; for if the law of kindness be written in the heart, it will lead to that disinterestedness in little as well as in great things—that desire to oblige, and attention to the gratification of others, which is the foundation of good manners.





VIEW OF THE CITY OF SAINT JOHN, IN THE PROVINCE OF NEW BRUNSWICK.

PROVINCE OF NEW BRUNSWICK.

Of all the British colonies of North America, there is none so little really known, or of which so little has been published, as New Brunswick. Yet its area is nearly equal to that of England, and few countries of the same extent, can boast of being so well watered, by numerous large, deep, and navigable rivers, and by an infinity of lakes and streams. Bounded on the southern side by the bay of Fundy, and on the northern and eastern by the gulf of St. Lawrence and the Baie des Chaleurs, it commands a great extent of sea-board, and the most valuable fisheries of every description; while the fertile alluvial lands on the banks of all the principal streams, yield to none in the abundance and excellence of their products.

A brief sketch of the early history of the province, may not be uninteresting, before noticing the events of more recent date, which have led to its settlement and cultivation.

Those acquainted with the history of America will no doubt readily remember the expedition for the discovery of heathen countries, fitted out by Henry VII., the command of which was intrusted to Sebastian Cabot, a Venetian adventurer, residing at Bristol. In March, 1495, Cabot sailed from Bristol, with a small fleet, and proceeding in a due westerly course for some weeks, he discovered a large island, which his sailors named Newfoundland. Thence continuing his westerly course, he soon fell in with another island (now known as Prince Edward island), from which he brought off three of the natives, who conducted him across to the mainland of North America, on which he first landed in July, 1495, somewhere between Richibucto and Miramichi, on the northern shore of New Brunswick. This was the first landing on the continent of America, for it will be remembered that Columbus did not reach the mainland until 1498. The English paid little attention to Cabot's discovery, but the French very soon frequented the gulf of St. Lawrence in great numbers, attracted by the excellence and extent of the fisheries. The first permanent fishing sta-

tions were established about 1530, within the gulf. In 1604, an expedition sailed from France, under the Sieur Des Monts, and that expedition discovered the bay of Fundy, and the principal river of New Brunswick, the St. John, so called from its having been first entered on St. John's day (24th June), 1604. The party of Des Monts founded Annapolis, and various fishing and trading posts were established in its vicinity. In 1625 a patent was granted by Charles I. to Sir William Alexander, afterward Earl of Stirling, of nearly the whole of British America, and a large portion of the northern states of the Union. Sir William made some few settlements, which existed but a short time; while various French adventurers were possessing themselves of the country under grants from the crown of France. A constant warfare was kept up between the several settlers and claimants, until the whole country was ceded in 1667, to France, by the treaty of Breda. Nearly the whole of the territory now known as New Brunswick, was granted by the crown of France in seigneuries, between 1670 and 1688, when hostilities recommenced between England and France, and this part of America was taken by the English. By the treaty of Ryswick, in 1696, it was again ceded to France. This peace was speedily followed by the war of the Spanish succession in 1702, during which Nova Scotia was reconquered and permanently annexed to the British crown, but the rest of the country was ceded to France by the treaty of Utrecht, in 1713. The provisions of this treaty were not fairly carried out by the French, which led to renewed hostilities; and it was not until after the taking of Louisbourg and Quebec, that France relinquished all her claims to the territory by the treaty of 1763. Before this peace was actually signed, a party of settlers from Massachusetts, numbering in all 800 souls, had, in the year 1762, taken up their abode on the river St. John, about ten miles below Fredericton, and made the first inroad upon the wilderness. A few of this party settled around the harbor of St. John, carrying on the fur-trade, and the fisheries; and for the succeeding twenty years, these first settlers received

very small additions to their numbers. But in 1783, the settlement of the country received a great impetus by the arrival of large bodies of loyalists, chiefly from New York, consisting of persons who chose to retain their allegiance to their sovereign, by seeking a new home in the wilderness, and abandoning the comforts and luxuries they had previously enjoyed, rather than become citizens of the United States, whose independence had then been acknowledged. On the 18th day of May, 1783, the first of this sturdy band landed upon the rocky peninsula, whereon now stands the city of St. John. It was then covered with a dense and tangled forest, and the first-comers cleared away the trees and underwood only 62 years since, from a spot of ground now covered with costly buildings, and daily thronged with eager crowds, busily engaged in carrying on a thriving, prosperous, and extensive business. From this small beginning a city has sprung up, which, with its suburbs, now numbers upward of 25,000 inhabitants, and carries on a large business with all parts of the world; and even before the roots of the trees which were cut down by the loyalists have rotted away, or their toils and privations have ceased to be a subject of conversation, there is to be found every means and appliance of refinement and luxury, and all the substantial comforts of modern days.

It would far exceed the limits of this publication if we were to venture even upon a brief description of the various places of public worship, the public buildings, the charitable and scientific institutions, the means of education, or the enterprise and activity which mark the inhabitants of St. John. Suffice it to say, that it is a busy, bustling seaport, at the mouth of a very large river, which, aided by its numerous tributaries, floats down immense bodies of timber from a great extent of country, and furnishes a staple export to the mother-country. Although St. John has suffered from very extensive fires within the last few years, it has risen again from its ashes, with renewed vigor; substantial fireproof buildings are now erected in place of the former wooden ones, and the whole appearance of the city has greatly changed for the better.

Of the progress of population in New Brunswick, soon after its first settlement, there is no record. The first census was in 1824, when the population was found to be 74,176. In 1834, the numbers were found to be 119,457—and in 1840 the population was found to have increased to 156,162, and may now be safely estimated at 180,000 souls, or even more. The province contains seventeen millions of acres, exclusive of water. Of these seventeen millions, five millions have been granted by the crown; of the remaining twelve millions, two millions are supposed to be unfit for settlement or cultivation, leaving no less than ten millions of acres of good land, yet to be granted to individuals, a larger amount than now remains at the disposal of the government in all the rest of the British North American colonies put together.

In conclusion, it may be said that New Brunswick possesses within her limits vast tracts of the richest soil, which may be rendered available for agricultural purposes; that immense forests of the best timber, and extensive deposits of mineral wealth yet remain untouched; that along the whole line of seacoast, around every island, and in every river, there are the greatest and richest fisheries in the world; that there is an unlimited supply of fuel, and abundant water-power; that there are plenty of large and well-sheltered harbors, and numerous large rivers, with their endless tributaries watering every part of the country, and facilitating intercourse; and that it only requires *labor* and *capital* to develop these great resources and create a wealthy, populous, and highly-favored portion of America.

No two things differ more than hurry and despatch. Hurry is the mark of a weak mind, despatch of a strong one. A weak man in office, like a squirrel in a cage, is laboring eternally, but to no purpose, and in constant motion without getting on a jot; like a turnstile, he is in everybody's way, but stops nobody; he talks a great deal, but says very little; looks into everything, but sees into nothing; has a hundred irons in the fire, but few of them are hot, and with those few that are, he only burns his fingers.

EASTERN HAREMS.

THAT general spirit of toleration and free intercourse which has sprung up of late years in all countries of Europe and the neighboring parts of Asia and Africa, was in earlier times spurned from the thoughts of princes, and each kingdom preserved a strict and jealous individuality. Hence travellers, who penetrated with fear and trembling into the interior of the East, with their minds prejudiced by antiquated legends in favor of certain opinions, and possessed of scarcely any knowledge of the languages in which they could converse with the inhabitants, of their customs, &c., were compelled to judge in the most hasty manner of all they saw; and the scanty information they obtained became tinged, immediately on transmission, by the prejudices they had already imbibed.

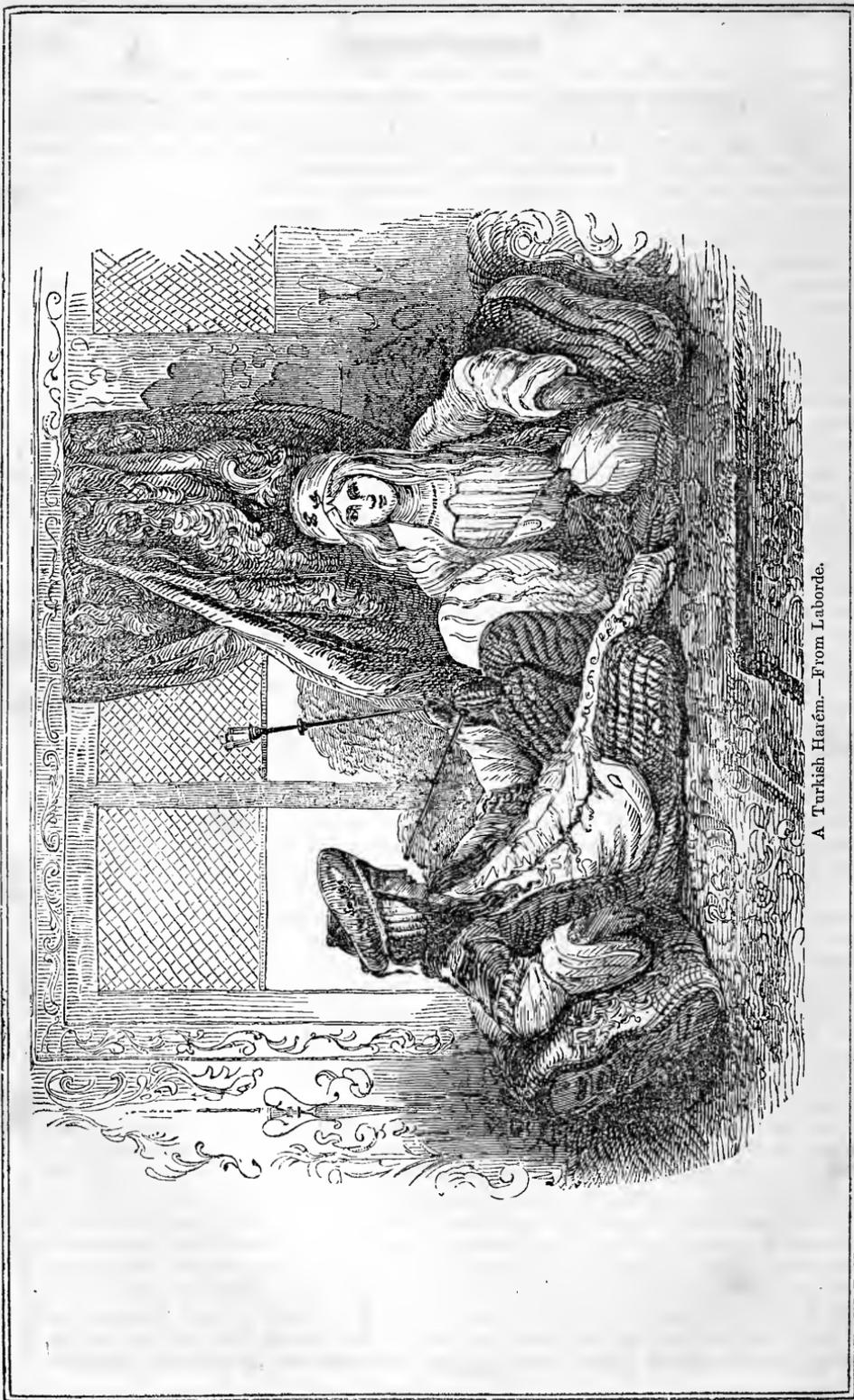
In those times it was with the greatest difficulty that a traveller could cross a country in which he was considered only as a foreigner and a spy, even when his own nation was at peace with that to which he had bent his steps: every question was considered with a jealous suspicion, and the answers were given with the greatest reluctance and caution, and often with a deceptive tendency. In the East especially, where there has always been so much seclusion and dread of innovation, the persevering spirit of the early travellers was only repaid by the acquirement of the most exaggerated details of common customs, and erroneous opinions with respect to others of a more private and domestic character.

Yet, despite the contradictory statements of different travellers, and the hasty information they had gleaned, there was much in their narratives calculated to create an interest in the manners and customs of an Eastern nation. The magnificence in which Turks delight to indulge, their public and private ceremonies, their religious opinions, the arbitrary regulations by which individual exertions are governed, but, above all, the exclusive and peculiar position in which the Turkish women are placed, deprived of the society of all but one or two of the opposite sex, and scarcely allowed to associate

even with their own, have produced a degree of interest which the accounts of successive travellers has increased rather than repressed.

Lady Mary Wortley Montagu was almost the first who, by a residence in the country and with the benefit of an introduction into the best society, was enabled to represent to her countrymen the manners and habits of the Turkish nation as they really existed. Her descriptions of the many curious scenes she witnessed, are of the most graphic character, and to the present day create all that delight with which they were received when they first made their appearance. It is to her we owe the best accounts of the manners of the Turkish ladies, and of the manner in which they reside and are entertained in their harems, or private apartments. Previous to the publication of her "Letters" the most extraordinary opinions were entertained with respect to the habits of the Turkish women, and the privacy and seclusion in which they passed their lives. Since then many others have rendered Turkish customs more familiar to us; and particularly in her recent publication, "The City of the Sultan," Miss Pardoe has increased our acquaintance with oriental manners, especially with respect to the immediate subject of this article, the Turkish harems, to which, as a lady, she had free admission, and with the regulations of which she made herself fully acquainted.

The literal signification of the word harem is "the forbidden," being the apartment or apartments devoted to the female inmates of a house, and to which no person but the master or the immediate relatives is permitted to have access. This rule is so strictly enforced, or rather so sacredly kept, that even in the confusion of war, when the rest of a house is given to pillage, the apartments of the women are scrupulously avoided. The term harem is also applied to the female inhabitants of a house, as well as to the apartments in which they reside. That every precaution may be taken to prevent an accidental intrusion into the women's apartments, most Turkish houses are divided into two portions, one for the gentlemen, the other (the windows of



A Turkish Harém.—From Laborde.

which are so constructed that a view can not be obtained from the outside) for the ladies. Lady M. W. Montagu gave, in 1717, the following description of the Turkish houses, which equally applies to those of the present day :—

“ Now I am talking of my chamber, I remember the description of the houses here will be as new to you as any of the birds or beasts. I suppose you have read in most of our accounts of Turkey, that their houses are the most miserable pieces of building in the world. I can speak very learnedly on this subject, having been in so many of them ; and I assure you 'tis no such thing. We are now lodged in a palace belonging to the grand-seignior. I really think the manner of building here very agreeable and proper for the country. 'Tis true, they are not at all solicitous to beautify the outsides of their houses, and they are generally built of wood, which I own is the cause of many inconveniences ; but this is not to be charged on the ill-taste of the people, but on the oppression of the government. Every house, at the death of its master, is at the grand-seignior's disposal, and therefore no man cares to make a great expense which he is not sure his family will be the better for. All their design is to build a house commodious, and that will last their lives, and they are very indifferent if it fall down the year after.

“ Every house, great and small, is divided into two distinct parts, which only join together by a narrow passage. The first house has a large court before it, and open galleries all round it, which is to me a thing very agreeable. This gallery leads to all the chambers, which are commonly large, and with two rows of windows, the first being of painted glass. They seldom build above two stories, each of which has galleries. The stairs are broad, and not often above thirty steps. This is the house belonging to the lord, and the adjoining one is called the *harem*, that is, the ladies' apartment (for the name of *seraglio* is peculiar to the grand-seignior) ; it has also a gallery running round it toward the garden, to which all the windows are turned, and the same number of chambers as the other, but more gay and splendid, both in painting

and furniture. The second row of windows is very low, with grates like those of convents ; the rooms are all spread with Persian carpets, and raised at one end of them (my chambers are raised at both ends) about two feet. This is the sofa, which is laid with a richer sort of carpet, and all round it is a species of couch, raised half a foot, covered with rich silk, according to the fancy or magnificence of the owner. Mine is of scarlet cloth, with a gold fringe ; round about this are placed, standing against the wall, two rows of cushions, the first very long, and the next little ones ; and here the Turks display their greatest magnificence. They are generally covered with brocade or embroidery of gold wire upon white satin ; nothing can look more gay and splendid. These seats are also so convenient and easy, that I believe I shall never endure chairs as long as I live. The rooms are low, which I think no fault, and the ceiling is always of wood, generally inlaid or painted with flowers. They open in many places with folding doors, and serve for cabinets, I think, more conveniently than ours. Between the windows are little arches to set pots of perfume or baskets of flowers. But what pleases me best is the fashion of having marble fountains in the lower part of the room, which throw up several spouts of water, giving at the same time an agreeable coolness and a pleasant dashing sound as they fall from one basin to another. Some of these are very magnificent. Each house has a bagnio, which consists generally of two or three little rooms, leaded on the top, paved with marble, with basins, cocks of water, and all conveniences for either hot or cold baths. You will perhaps be surprised at an account so different from what you have been entertained with by the common voyage-writers, who are very fond of speaking of what they don't know. It must be under a very particular character, or on some extraordinary occasion that a Christian is admitted into the house of a man of quality ; and their *harems* are always forbidden ground.”

The difficulty of gaining admission to the interior of a Turkish gentleman's house is not now so much experienced.

This is doubtless owing to the great intercourse which, during the last century, has been maintained between Turkey and the Christian courts, and by which the repugnance to the manners of the Christians, which was formerly so strongly expressed, has given way to a conviction of the necessity for cultivating the arts and processes by which the more northern nations have attained to so great an eminence in all the arts of life, and to the introduction of many of the customs of the Christians, or, as the Turks call them, the Franks.

Lady Mary has given a charming description of a visit to the harem of one of the first officers in the court of the sultan, which is so interesting that we must run the risk of repeating what is probably known to many of our readers, that those who may not have perused her works may not lose the pleasure which the following extract will afford them.

After having dined by invitation with the lady of the grand-vizier, an honor never before conferred on a Christian, Lady Mary was solicited by a Greek lady who accompanied her, and who acted as interpreter, to visit the lady of the kyhaia, the lieutenant, or second officer in the empire, being the deputy of the grand-vizier.

"All things here were with quite another air than at the grand-vizier's, and the very house confessed the difference between an old devotee and a young beauty. It was nicely clean and magnificent. I was met at the door by two black eunuchs, who led me through a long gallery between two ranks of beautiful young girls, with their hair finely plaited, almost hanging to their feet, all dressed in fine light damasks brocaded with silver. I was sorry that decency did not permit me to stop and consider them nearer. But that thought was lost upon my entrance into a large room, or rather pavilion, built round with gilded sashes, which were most of them thrown up, and the trees planted near them gave an agreeable shade, which hindered the sun from being troublesome. The jessamines and honeysuckles that twisted round their trunks shed a soft perfume, increased by a white marble fountain playing sweet water in the lower part of the room, which fell into three or four

basins with a pleasing sound. The roof was painted with all sorts of flowers, falling out of gilded baskets that seemed tumbling down. On a sofa, raised three steps and covered with fine Persian carpets, sat the kyhaia's lady, leaning on cushions of white satin, embroidered; and at her feet sat two young girls about twelve years old, lovely as angels, dressed perfectly rich, and almost covered with jewels. But they were hardly seen near the fair Fatima (for that is her name) so much her beauty effaced everything I have seen, nay, all that has been called lovely either in England or Germany. I must own that I never saw anything look so gloriously beautiful, nor can I recollect a face that would have been taken notice of near hers. She stood up to receive me, saluting me after their fashion, putting her hand to her head with a sweetness full of majesty that no court-breeding could ever give. She ordered cushions to be given to me, and took care to place me in the corner, which is the place of honor. I confess though the Greek lady had before given me a great opinion of her beauty, I was so struck with admiration that I could not for some time speak to her, being wholly taken up in gazing. . . . Her fair maids were ranged below the sofa, to the number of twenty, and put me in mind of the pictures of the ancient nymphs. I did not think all nature could have furnished such a scene of beauty. She made them a sign to play and dance. Four of them immediately began to play some soft airs on instruments between a lute and a guitar, which they accompanied with their voices, while the others danced by turns. . . . When the dance was over, four fair slaves came into the room with silver censers in their hands, and perfumed the air with amber, aloes-wood, and other scents. After this they served me coffee upon their knees in the finest japan china, with soucoups (saucers) of silver, gilt. The lovely Fatima entertained me all this while in the most polite and agreeable manner, calling me often *guzel sultanem*, or the beautiful sultana, and desiring my friendship with the best grace in the world, lamenting that she could not entertain me in my own language.

"When I took my leave, two maids

brought in a fine silver basket of embroidered handkerchiefs; she begged I would wear the richest for her sake, and give the others to my woman and inter-pretress. I retired through the same ceremonies as before, and could not help thinking I had been some time in Mohammed's paradise, so much was I charmed with what I had seen."

The interior of the Turkish houses is most beautifully fitted up. Even those of the middle classes have the walls painted and ornamented with gold, &c.; but in those of the higher orders the utmost splendor is exhibited. But it is in the ladies' apartments, the harems of the rich, that the true spirit of Turkish magnificence is displayed. The walls are ornamented with rich and elegant designs, the ceilings painted with gorgeous colors in all the intricacy of oriental taste, the furniture is of the most elaborate workmanship, the sofas and cushions covered with delicate satin or cloth of gold, the carpets of the richest class, the fountains of the purest marble, in short, the rooms and all the accessories are of the most costly description; and when filled with the beautiful forms for whose enjoyment they are so richly adorned, they present a more splendid *coup-d'œil* than ever entered into the imagination of a poet to conceive. Lady M. W. Montagu thus speaks of the harem of a person of quality, the apartment of the lady to whom she before paid the visit described above.

"But what would you say if I told you that I have been in a harem where the winter apartment was wainscoted with inlaid work of mother-of-pearl, ivory of different colors, and olive-wood, exactly like the little boxes you have seen brought out of this country; and in whose rooms, designed for summer, the walls are all crusted with japan china, the roofs gilt, and the floors spread with the finest Persian carpets? Yet there is nothing more true; such is the palace of my lovely friend, the fair Fatima, whom I was acquainted with at Adrianople. . . . Her house is magnificently furnished, and very well fancied; her winter-rooms being furnished with figured velvet, on gold ground, and those for summer with fine Indian quilting embroidered with gold. The houses

of the great Turkish ladies are kept clean with as much nicety as those in Holland. This was situated in a high part of the town, and from the window of her summer apartment we had the prospect of the sea, the islands, and the Asian mountains."

From the above extracts, it may be presumed that the ordinary notion of a harem being little better than a prison is erroneous; the inhabitants generally enjoy as much liberty as they require: they pay and receive visits to and from their female friends, and amuse themselves with a variety of pastimes while at home. Among these, chess and swinging are great favorites, and, while pursuing the latter exercise, the greatest hilarity and boisterous enjoyment is manifested; for the oriental ladies, although generally of a languid and melancholy temperament, are, in the company of their own sex, as noisy and unruly in their sports as a bevy of English boarding-school misses.

The English ladies, accustomed as they are to an almost uncontrolled intercourse with all classes, and to the free disposition of their time according to their own wishes, have been inclined to pity the secluded manner in which the oriental fair ones are compelled to live; but the control which is exercised by the husband over his wife in Moslem countries, far from being unpleasant to the ladies, is viewed by them as a mark of his esteem; and in return for the commiseration expressed for them by the Franks, they manifest the greatest surprise, not unmingled with compassion, at what they consider the neglect of the Christian husbands in not allowing their ladies separate apartments, &c. Mr. Lane, in his work on the modern Egyptians, thus notices the feelings with which the Moslem ladies regard their positions: "I believe that in Egypt the women are generally under less restraint than in any other country in the Turkish empire; so that it is not uncommon to see females of the lower orders flirting and jesting with men in public, and men laying their hands upon them very freely. Still it might be imagined that the women of the higher and middle classes feel themselves severely oppressed, and are much discontented with the state of

seclusion to which they are subjected; but this is not commonly the case; on the contrary, an Egyptian wife who is attached to her husband is apt to think, if he allows her unusual liberty, that he neglects her, and does not sufficiently love her, and to envy those wives who are kept and watched with greater strictness." Thus a situation which in one country is looked upon with dread, is, by the habitual feelings in which the people are brought up, regarded in another with far different sentiments.

The whole is the effect of habit and education, and we perceive that the freedom which Christian females enjoy, and which is regarded with almost a feeling of reverence here, is considered by eastern nations as an acknowledgment of inferiority, and excites the utmost commiseration.

Not only do the men abstain from intruding upon the society of the females, but the ladies themselves take the greatest precautions to prevent the chance obtrusion of a man not authorized to visit them, and consider themselves most unfortunate should they chance to expose any part of the person, particularly the face, to the gaze of an unprivileged person.

"It is considered more necessary in Egypt for a woman to cover the upper and back part of her head than her face, and more requisite for her to conceal her face than most other parts of her person.

. . . . When a respectable woman, is, by any chance, seen with her head or face uncovered by a man who is not entitled to enjoy that privilege, she quickly assumes or adjusts her tarhhah (or head-veil), and often exclaims, 'O, my misfortune!' or 'O, my sorrow!'

Motives of coquetry, however, frequently induce an Egyptian woman to expose her face before a man when she thinks that she may appear to do so unintentionally, or that she may be supposed not to see him. A man may also occasionally enjoy opportunities of seeing the face of an Egyptian lady when she really thinks herself unobserved; sometimes at an open lattice, and sometimes on a house-top. Many small houses in Cairo have no apartment on the ground-floor for the reception of male visitors, who therefore ascend to

an upper room; but as they go up stairs they exclaim several times, 'Destoo'r' ('permission!'), or 'Ya' Sa'tir!' ('O, protector!' that is, 'O, protecting god!') or use some similar ejaculation, in order to warn any woman who may happen to be in the way to retire, or to veil herself, which she does by drawing a part of her tarhhah before her face, so as to leave at most only one eye visible."

THE SEVEN WISE MEN OF GREECE.

WE have often heard and read of the "Seven Wise Men," these boasted sages of the ancients. Who were they? They were philosophers of Greece—much and deservedly esteemed in the ages in which they lived. Their names were Thales, Solon, Chilo, Pittacus, Bias, Cleobulus, and Periander.

Thales was a descendant of Cadmus, and born at Miletus, in Ionia. He travelled much in quest of knowledge, and studied under the priests of Memphis, in Egypt, where he became learned in geometry, philosophy, and astronomy. He taught the truths of the solstices and equinoxes, divided the year into 365 days, believed water to be the principle of everything. He lived to be 96 years of age, and died 548 years before Christ.

Solon was born at Salamis, educated at Athens, and afterward studied under the Egyptian priests. He was a celebrated lawgiver of the Athenians, and was the friend of Cræsus, king of Lydia. He is also noted for his reply to Cræsus, who asked him:—

"Do you not think me the happiest of men?"

Solon answered:—

"No man can say he is happy, until he draws his last breath!"

Solon died, aged 80, 558 years before Christ. His famous maxim was, "Consider thy end!"

Chilo was a philosopher of Sparta, whose saying was, "Know thyself."

Pittacus was a native of Mitylene, Greece, and a warrior as well as a philosopher; for he delivered his country

from the tyranny of Melanchrus; having killed the enemy's general, Phryuon, in single combat. He was a lawgiver, and many of his maxims were inscribed on the walls of the temple of Apollo at Delphos. It will interest the advocates of temperance in our day, to be informed that he caused a law, by which *all persons who committed crimes, while intoxicated, were to be punished with double penalties.* He died 570 years before Christ; and his maxim was, "Know the times!"

Bias was a native of Priene, in Greece, which he long saved from ruin by his wise counsels. He died in the arms of his grandson, 566 years before Christ, at a good old age, and left as a legacy, this maxim to the world: "Love your friend, as if you expected him to be your enemy."

Cleobulus lived at Lindos, Greece, wrote many verses, and died 564 years before Christ, aged 70, leaving his celebrated proverb, which was a key to all the philosophy that he taught, "There is nothing better than moderation."

Periander was a tyrant of Corinth, disgraced by atrocious crimes—yet he had a smooth tongue, from which there constantly flowed moral and philanthropic sentiments, totally at variance with his practice. He was a hypocrite—yet a patron of genius, learning, and the fine arts; and therefore it was that his flatterers stiled him one of the wise men of Greece. He died, aged 80, 580 years before Christ. One of his sayings was: "A man ought solemnly to keep his word, but not hesitate to break it whenever it clashed with his interest." Have we not our modern Perianders? Another of his sayings was: "Not only crime ought to be punished, but also every wicked and corrupt thought."

So much for the wise men of Greece! However excellent and moral some of their maxims—yet they were all wanting in those noble and divine characteristics that mark the benign doctrines of Christian philosophers. If we except an interpretation—perhaps a too extended one—of the sayings of Solon; all their teachings were essentially to the wisdom of this world.

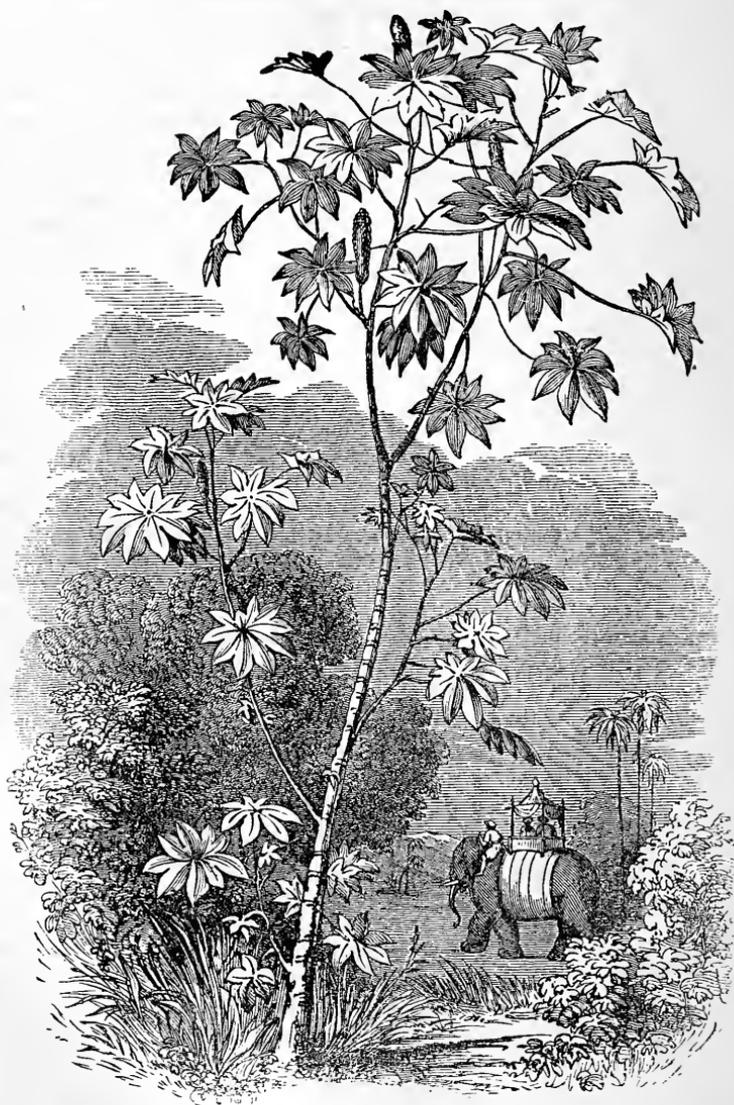
And how will our modern wise men compare with these pagan sages? Why, as intellectual light, contrasted with the dim shadows of an imperfect knowledge.

Our times, and those of our fathers, have been more practically useful, and our moral axioms are derived from purer sources. Let us glance at only a few of the bright names, that will be handed down through all time, as associated with benefits and blessings to mankind. Among these are Galileo, the great astronomer; Lord Bacon, whose inductive philosophy has proved a never-failing key to unlock the hidden secrets of science, and thus to emancipate men from the "vicious circle" of the ancient modes of inquiry; Sir Isaac Newton, whose genius grasped the universe, and unfolded the grandest mysteries of creation; Locke, who has developed and analyzed the power of the human understanding; Benjamin Franklin, who drew lightning from the clouds, and was equally distinguished for his maxims on the philosophy of life; La Place, whose *Mecanique Céleste* has been so ably translated, and rendered so clear by Nathaniel Bowditch of Massachusetts; and Thomas Dick, whose lucid volumes, showing the connexion of science and philosophy with religion, are indeed an honor to the age in which we live.

Away, then, with the absurd notion that the sages of Greece were wiser than those of our own times. We live in a happier period of the world—we enjoy greater advantages—are surrounded with more comforts—blend our philosophy of peace and combine our morality with the hope of a blessed hereafter.

THE CASTOR-OIL PLANT.

THE castor-oil plant (*ricinus communis*) belongs to an order (*euphorbiacæ*) whose affinities have not yet been accurately limited by botanists; but it is supposed to comprise at least 1,500 species, distributed in each quarter of the globe from the equator to latitudes as high as Great Britain; "sometimes," as Professor Lindley remarks, "in the form of large trees, frequently of bushes, still more usually of diminutive weeds, and occasionally of deformed, leafless, succulent plants, resembling the cacti in their port." 'The *ricinus*



Castor-Oil Plant.

communis becomes an annual in our climate, and its stem and branches are said to lose their ligneous nature, and afterward, on being placed in a hot-house, to re-assume their former characteristics. At Villefranche, near Nice, there were, in 1818, specimens in the open air above thirty feet high, which it was believed were the only instances in Europe of the species growing in an arborescent form. The tropical latitudes are the regions in which it is indigenous, and of course most flourishing.

The properties of the order of plants to which the *ricinus communis* belongs are remarkably varied, and highly valuable on account of their medical uses. Both Jussieu and Lindley have enumerated them in their respective systems of botany. The peculiar virtues of the plant reside principally in a milky secretion which it produces, the strength and efficacy of which are determined by the secretion being more or less copious. Some of the species exhale an aromatic odor, others a disagreeable and pungent one. The flowers of some may be used in preparing a decoction possessing useful tonic properties; in others, the leaves are sudorific; and again, the juice and root of some of the species may be taken as an emetic. The properties of the plant range from gentle and beneficial stimulants to rank poison; the nature of the poison, however, frequently being so volatile as to be deprived of its baneful effects by the action of fire: so that the roots of some species, which would be destructive of life if eaten in their natural state, become, after cooking, a nutritious food for sustaining and invigorating it. The preparation called turusul (*croton tinctorum*), is obtained from one of the plants of this order, so named from its turning its flowers to the sun; and caoutchouc is supplied by others of this widely-diversified genus.

The *ricinus communis*, or castor-oil plant, is highly valuable for the excellent medical virtues of the oil which it furnishes: its root is said to be diuretic. The positions of the flowers are shown in the accompanying cut; but it is from the seeds that the oil is extracted, three of which, of an oblong flattish form, are enclosed in each

receptacle. The oil is prepared chiefly in the East Indies, and in the West India islands, the United States, and also in the south of Europe.

In America, the seeds being stripped of their covering, are boiled about six hours in a considerable quantity of water, and the oil, as it rises to the surface in a white and frothy state, is carefully skimmed off. Successive boilings, and straining in a canvass-bag, bring it to the necessary degree of fineness and purity.

The oil which has been what is called "cold drawn," is generally held in the highest estimation. This method consists in the seeds being bruised in a mortar, in order to express the oil, the whole being afterward tied up in linen-bags, and strained until the oil separates from the bruised seeds.

A French chymist has proposed a third method of extracting the oil, founded on the circumstance of its remaining insoluble in alcohol.

The best castor-oil is of a pale straw-color, and the more limpid it is the better are its qualities. The use of castor-oil in medicine is not of very old date; but not only are its excellences generally acknowledged, but in some respects its properties are to be found in no other medicine. It was formerly believed that the mode adopted for obtaining the oil by bruising the seeds, was the means of rendering it harsh and acid; but some French chymists who made experiments both on the seed and its rind, found that the quality of the oil was not injured from the cause which had been supposed; but that some mismanagement attending the preparation, and which might occur under either system, occasioned the decomposition of a small portion of the essential properties of the oil.

THE CAVERN-WELLS OF YUCATAN.

YUCATAN, in Central America, so remarkable for the remains of ancient cities and temples, is singularly deficient in natural supplies of water. In former ages, when a civilized people occupied the coun-

try, embankments and wells seem to have been formed to compensate as far as possible for the deficiency; but now the inhabitants, enervated by conquest and bad government, have no such resources. When the rainy season is past, during which they obtain the needful element from natural hollows and a few artificial tanks, they would be altogether destitute of water, were it not for the reservoirs which nature has formed in the recesses of certain profound caverns which occur here and there throughout the country, and from which a scanty supply can be drawn at a vast expense of human toil. A description of these cavern-wells gives a striking idea of the difference there may be, with regard to so simple a matter as the supply of water, between a country in a rude state, and one in which civilization and good institutions have allowed of combined efforts being made to promote general conveniency.

Mr. Stephens describes the village of Telchaquillo as wholly supplied from a cave in the centre of a square, round which the houses of the inhabitants have been built, the cave being probably the original cause of the village, as towns have originated at the mouths of rivers in our own country. The place at a little distance appears level and unbroken, and the stranger is surprised to observe women, as they walk across it, suddenly disappear as if they had sunk into the earth. A near approach brings in view a great orifice, like the mouth of a cave, from which ragged steps lead five hundred feet under an immense rocky roof to the water, where the cave rises clear twenty yards, the whole lit up from above. There is no current in the well; it rises a little during rain, but never falls below a certain point. Women are for ever ascending and descending, it being the sole means of supply to six hundred souls. At the ruins of Xcoch, however, is a well of still more singular character, evidently the sole supply of a large and populous city. In the centre of a grove of trees, so thick as to be close and sultry, and without a breath of air, is a circular cavity some thirty feet deep, at the bottom of which is a rude natural opening in a thick bed of limestone, narrow and low, and with a

strong current of air rushing forth. This is the entrance to the well, and so violent is the wind as to cause the incautious intruder, who is unprepared, to be driven back gasping for breath. The opening is three feet high and four wide, descending at an angle of about fifteen degrees, and it must be entered on your hands and knees, with this strong current of air against you. A track in the floor, worn several inches deep by the treading of thousands and thousands of the denizens of this ruined city, and the blackened roof consequent on the necessary use of torches, are confirmations in themselves of the well having been the only watering-place of ancient Xcoch, if indeed, the total absence of the water elsewhere were not proof sufficient. At the end of about two hundred feet the passage widens considerably, and rises to twice the height of a man, the air being no longer agitated, and the temperature warmer. A great vaulted chamber, with vast stalactite pillars succeeds. Climbing a high broken piece of rock, you again crawl through a long narrow fissure, leading to a rugged perpendicular hole three or four feet in diameter, with steps worn in the rock. Descending this, you come out upon a ledge, with a yawning chasm on the left. One or two rude logs, laid along the edge, with a pole for a railing, serves as a bridge; crossing which, the passage turns to the right, narrowing to three feet in both height and width, and descending rapidly. The labor, fatigue, and exertion, required to get through this is immense. At the end of sixty feet it doubles on itself, contracts, and still leads downward to a more spacious cavern, containing another perpendicular hole, through which you descend by means of a rude and rickety ladder, to a steep, low, and crooked passage, opening into a large rugged chamber, in which is the well. This is now unused, there being nothing save ruins in its vicinity; but two similar caverns, at present the sole watering-places of existing towns, show what seeming incredible things are of daily occurrence. The first is that of Chack. Women, in general, are in Yucatan the drawers of water, the men being the hewers of wood; but at Chack, the labor is too great for the tender sex. A

perpendicular ladder down a hole, a great cavern, a second perpendicular hole, a resting-place, then a hole two hundred feet deep, a low narrow passage varying in height and width, a fourth hole, leading to another low passage, at the end of which is a basin of water, being the well. The toiling Indians bearing their torches, some above, some below in the long shafts, make a wild and unearthly scene. The whole length from the mouth to the well is fifteen hundred feet, and the water-carriers, having to crawl a great part of the way, do not carry the calabashes on their shoulders, as in that case they would strike against the roof; the straps are passed across the forehead, and left so long that the calabashes rest below the hips, and thus form no obstruction. From this cave the whole population of Chack derive their water, except in the dry season, when they resort to the rancho of Schawill, three miles distant.

At Bolonchen, during the rainy season, the people are supplied from nine circular openings of no great depth in the rock, which have evidently been the cause of the settlement of population at that place. But these drying up at the conclusion of the rainy season, the inhabitants are forced to resort to a cave about a mile distant, which is perhaps the most extraordinary of all these singular wells. The entrance to this cavern is through a magnificent opening, beneath a bold ledge of rock, following which for about sixty feet by the glimmer of a torch, you come to a ladder that descends some twenty feet. All light from the entrance is here lost, but the brink of a vast perpendicular descent is soon reached, to the very bottom of which a strong body of light is thrown from a hole in the surface. An enormous ladder, of the most rudely-primitive description, leads to the bottom of this shaft. It is seventy feet long, twelve wide, and made of the trunks of young pines lashed together lengthwise, and supported all the way down by horizontal trunks fastened against the face of the precipitous rock. The ladder is double, having two sets or flights of rounds, divided by a middle partition; and the whole fabric is lashed together by withes. It is very steep, and seems dangerous. "Our Indians," says

Mr. Stephens, who visited it, "began the descent, but the foremost had scarcely got his head below the surface before one of the rounds slipped, and he only saved himself by clinging to another. The ladder having been made when the withes were green, these were now dry, cracked, and some of them broken. We attempted a descent, with some little misgivings; but by keeping each hand and foot on a different round, with an occasional crack and slide, we all reached the foot of the ladder." Mr. Stephens was unluckily there during the wet season, ere the ladders were repaired for their five months' duty. M. Fontanier, who was on the spot during the active period, describes them as solid and safe. We are as yet but at the mouth of the well, which is called Xtacumbi Xunan, or the lady hidden away. And here we must pause to explain these words. Every year, just as the nine wells are at their last gasp, the ladders undergo a thorough renewal, which done, a great fete is held in the cavern at the foot of this ladder. The walls of a lofty chamber, with overhanging roof and level floor, on the side leading to the wells, are ornamented with branches, and hung with lights; and the whole village comes out with refreshments and music. Now, be it told, that in the town of Bolonchen dwelt many years ago, an Indian lady of great wealth and many possessions, who had, however, above all, a pretty and interesting daughter. Of course many fell in love with the young lady, and, equally a matter of regular occurrence, the most ardent lover, and the only favored suitor on the part of the damsel, was a poor fellow of the name of Sacbey, who had naught save a handsome face to trade with. The mother would not even speak to him, and forbade her daughter holding any communication with Sacbey. The village fete of the cueva came round; Sacbey and his fair mistress were of course present; at the close of the day, these persons were nowhere to be found. For a whole month they were sought in vain, at the end of which period Sacbey presented himself very demurely before the angry mother, and asked permission to marry her daughter. It was given, and at Sacbey's re-

quest, the lady and the cura went with him to the cave. In a secret chamber which Sacbey had discovered they found the bride, with just enough provision left for one day. They were married on the spot, and hence the name of La Senora Escondida. On the side of the cavern is an opening in the rock leading to an abrupt descent down another long and trying ladder. This passed, moving on by a slight ascent over the rocks, at the distance of about seventy-five feet, ladders, one nine, and the other five feet high, are ascended, and then one of eighteen is descended. A fifth, sixth, and a seventh—this one long and precipitous—are descended, when a broken and ascending passage is reached, two hundred feet long. An eighth ladder leads to a low stifling corridor three hundred feet long; creeping through which on the hands and knees, the water is before you in its rocky basin fourteen hundred feet from the mouth of the cave, and four hundred and fifty perpendicular in the bowels of the earth. This is the Chacka or red-water basin. From the open chamber above alluded to, other passages lead to other basins. The first, reached by wearisome corridors, is called Pudelha, meaning that it ebbs and flows like the sea. The Indians, who testify to this fact, also say that forty women once fainted in the passage to it, which is the reason why men have since performed the task. The third basin is called Sallab, which means a spring; the fourth Akabha, on account of its darkness; the fifth Chocoha, or warm; the sixth Odiha, from being of a milky color; and the seventh Chimaisa, because it has insects called *uis*. Seven thousand souls supply themselves during five months with water from these deep and singular wells.

In another part of Yucatan a scarcity of water caused a curious discovery, which further evinces the great industry and perseverance of the ancient inhabitants of Maya. A Senor Trego in 1835, failing to find water in a local well, obtained permission to clear out an aguada or pond of muddy water. Four feet deep of mud had to be removed, when the bottom was expected to be found, as Senor Trego was firmly convinced that the place was artificial. Fifteen hundred

Indians were set to work, and on clearing out the mud, an artificial bottom of large flat stones lapping one over the other, and the interstices filled with a clay foreign to the neighborhood was found. The stones were many layers deep. In the centre were four wells, five feet in diameter, faced with smooth stones, and eight yards deep; on the margin were upward of four hundred casimbas, or pits: when the pond was exhausted, the holes and wells remained, lasting the inhabitants until the next rainy season. The renovation of this aguada, as may readily be understood, caused the neighborhood to flourish; and one year of unusual scarcity, more than a thousand horses and mules came to this place, even from the rancho of Santa Rosa, eighteen miles distant, and carried away water in barrels. "Families," says Stephens, "established themselves along the banks, small shops for the sale of necessaries were opened, and the butcher had his shambles with meat."

The aguada of Jalal, a pond to all appearance, being dry about ten years since, the Indians, in digging pits, struck upon an ancient well, which, on being cleared, was found of singular form and construction. It had a square platform at the top, and beneath was a round well, faced with smooth stones, and from twenty to five-and-twenty feet deep. Below this was another square platform, and under the latter a well of less diameter, and about the same depth. About forty wells were afterward found, some of the ordinary construction, and others of the shape of cones, the narrow part being uppermost; others of beehive form. The whole aguada was then cleared out, and it affords a never-failing supply. These constructions were the result of the labors of the same Maya population which is now so helpless. Conquest, and three hundred years of subjection, have divested them of all spirit. The men whose ancestors reared mighty palaces of hewn stone, temples, pyramids, splendid in structure, formed paved roads, dug wells, and executed works of art Egyptian in their vastness, now dwell in poor bark huts, and live on tortillas and frigoles, or slapjacks and beans.

One running stream is recorded by

modern travellers, which has given name to a village, Becanchen, the running well. On the declivity of a hill, water gushes from the rocks, filling a clear basin beneath. "To our Indian carriers," says Stephens, "and the muleteers, it was like the fountain to the Arab in the desert, or the rivers of sweet water promised to the faithful in the paradise of Mohammed." Twenty years before, the country was a wilderness of forest. A wandering Indian came upon it, and made a clearing for his milpa, or maize field. In doing so, he found the running water. Indians gathered together, and the village now contains six thousand inhabitants. Water in Yucatan always makes a town.

PILGRIMS IN THE DESERT.

THE long and circuitous journey from Europe to Jerusalem, by Constantinople, through Asia, frequently adopted by pilgrims in the earlier ages, was one of extraordinary toil and danger. After the occupation of Palestine by the Crusaders, it became comparatively an easy task to visit Jerusalem—the pilgrims had only to take shipping for one of the seaports; and it was for this reason, among others, that the Crusaders held so tenaciously the seacoast of Palestine. When no longer masters of Jerusalem, they made Acre, which is about seventy miles distant from it, their capital. The fall of Acre was the final loss of the Holy Land. "A motive of avarice or fear," says Gibbon, "still opened the holy sepulchre to some devout and defenceless pilgrims, but a mournful and solitary silence prevailed along the coast which had so long resounded with the world's debate."

Another route was to cross the sandy and generally sterile country which lies between Egypt and Palestine, and which constitutes a portion of the Great Desert of Egypt or Arabia. This desert extends as far into Palestine as close to the walls of Jaffa (the ancient Joppa), the coast-line being covered with sandy hills. The journey from Cairo to Jaffa is calculated as occupying from twelve to fifteen days.

With proper care, this journey, though attended with some privations, is not a dangerous one. Indeed, Burckhardt says that accidents or misfortunes arising from the want of water, that most grievous of all calamities in "a dry and thirsty land where no water is," must, in general, "arise from a want of proper precaution." But Burckhardt speaks as a hardy and seasoned traveller. Cases must frequently arise in which the best precaution is defeated, or where the want of means prevents the operation of it to the extent that is necessary.

Pilgrims proceeding from Jaffa to Jerusalem, after having either crossed the desert or landed from the Mediterranean, see little or nothing of that beauty or fertility which obtained for Canaan in ancient time the title of "a land flowing with milk and honey." But as this road was the common one, in fact, almost the only way of access which pilgrims had to Jerusalem, many were the efforts made to reconcile present appearances with past descriptions. M. de Chateaubriand, who travelled in Greece and Palestine in 1806 and 1807, thus exclaims: "When you travel in Judea, the heart is at first filled with profound disgust; but when passing from solitude to solitude, boundless space opens before you, this disgust wears off by degrees, and you feel a secret awe, which, so far from depressing the soul, imparts life, and elevates the genius. Extraordinary appearances everywhere proclaim a land teeming with miracles; the burning sun, the towering eagle, the barren fig-tree—all the poetry, all the pictures of Scripture are here. Every name commemorates a mystery; every grot proclaims the future; every hill re-echoes the accents of a prophet. God himself has spoken in these regions; riven rocks, dried-up rivers, half-open sepulchres, attest the prodigy: the desert still appears mute with terror, and you would imagine that it had never presumed to interrupt the silence since it heard the awful voice of the Eternal!"

But other travellers have shown that Judea, even now, after ages of war and neglect, is not *all* a rocky, barren country, whose natural sterility is aggravated by the hand of man. Buckingham and Banks



Pilgrims in the Desert.

were in raptures with the grandeur, the beauty, the fertility of the country, eastward of the Jordan; and M. de Lamartine, who, in 1832, travelled from Bairout to Jerusalem, across Syria and Palestine, says, on entering the Holy Land, "It was not a land naked, rocky, and barren—a mingled heap of low, uncultivated mountains, as the land of promise had been painted to us, on the faith of some misguided writers, or a few travellers hastening with all speed to arrive at the holy city, and return; and who had only seen of the vast and varied domains of the twelve tribes, the rocky route which led them, under a burning sun, from Jaffa to Jerusalem. Deceived by these writers, I only expected to find what they described—a country of trifling extent, without any extensive views, without valleys, without plains, without trees, and without water. A country dotted with gray or white hillocks, where the Arab robber conceals himself in the shade of the ravines to plunder the passenger. Such may, perhaps, be the road from Jaffa to Jerusalem; but such is not Judea, as we beheld it the first day from the summit of the hills which border Ptolemais—as we found it on the other side of the hills of Zebulon and Nazareth; at the foot of Mount Hermon or Mount Carmel—as we found it, indeed, in its entire breadth, and in all its varieties, from the heights which commanded Tyre and Sidon to the lake of Tiberias; from Mount Theban to the hills of Samaria and Naplous; and thence to the walls of Sion."

But this land, still so beautiful and fertile under all the changes that have passed over it, was liable, from the earliest periods, to a continued prevalence of drought—an affliction fitly compared to the heavens over the inhabitants' heads becoming as brass, the earth under their feet as iron, and the rain of their land powder and dust. The Crusaders, in the first crusade, experienced one of these seasons of drought. "Though the fleet," says Robert the Monk, "which arrived at Jaffa, furnished the besiegers with provisions, they still suffered as much as ever from thirst. So great was the drought during the siege, that the soldiers dug holes in the ground, and pressed the damp clods to their lips; they

licked the stones wet with dew; they drank the putrid water which had stood in the fresh hides of buffaloes and other animals, and many abstained from eating, in the hope of mitigating by hunger the pangs of thirst." This event supplied Tasso with the origin of a description, which Chateaubriand considers the most exquisite passage of the "Jerusalem Delivered." We quote three stanzas from the book:—

"The sturdy bodies of the warriors strong,
Whom neither marching far nor tedious way,
Nor weighty arms which on their shoulders hung,
Could weary make, nor death itself dismay,
Now, weak and feeble, cast their limbs along,
Unwieldy burthens, on the burned clay;
And in each vein a smouldering fire there dwelt,
Which dried their flesh, and solid bones did melt.

Languished the steed late fierce, and proffered grass,
His fodder erst, despised, and from him kest,
Each step he stumbled, and, which lofty was
And high advanced before, now fell his crest;
His conquests gotten, all forgotten pass,
Nor with desire of glory swelled his breast;
The spoils won from his foe, his late rewards,
He now neglects, despises, naught regards.

Languished the faithful dog, and wanted care
Of his dear lord and cabin—both forgot!
Panting he laid, and gathered fresher air,
To cool the burning in his entrails hot;
But breathing—which wise Nature did prepare
To 'suaige the summer's heat—now bootied not
For little ease (alas!) small help they win
That breathe forth air, and scalding fire suck in!"

RELATIONSHIP.

It is a poetical idea of old standing, that there is something in blood-relationship which is quite irrepressible, and never fails to make itself known through the thickest disguises. Thus, a child lost in infancy, coming into the presence of its parents at a future period, is supposed always to excite in their bosoms such feelings as are sure, sooner or later, to lead to a recognition. There is more of sentimental beauty than of truth in the notion, and we have, in reality, no well-authenticated case of children being affiliated in this manner, unless where there was a likeness, or some other circumstance, to give rise to a suspicion. The fact is, that parents and children, brothers and sisters, who have never seen each other, may be brought together, and con-

tinue to meet for years, and never dream of the relationship which exists between them. They are to each other merely human beings, members of the great democracy, bearing no natural ensigns of any kind to awaken those yearnings of which poetical writers speak. It will, indeed, sometimes happen that a trace of family resemblance awakens a supposition of the relationship, and that this occasionally leads to a clearing up of the case; but of mysterious recognitions, through the force of some unseen principle such as is usually called the voice of nature, there is assuredly no satisfactory evidence.

There is likewise a prevalent belief that relations, fully cognizant of each other, are endowed by nature with a mysterious mutual affection which nothing can ever altogether extinguish. Thus a parent expects to be necessarily, or by the mere force of nature, beloved by his children, however he may treat them. Thus brothers and sisters, uncles and nephews, aunts and nieces, all expect to find themselves held reciprocally in great regard, simply because of those relations; although it may be that they have never before been in each other's company, or had any other opportunity of forming the slightest attachment. This belief is not so entirely unfounded as the preceding. Nature has given to the mother an instinctive love of her offspring, though this appears in very different degrees in different individuals, and only has force during the tender age of the children. There is also a certain feeling entertained at all periods of life among blood-relations, a certain interest in each other, independent of habits of intimacy, being apparently a modification of the *amour propre*, as if we held these persons as somehow part of ourselves. But beyond these feelings, which may be admitted to be implanted by nature in our mental constitution, there is certainly nothing in consanguinity calculated to produce attachment. There, as in other relations of life, friendship depends simply upon those conditions which are usually productive of it—as old association, congeniality of dispositions, community of likings and dislikings, and the interchange of civilities and benefits.

We do not think it necessary to attempt

to support this proposition by many arguments; for a little reflection will show to all rational persons that no other conclusion can be come to. The opposite notion seems to be merely one of those dreams of early mankind, which have been handed down from one generation to another, escaping challenge purely from their reaching us at a time of life when all that is offered to the mind is accepted. And I would say that this is peculiarly one of those nurse-implanted notions which are of all others the most apt to take deep root in our minds, and afterward to defy the efforts of reason to supplant them. Perhaps it would be found in nine out of ten of all the best intellects of the country, that they believe, without inquiry, or any just foundation for their belief, that there is a kind of witchcraft in blood relationship, making mutual love of parent and child, of brother and brother, independent of all worldly conditions. The idea has in it some poetical beauty and interest; but it is nevertheless a great error, and, like all errors, liable to produce evil.

It seems to us that a large part of the occasional unhappiness attending relationship may be traced to this cause. Relations depend upon the efficacy of the supposed instinct for procuring and retaining mutual affection, and, secure in this reliance, see no occasion to cultivate friendship or attachment by the ordinary and only legitimate methods. Often parents will treat their children with coldness or even harshness, conceiving that nevertheless the children will or ought to regard them with reverence and affection. Brothers and sisters, in like manner, trusting to an abstraction which has no existence but in the mind, often act with levity or unkindness toward each other, expecting nevertheless that the offended individual will overlook it by virtue of the instinctive regard arising from relationship. And generally, it may be observed that a reliance upon this supposed instinct induces, in domestic circles, a much less careful conduct among the various members, with regard to each other's feelings and interests, than is to be seen among associates who are not akin. The parent thinks he may indulge safely in a little tyranny over his little ones—"Are

they not my *children*, and should they not *therefore* love me?" He may be unreasonable as much as he chooses with one who *ought to be ever attached*; he may insult and mortify the most sensitive of natures, and yet expect to see the wounded being crouch, spaniel-like, at his feet, the more loving that he has been aggrieved; he may show a general conduct in life which no one can respect; yet he will expect that his children are to be unaffected in their attachment by all such circumstances. Or, at the very best, the parent may take no pains to cultivate the affections of the children. Fulfilling only the most obvious duties, he may never address his young ones with a kindly word or caress, but always act toward them with the appearance, if not the reality, of indifference. And yet this man will expect to be as much beloved by his offspring through the whole extent of their joint lives, as if he had been continually pouring benedictions and acts of kindness upon them. Here is surely an error of great magnitude, which it is most desirable to see corrected. There are, too, fathers, and even mothers, who, though fond of their children, and sufficiently anxious to advance their happiness, have, from awkwardness, or some other habits of the mind, no power of showing their feelings. Perhaps they, on the contrary, take refuge from the difficulty they are under, in a hard external manner, bearing an appearance of indifference if not of unkindness. Here, likewise, the full stream of affection is expected to flow from the children; but can it do so? Can the children of such parents love them as much as if they had been in the habit, from the dawn of intelligence, of experiencing every mark of parental affection? It is evidently impossible. We have heard of a mother, of excellent general character, who had always borne to her numerous children an appearance of comparative coldness. She confessed to them on her deathbed, to their great surprise, that in reality she had always felt in the warmest manner toward them all, but was utterly incapable of expressing her real sentiments. This was surely most unfortunate; for it can not be doubted that the children of this mother would have

displayed a much warmer degree of regard toward her through life, if they had not been all along under an impression that she was indifferent to them. How much, then, of possible happiness was forfeited in this family in consequence of a *bad manner*, probably induced at first by a false notion regarding the natural affections.

It is strange that, while meliorations are sought in all departments of social polity, no one ever thinks of the tremendous oppressions and grievances which prevail in domestic circles. The mercilessness of the most barbarous ages flourishes to this day in many a household bearing every external mark of propriety. Persons of all imaginable respectability in their ordinary conduct, take leave to act with Draconic tyranny and cruelty toward the helpless beings committed by nature to their charge, and whose very inability to resist or escape ought to be a strong pleading in their behalf. To every caprice that the human mind is capable of, to every possible peculiarity of heartlessness, jealousy, malignity, children are exposed at the hands of their parents, and yet no one can presume to interfere. A parent can take leave to visit a child with every kind of persecution in word and act, and yet the sufferer has not even the poor consolation of public sympathy if he attempts to declaim against the injury. And all this is mainly on account of a notion that there is a mystic tie between parent and child, which at once renders their relation independent of all the ordinary principles of human nature, and raises it above the scope of all human law. When we consult nature herself, we hear nothing of such a tie. Ask any child who is well-treated by its parents why it loves them, and invariably you have for answer, "because they are kind to me," or something to the same effect. And when investigation is made into the feelings of an ill-used child toward its parents, the result as invariably is, that these are found to be objects of dread and dislike in consequence of their conduct.

What we wish to impress, in fine, is, that the affections of relatives toward each other are simply governed, like the affections of persons not akin, by the manner

in which they treat each other. Here you no more gather grapes from thorns, than in any other department of our varied social relations. To attain, therefore, and to preserve the affections of children, or of brothers or of sisters, it is necessary to have always appeared before them in a kindly and beneficent character, and to have always spoken and acted with a deference to their feelings. Not that there may not be much good-humored latitude of discourse among the members of a family; but certainly all hard and biting speeches should be as carefully avoided here as in miscellaneous society. Let these conditions be observed, and amity and mutual helpfulness, love and peace, will undoubtedly be realized; but let an opposite course be followed, and the results will as unquestionably be opposite. The parent will be unhonored by his children, and he will deserve to be so. And brothers and sisters, who might have promoted each other's happiness to an almost indefinite extent, will find themselves a source of continual mutual heart-burning and vexation.

ICE-PALACE, ST. PETERSBURG.

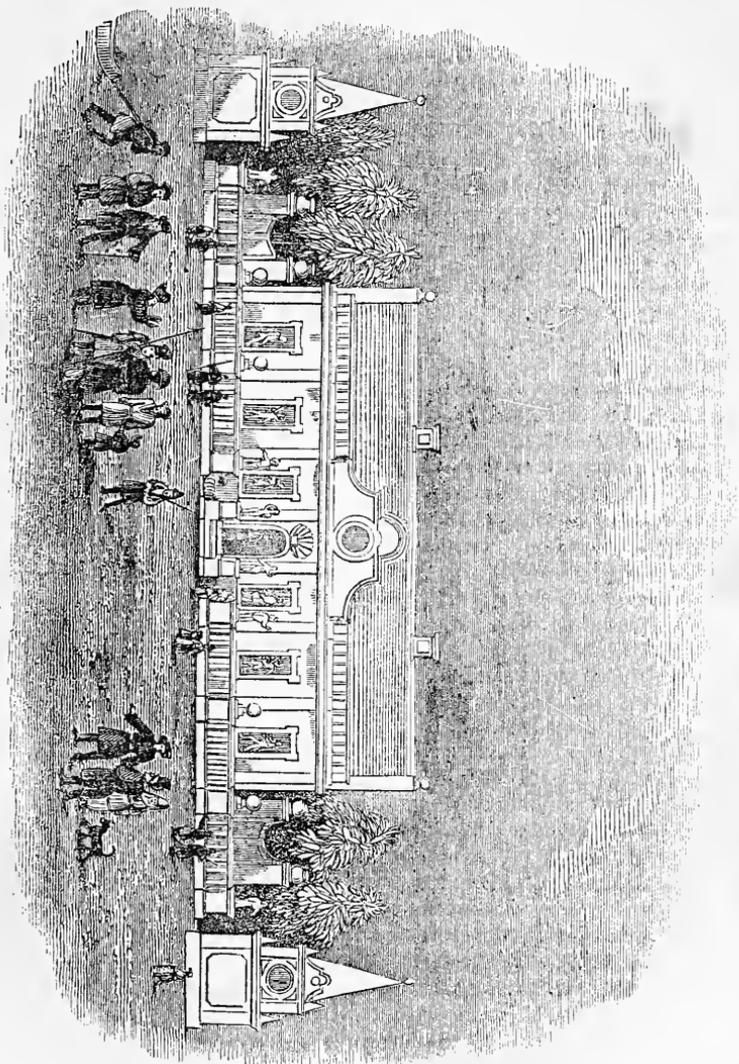
THE ice-palace of the empress Anne, was erected at St. Petersburg in January, 1740. The following account with the engravings is taken from a detailed description of the edifice published at St. Petersburg in the year 1741, when all the circumstances relating to this extraordinary building were fresh in the memory of the writer.

After a pretty lengthy dissertation on the effects of frost and the qualities of ice, which has little to do with the matter in hand, the writer proceeds to panegyrize the noble Alexis Danilovitch Tatishchev, who originated the design of the ice-palace, the empress Anne, who furnished the funds, and the palace itself, which merited, he says, to be placed among the stars, to be transported to Saturn, the temperature of which distant planet would have been fitted, the writer thinks, to give it permanency.

The intention of the projectors of the ice-palace was to build it upon the river Neva itself, in order to be as near as possible to the source from which the ice was to be procured. It was accordingly begun upon that river toward the end of the year 1739; but, says the author, "the ice of this river which sustains the weight of many thousand armed men; which supports great cannons and mortars, frequently discharged; which did not break under the immense weight of a fortress of ice and snow, attacked and defended according to all the rules of war, and taken at last sword in hand (which was performed seven years ago in a show represented before the empress); this ice began to give way under the walls of the palace as soon as they were raised to some considerable height; whence it was concluded that it could not support the weight of the whole when completed." In consequence of this failure, it was resolved to begin again, and to build the palace on land: a site was accordingly selected between the fortress of the admiralty and the new winter residence of the empress, and the work was begun with the advantage of the experience in ice-building gained by the attempt on the river.

The manner of building was very simple; the purest and most transparent ice was selected; it was cut from the Neva in large blocks, which were then squared with rule and compass, and carved out with all the regular architectural embellishments. When each block was ready, it was raised to its destined place by cranes and pulleys, and an instant before letting it down upon the block which was to support it, a little water was thrown between the two, the upper block was immediately lowered, the water froze, and the two became literally one. The whole building in fact appeared to be, and really was, all of one single piece, "producing without contradiction an effect infinitely more beautiful than if it had been built of the most costly marble, its transparency and bluish teint giving it rather the appearance of a precious stone."

The dimensions of the building were, length 56 feet, depth 18 feet, and height including the roof, 21 feet. This is the body of the house; the palisading was 87



Ice Palace, St. Petersburg.

feet in length and 36 in width, and the actual length of the front view, including the pyramids at the corners, was 114 feet.

When the work was completed, the public were allowed an unrestricted passage through every part of the building. This at first caused a good deal of confusion, which was however obviated by surrounding the entrance with a wooden railing, and stationing police officers who allowed only a certain number of persons to pass in at one time.

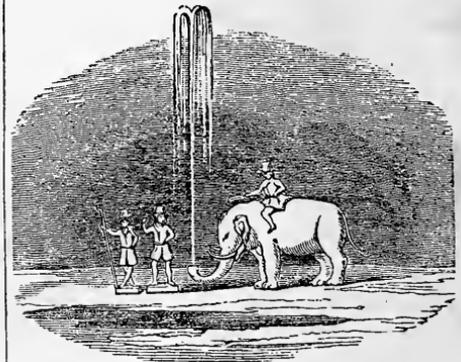
The façade was plain, being merely divided into compartments by pilasters. In each division there was a window, the frame-work of which was painted to represent green marble: it was remarked that the ice at the low temperature which prevailed took the paint perfectly well. The panes were formed of slabs of ice, as transparent and smooth as plate-glass: at night these windows were generally lighted up, and most commonly grotesque transparencies painted on canvass were placed in the windows. The effect of the illumination is said to have been peculiarly fine, as the light appeared not only at the windows, but from the transparency of the material, the whole palace was filled with a delicate pearly light. The centre division projected, and appeared to be a door; but it was in fact a large window, and was illuminated like the others. An ornamental balustrade surmounted the façade of the building, and behind was the sloping roof with chimneys, in the usual style of Russian architecture. A handsome balustrade, all of ice, ran round the outside of the building. A large space was left for a promenade between the balustrade and the palace. There were also two entrances behind, with gates handsomely ornamented with orange-trees in leaf and flower, with birds perched on the branches, all of ice.

Six cannons regularly bored and turned, with their wheels and carriages, stood before the balustrade, three on each side; these were of the calibre of such as usually receive three pounds of powder, but being of so fragile a material it was not considered safe to put in more than a quarter of a pound: the ball was of hard tow, well rammed in. Two or three times iron balls were fired from these cannons without

bursting them. The experiment was tried in the presence of the court, and the ball pierced a strong plank two inches thick, at a distance of sixty paces. Two mortars stood on each side of the entrance; these were of the size of those which carry a shell of eighty pounds; when fired the charge of powder was the same as that for the cannons. On the same line stood two dolphins, which were made to throw a stream of inflamed naphtha out of their mouths, at night, by means of concealed tubes.

At the extremities of the rows of cannons, in advance of the balustrade, stood two pyramids surmounted with globes. They were raised on handsome pedestals, and had a circular window, around which a dial was painted on each of the four sides. They were hollow within, and could be entered by a door-way placed in the rear. A large paper lantern of eight sides, with monstrous figures painted upon them, was hung up in the middle of each pyramid and illuminated at night: a man was stationed withinside to turn about the lantern, and each of the figures on it presented itself in succession at the windows of the pyramid, to the great amusement of the multitude.

An elephant of the natural size was placed on the left side of the building,



Ice-Elephant and Fountain.

and on his back was a Persian, holding a battle-axe in his hand; two other Persians, one of whom held a spear, were placed in front of him. The elephant was hollow, and was made to throw water through his trunk to the height of twenty-

four feet. This was done by means of tubés leading from the foss of the admiralty near which it stood. At night burning naphtha was substituted for water, and the effect is said to have been very singular, the appearance, being that of a stream of fire. To make this part of the exhibition more remarkable, a man was placed within the figure, who from time to time blew through certain pipes so as to make a noise like the roaring of an elephant. On the right of the house, at about the same distance as the elephant, a bath was built, made of round logs of ice, like the log baths used in Russia: "this bath," says our author, "was more than once actually heated and used."

After describing the outside, we come to the inside of this "great plaything." The entrance was behind, and the spectator was introduced into a spacious and handsome vestibule with one room on each side. There were no other rooms than these, so that they were sufficiently spacious, and as there was no ceiling under the roof they were also very lofty.

In one of these rooms, which was the bed-room, there was a dressing-table, fully set out with a looking-glass, and all sorts of powder and essence-boxes, jars, bottles, a watch, and a pair of candlesticks and candles, all of ice; the candles were sometimes smeared with naphtha and set in a blaze without melting. Before the table two little figures were placed as supporters, and against the wall a mirror was hung. In the other half of the room was the bedstead, with bed, pillows, and counterpane, finely-wrought curtains, and other furniture. There was a fireplace on the right, elegantly carved, and within were logs of ice, which were occasionally smeared with naphtha and set fire to. All the other parts of the room were fitted up in a corresponding manner.

The other principal room may be called either the dining or drawing-room: here was a table with a handsome time-piece, all provided with wheels of ice, which were visible through the transparent case. On each side were settees or sofas handsomely carved, and two large statues were placed in the corners of the room, besides other furniture.

Here ends the description of this immense toy, which was indeed

—— "transient in its nature, as in show
"T was durable."

The writer of the account says, "as long as the excessive cold lasted, that is, from the beginning of January to the middle of March, so long did this remarkable edifice stand; it then began to give toward the southern side, and soon it gradually melted away. It was not altogether useless in its destruction, for the large blocks of the walls were taken to fill the ice-cellars of the imperial palace:" a very poor return for an enormous outlay.

We learn from the same book that the emperess of Russia was not the only person who took advantage of the excessive cold of the year 1740. The same sort of amusement, though on an infinitely smaller scale, was taken by a German named Von Meinert, who carved a large lion at the gate of Holstein in Lubeck, seven feet in length, and he did it so well, says the author, "that a skilful carver could hardly have done it better in wood." The lion was surrounded by a bulwark of ice, on which were placed five cannons, a soldier, and a watch-box, all of ice.

The writer of the account endeavors to make some kind of apology for the large sums thrown away in this work, by observing that we had learned a good deal of the properties of ice from what was done; we know now, he says, that it can be turned and bored, and that gunpowder may be fired in cannons made of it. He says many persons have been skeptical as to the possibility of gunpowder taking fire; but, continues he, "I have seen a little heap of powder which, in the month of July, was placed upon a piece of ice taken from an ice-cellar, and which instantly exploded at the approach of a burning-glass."

The book contains a list of the excessive frosts that have been recorded in Europe for 2,000 years; this list is taken chiefly from the chronological work of Calvisius, and the writer fancies he sees in it that such extraordinary degrees of cold occur at intervals of thirty years, in which he is certainly not borne out by his own data.

In a little account of the frost, toward the end of the book, the following days are stated as those on which the cold was particularly intense. From the 22d to the 25th November; the first five days of December; and from the 16th to the 24th of the same month; from the 5th day of January to the end of February; from the 9th to the 11th; from the 12th to the 15th; and from the 19th to the 27th of March. The coldest day in the winter was the 5th of February, when the thermometer of the observatory stood at 30° below zero of Fahrenheit; on that day the barometer suddenly arose to 29.6 English inches.

A few experiments on the power of cold were tried. A glass of good French brandy exposed to the air on the night of 15th February was found covered with a crust of ice the next morning; the rest of the contents of the glass became of the consistency of soft wax. On the 13th December, a glass of water covered with two thirds of an inch of nut-oil began to freeze in nineteen minutes, and soon became solid, but the oil was not affected. The snow was cleared away from a garden on the 25th of March, and the ground, which was hard as marble, broken through with much difficulty; at three inches depth it was found as soft as in summer; "the frost," says the writer, "having penetrated only so far;" we should certainly be more inclined to impute this fact to the wet having sunk no further.

THE JERBOA.

THE jerboa is a timid animal, retiring on the least alarm to its burrow. It lives in troops, which make their retreats in the sand, often burrowing to a considerable extent, but seldom to any great depth; and around the entrance of these they are often seen sitting or playing, or engaged in search of food. The north of Africa, Egypt, and Syria, are the countries in which this species is indigenous. Among those who have observed its manners in a state of freedom, we may notice Sonnini. "The jerboa," he says, "ap-

pears to be a prolific animal, for it is exceedingly numerous in Arabia, Nubia, Egypt, and Barbary. During my stay, or rather my excursions, in Egypt, I opened several jerboas; my principal aim was to ascertain that they had only one stomach, and consequently could not possess the power of ruminating. This was in answer to one of the questions that Michaelis, professor at Göttingen had addressed to the travellers sent to the East by the king of Denmark—viz., whether the jerboa was a ruminating animal—a question arising from the mistake which had occasioned the confounding the jerboa with the *Daman Israel*, or *Saphan* of the Hebrews.

"The sand and ruins that surround modern Alexandria are much frequented by the jerboas. They live in society, and in burrows, which they dig with their teeth and nails. I have even been told that they sometimes make their way through the soft stone which is under the stratum of sand. Though not absolutely wild, they are very shy; and upon the least noise, or the sight of any object, retire precipitately to their holes. They can only be killed by surprise. The Arabs contrive to take them alive by stopping up all the avenues to their burrows, except one, by which they force them to come out. I never ate any; and their flesh, indeed, is said not to be very palatable, though it is not despised by the Egyptians. Their skin, covered with soft and shining hair, is used as a common fur.

"In Egypt, I kept six of these animals, for some time, in a large iron cage; the very first night they entirely gnawed through the upright and cross pieces of wood, and I was obliged to have the inside of the cage lined with tin. They ate rice, walnuts, and all kinds of fruit. They delighted in being in the sun. Although they have a great deal of agility in their motions, they seem to be of a mild and tranquil disposition; mine suffered themselves to be touched without difficulty; and there was neither noise nor quarrel among them, even when taking their food. At the same time they testified neither joy, fear, nor gratitude; their gentleness was neither amiable nor interesting; it appeared to be the effect



Jerboa.

of cold and complete indifference, bordering on stupidity. Three of these animals died successively before my departure from Alexandria. I lost two others during a somewhat stormy passage to the isle of Rhodes, when the last, owing to the negligence of the person to whose care it was committed, got out of its cage and disappeared."

Sonnini states the jerboa to be diurnal in its habits, delighting to bask in the light and heat of the sun. We must observe that this account does not agree with our own observations made upon several individuals which we have had the opportunity of seeing in captivity. It may be that the presence of persons restrained them from following their natural inclinations; certain it is, however, that they secluded themselves in their nestling-place, covered with fine hay, wool, and other soft materials, till the stillness of evening, when they would timidly steal forth, but retire on the least noise, or on the sudden appearance of an intruder. Buffon, speaking of the jerboas, observes, that day, and not night is the season of their repose. His words are, "They sleep only during the day, and never at night; they eat grain and herbage, as do the hares; their disposition is gentle, nevertheless they are capable of being familiarized only to a certain point. They dig burrows like rabbits, and in far less time; they there lay up a magazine of herbs at the end of summer, and, in the colder countries, there pass the winter."

We have reason, however, to believe that the jerboa peculiar to Egypt and Syria, does not hibernate, whatever allied species in Tartary may do, where it is not improbable that the winter is passed by them in a state of torpidity. Edwards, in his "Gleanings," gives a very good figure of the common jerboa, or gerbua, as he writes it, from a living specimen which came under his notice. "It seems to be," he says, "a very harmless creature, and feeds much in the same manner that rabbits and hares do, eating corn and herbs of many sorts. It is more shy and keeps closer to its hutch in the daytime than in the dusk of evening, when it ventures forth, and hops more familiarly and with less fear about the room

where it is kept, which inclines me to believe it is naturally a nocturnal animal." Pliny, speaks of the jerboas under the term of Egyptian mice, and describes them in few words, as residing in burrows, going along on two feet, the forefeet being used as hands. But he enters into no details as to their habits and manners. The jerboa was, however, well known to the ancients under the name of the *two-footed mouse*, and its figure is impressed on some coins of Cyrene, where it is still very common.

In size, the common jerboa equals a rat, being somewhat more than six inches in the length of the head and body to the root of the tail, that of the tail being about eight inches. The general color is pale, tawny-brown above, white below; the crupper is crossed by a white semi-lunar band, or crescent, extending on each side from beneath the root of the tail; the tail is tufted at its extremity, and is tipped with white, preceded by a band of black. The thumb is small, and furnished with a blunt nail; those of the fingers are curved, sharp, and well adapted for digging.

THE OCEAN.

I see the Deep's untrampled floor
With green and purple seaweed strown;
I see the waves upon the shore,
Like light dissolved in star-showers thrown;
I sit upon the sands alone,
The lightning of the noontide ocean
Is flashing round me, and a tone
Arises from its measured motion.—*Shelley.*

THE glorious, the magnificent, the unfathomable deep! Among the manifold works of God there is none under heaven so glorious. "It is His, and he made it." It is immutable. The gnarled oak shall fall to decay—the mountain shall crumble—the dark rocks return into the dust—but the sea knoweth no change and no variability; it is the same yesterday, to-day, and for ever. The soft-haired child may throw pebbles into its depths—and he may come again tottering upon the crutch of age, and behold no shadow of difference. There seems a determined purpose in its restless motion. It is for ever suing, as for a boon, at the

feet of the rocky heights—or clapping its hands at the silvery clouds, as it leaps onward in its ceaseless progress. It hath rolled on unceasingly since its fountains were first unsealed, and it will roll on till the sun is darkened and the stars grow dim.

There is a spell of mystery brooding upon its waters. Who hath returned from its silent chambers to reveal its awful secrets? Millions have gone down and remained for ever. There is an impenetrable veil hung over its deep pavilions, which baffles the eye of science, and causes philosophy to press a finger upon her lip. How oft has the larum shout disturbed the solitude, and the minute-gun rolled forth its dread forebodings. How oft has it heard the wild shriek of fear, and the calm prayer of devotion—while the disjointed wreck went down, and the waters closed above its relics. How many sleepers find a couch upon its bosom! They outnumber the sands of its borders, and the days of a life could not count them. There is the form of beauty—the mother with her clasped child—the miser with his gold, and gaunt skeleton clasping the crucifix in its bony fingers. There is the father and the son, the master and the slave, resting together. The billows are chanting their dirge, and the stars are the lamps of their sepulchre.

We have said it knoweth no change; yet it is no paradox to say, there is nothing so changeable. It hath a frown and a smile—it knoweth sunshine and storm; yet in all it alike retains the same awful grandeur and unparalleled magnificence—whether it is lulled into silence or maddened into rage—whether it mirrors the heavens, or rolls its mountain billows upon the shelving rock—whether a fetter of ice is laid upon it, or the breeze of the south fans it with languid wings.

Well was the spirit of beauty fabled to have arisen from its waters; for even now it maketh the sea its abiding place. The clouds stand still and gaze upon it, and the silver-winged sea-birds float slowly on, and give vent in wild screams to their unutterable joy. Day and night worship at its altar—the sun robes it with a garment of light, and the stars watch over it in their midnight vigils.

The coast is its girdle, and it is gemmed with loveliness. There is the smooth and pebbly beach, where the waters roll with a gentle swell; and there is the dark rock and the high precipice, where the surf breaks and sparkles in the sunblaze. There are the icy hills of the north, rearing their crystal citadels, and the spicy groves of the south leaning above its borders, and offering the incense of its perfume.

The spirit of harmony slumbers in its deep caves. It hath music of ravishing sweetness, whether its cords are touched by the zephyr, or swept by the whirlwind. It answers with a faint babble to the one, and a voice of thunder to the other. Its perpetual orisons go up unto Heaven, and the echoes of earth repeat them. It speaks of Him who holds it in the hollow of his hand. Its voice is a voice of worship—deep calleth unto deep—visible bows to invisible—the made to its omnipotent Maker.

Poetry hath sounded its depths and imagination gone down like an invisible spirit amid its silent palaces. It hath gazed on its wedges of gold, its pavement of orient pearl, and the inestimable jewels that begem its chambers. Desolation hath made there a silent home, and gathered around her on the slimy rocks, the corroding wealth of nations, bearing from none the revelation of her treasury.

There is no solitude like the solitude of the deep. Man is there alone in the presence of his Maker; and his heart is hushed into awe. The deck is the only barrier between time and eternity—that is the only link that binds him to existence. He floats upon the watery element, between earth and heaven, isolated from the companionship of man. There is no sound, save the ceaseless murmur of the waves—no visible object, save the blue surface above, below, and around him.

There is nothing under Heaven so sublime. It goeth even unto the ends of the earth, and down to its very centre; and there is no segment of the globe where its voice is not heard. Its dark billows roll from the equator to the ice-ribbed shores of Labrador. It is belted by the stooping horizon—and the eye may pierce no

farther. The sun may not behold its limits upon his noonday throne—and the iron wing of the eagle may not measure its circumference.

It is mighty in power, and of terrible strength; yet it is the obedient vassal of man. He hath mastered it—making the winds his steeds, and the ocean his chariot. The luxuries of the east are rocked upon its bosom, and the armada rides upon its billows.

It communeth with the heart. Retire inward, and lay up its teachings. It is one of our greatest prerogatives, that it is given us to worship in the great temple of the universe. The elements are the ministers of Jehovah. They speak with articulate voices of him, and stand visibly before us as symbols of his greatness. At his bidding, the portals of chaos were opened, and order came forth, robed in the garments of glory. The mountains stood up, and the ocean obeyed his will. "He made them, and they are his." They are the ambassadors of God, and the teachers of wisdom to the children of men. They are great and glorious; yet, mighty as they are, they shrink to a point, when compared with the majesty of the invisible and godlike mind. "They shall perish, but it shall endure." The ocean shall go back to its original nothingness, when the mind that is kindled in devotion will stand at the throne of God, immortal as its omnipotent Maker.

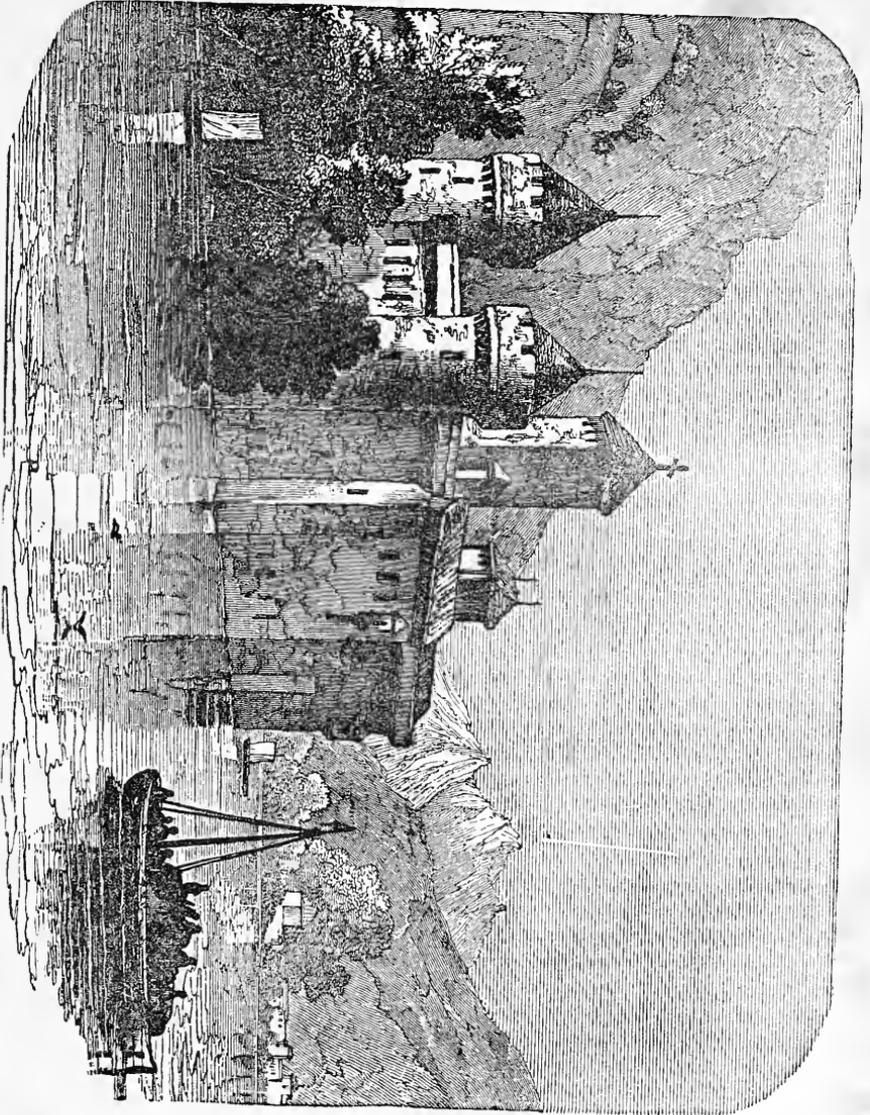
THE CASTLE OF CHILLON.

THE castle of Chillon is an object of prominent interest on the northeastern shores of the lake of Geneva. It is about a mile and a half from the village of Clarens, midway between it and Ville-neuve, at the eastern extremity of the lake, near the mouths of the Rhone. Opposite the castle, on the southern side, are the heights of Meillerie, which, though they shut out from view the Alps of Savoy, compensate for this by their own beauty. The lake is here seven miles wide, and of great depth. A torrent rushes down from the heights behind the castle, and the

character of the scenery is that of grandeur and wildness rather than that soft Italianized beauty described by Rousseau in his "Nouvelle Heloise." But some license may be allowed to poets and romancers; and Clarens, which is described by Simond in his "Journal in Switzerland," as "a dirty village, less prettily situated than any in the neighborhood," was chosen by Rousseau, according to the same writer, for no other reason than that its name is a better sounding one than that of other villages which surround it. Helen Maria Williams, who travelled over the scene of Rousseau's tale about forty years ago, saw Clarens with more romantic eyes than M. Simond, and described it as "embosomed in trees at the foot of a mountain."

The castle of Chillon is built on a flat rock near the shore, from which access is obtained by a wooden bridge. Lord Byron says of the castle, "It is large, and seen along the shore for a great distance; the walls are white." When Miss Williams visited it, it was converted into a sort of bastille, and guarded by soldiery. All the great and little governments were at that period alarmed by the progress of revolutionary principles. The dungeons were, according to her account, pierced by the groans of incarcerated patriots, and she saw a placard issued by the alarmed authorities, prohibiting the introduction of French newspapers, and describing with great accuracy the various degrees of corporal punishment to be inflicted on individuals who should have the audacity to discuss the principles of the government under which they lived, or to read the journals in which its actions were recorded and commented upon.

This was in Switzerland, whose oppressors, 300 years before, had been trodden down by the free and bold inhabitants, and thereby secured their political independence, though in Geneva a relentless persecution for religious opinions was instituted by themselves. The castle of Chillon was at that period a state-prison. The duke of Savoy, the oppressor of the Genevese, enclosed within its dungeons the firmest supporters of the independence of Geneva; among whom was François de Bonivard. He was confined from



Castle of Chillon, from the Lake.

1530 to 1536. The duke of Savoy was determined on stifling the reformation, if it were possible for his armed bands to effect such an object; but his persecution and tyranny drove his victims to arms. He endeavored to starve the Genevese into submission by intercepting their supplies; but they boldly fitted out five boats, each manned with eighty soldiers, and crossed the lake to procure provisions on his own territory. Being afterward aided by 7,000 Bernese, the duke's position soon became desperate, and the last place which held out for him was the castle of Chillon. It was invested both by land and water, and the imprisoned Swiss heard the cannon of their victorious countrymen battering the walls which had so long confined them. Bonnivard was among the number released. He had worn a track across the rocky floor of his cell by pacing it so many weary days and nights. Lord Byron's fine "Sonnet on Chillon" alludes to this circumstance:—

"Chillon! thy prison is a holy place,
And thy sad floor an altar—for 'twas trod,
Until his very steps have left a trace
Worn, as if thy cold pavement were a sod,
By Bonnivard!—May none those marks efface!
For they appeal from tyranny to God."

Lord Byron appears to have obtained a sketch of Bonnivard's history from a citizen of the Genevese republic, and has inserted it as a note to the above poem. He has himself added that Geneva is still proud of the memory of a man "worthy of the best age of ancient freedom." In this notice of Bonnivard, it is stated that, after having rendered Geneva free, he succeeded in rendering her tolerant. As to his toleration, M. Simond relates that, very shortly after his escape from the dungeons of Chillon, he became member of a tyrannical council which proceeded to treat the opinions of those who adhered to the old faith with the utmost bigotry. Bonnivard, it is true, was somewhat in advance of others. He voted that time should be allowed for the catholics to deliberate. The acts of the council produced many serious conflicts, but they were eventually enforced. In estimating the justice of a eulogy on Bonnivard, regard should be had to the spirit of the

times in which he lived, as compared with that of the present day. The contrast will show how imperfectly the principles of rational liberty were developed at the former period, and that though he was in some respects a dauntless lover of freedom, he was in others, when compared with our own times, incapable of valuing the rights and privileges of liberty of opinion and conscience.

Lord Byron in his note on the castle of Chillon says: "Within it are a range of dungeons. Across one of the vaults is a beam black with age, on which we were informed that the condemned were formerly executed. In the cellars are seven pillars, or rather eight, one being merged in the wall; in some of them are rings for the fetters and the fettered: in the pavement the steps of Bonnivard have left their trace." M. Simond visited the castle in 1817: it was then garrisoned by a few lazy soldiers, one of whom guided him to the dungeon said to be beneath the level of the lake. M. Simond, however, was skeptical on this latter point. He says: "Comparing the height of the loop-hole grates, *where captives weep* (as he sarcastically remarks), above the water's edge from the outside, and above the rocky floor inside, I remained satisfied the latter was something above the former; particularly when I observed a hollow place full of water, which must come from the lake, and would rise above the floor of the dungeon if it really were lower than the level of the lake." The writer satirically adds: "It grieves me to contradict poets or picturesque and sentimental travellers, but really the dungeon of Chillon is not under water; and, besides, is absolutely a comfortable sort of a dungeon enough, full forty feet long, fifteen or twenty feet wide, and fifteen feet high, with several narrow slits into the thick wall, above reach, but admitting air and light, and even some rays of sun."

Lord Byron's touching poem, "The Prisoner of Chillon; a Fable," contains one or two descriptive allusions to the castle, which we subjoin. As the story is fictitious, so also has the poet, with a pardonable license, introduced into his picture of the castle points which do not precisely correspond with the actual edi-

fice. With an exception, which contributes to heighten the interest, the following part of the poem, however, is in every respect an accurate sketch :—

“ Lake Lemán lies by Chillon’s walls :

A thousand feet in depth below
Its massy waters meet and flow ;
Thus much the fathom-line was sent
From Chillon’s snow-white battlement,
Which round about the wave enthalls :
A double dungeon wall and wave
Have made—and like a living grave.
Below the surface of the lake
The dark vault lies wherein we lay ;
We heard it ripple night and day ;
Sounding o’er our heads it knocked ;
And I have felt the winter’s spray
Wash through the bars when winds were high
And wanton in the happy sky ;
And then the very rock hath rocked,
And I have felt it shake, unshocked,
Because I could have smiled to see
The death that would have set me free.”

And again :—

“ There are seven pillars of Gothic mould
In Chillon’s dungeons deep and old,
There are seven columns, massy and gray.
Dim with a dull imprisoned ray—
A sunbeam which hath lost its way,
And through the crevice and the cleft
Of the thick wall is fallen and left ;
Creeping o’er the floor so damp,
Like a marsh’s meteor-lamp.”

Our view is taken from an original drawing, made on the spot, in 1835, by H. T. Delamotte, Esq.

SELF-DENIERS.

It can scarcely be regarded as otherwise than unlucky, that, while one half of the world are self-indulgent overmuch, the other half are self-denying to a degree almost equally reprehensible. Some know no restriction upon the gratifications which they are to allow to themselves ; with others it is only to themselves that they are severe or illiberal. Generally a spirit of excessive self-denial is the effect of early habits of economy and application, which were appropriate and laudable at the time when they were formed. Unfortunately men can not always readily adapt their modes of life to changed circumstances : the law of habit forbids such rapid transformations. Hence it is that we so often see them exhibiting, in wealth and ease, the rigidly parsimonious life

proper to a state of humble struggle, and transferring to a fine mansion the maxims which are suitable only in a cottage. And hence also it is that wealth so often passes unenjoyed from the hands of those who have earned it, into the possession of others who will know it only in its expenditure, as if making and spending were things incompatible.

It would be startling to many who have fulfilled, or humbly and earnestly endeavored to fulfil, all the great duties of life, to be told that they have omitted and never thought of one great duty—the duty toward themselves. But this, strange as the averment may appear, is a duty as much neglected as perhaps any other. There is no peculiarity of human character more conspicuous than the inability to allow one’s self the least relaxation from customary tasks, or the slightest addition to ordinary comforts. Among the wealthier portions of society, persons are met with who exhibit this character in all shades of intensity, from the downright miser, to him who, with a competency secure, fears that all will go to wreck if he allows a headache to detain him in bed a minute beyond his customary time. Generally founded as it has been upon generous and conscientious principle, and as generally unattended by any shade of an exacting spirit toward others, it is impossible, nevertheless, to view such a failing without some degree of the ridicule which is due to all absurdities. But ridicule is not alone due to it, for it is often attended with such consequences as to become liable to serious censure.

The almost unavoidable effect of the predominance of one decided self-denier in a domestic circle is to make the rest careless and over-easy. A mother, for example, who is of this disposition, is extremely apt to monopolize all the duties of housekeeping, to the exclusion of her daughters, who accordingly grow up ignorant of, and inexperienced in, those very accomplishments which the matron deems the most essential to female excellence. A father professedly rears a son to assist him in his business ; but being one of those anxious self-devoted beings who find no peace unless when everything is done by themselves, he can

not fully intrust any of his duties to the youth, who consequently not being called upon to exercise the full powers of his mind, and never having the stimulus arising from responsibility, grows up a sort of waste being, becomes negligent and self-indulgent, or, if possessed of irrepressible activity, devotes it to some frivolous pursuit. I have seen young men thus all but lost, not because they were intentionally bad, but because their parents were in the opposite extreme. A man often thinks that no one can do well or think well but himself, and the consequence of such overweening self-conceit is, that it leaves him to do and think for all—his servants and children becoming unavoidably the idlers which he assumes them to be.

While a self-denier may be able to endure all the supererogatory duties and severe privations which he chooses to impose upon himself, his character is not for this reason sure to remain unaffected. Often this habit of doing what others should do, leads to a pride in ourselves and contempt for our fellow-creatures, which are alike ungraceful. Often does the temper imperceptibly become sour and irritable for want of enjoyments which we might innocently have. It is easy, speaking comparatively, to suffer unflinchingly when we have self-gratulations to support us; but it is not so easy to continue cheerful, confiding, and amiable, amid a life which gives toil without relaxation, and partakes of no enjoyments. The effort may be made—human nature may struggle with its inclinations, and these may be to appearance got the better of; but still the fact remains, that we have all of us faculties desiring exercise, and tastes craving gratification, and these are not to be continually disappointed of their appropriate objects, or at least they can not all be repressed and set by, without our whole nature suffering some deterioration. A cheerless life unavoidably takes the sweet principle from our composition; and when we do not, or will not enjoy, we never see others do so with any degree of good-will. Thus it is that the spirit of self-denial, which in some circumstances is so great a merit, shows itself in others as only a blight to domestic

peace, and a source of far-spreading vexation and trouble. Thus it is that men of the greatest excellence in some respects do occasionally become known to their fellow-creatures, and particularly to the sharers of their homes, as only objects of terror and antipathy. The most exact rectitude, the most laborious exertions for a dependant family, and even a respectable share of practical benevolence, will fail to secure esteem when accompanied by that severity of spirit which so often takes its rise in a system of self-denial, protracted till it has become a fixed habit exclusive of all the milder feelings. A person who has carried self-denial to this excess, may be said to have transformed a virtue into a vice, and made himself detestable by the very means which he originally adopted to obtain a good name.

While it is good, then, to practise self-denial—while this stands as an essential to all virtue, and in itself a great one—while we worship it, as is right, as the source of many of the greatest of acts called heroic, and the principle which carries men above the condition of savages, since it is what places them above being always on the borders of want—let us also be on our guard against carrying it to excess. Let us endeavor to secure its beneficial fruits, but avoid the evils which it is also capable of producing. Man is a being of wants: he can not have all of these systematically denied without suffering therefrom. He must not self-deny over-much, as otherwise he is sure to produce more harm, to others as well as to himself, than good to either. He must here, in short, be restrained by a regard to that moderation in which all virtue consists. He must not allow good intentions to hurry him so far away from a common class of failings as to run into an opposite and equally vicious extreme.

The philosophy here inculcated may serve in some cases to suggest a means of banishing domestic unhappiness. It must often happen that the growing bad temper complained of in an important member of a family, has no other source than a too constant self-denial of innocent enjoyments, or a too close application to duties which, while not much liked, or absolutely hated, are yet unmurmuringly

submitted to. With such a key as to the cause of this affection, it may sometimes be found possible to remove it. Such persons should be, as far as possible, tempted into innocent pleasures, and induced to relax in their excessive application. By the very act of sharing in the pleasures which their fellow-creatures enjoy, they will learn to sympathize with those fellow-creatures and will become better men, because kinder and more yielding, by doing many things which almost appear frivolous, or indulging in what would at another time appear to them as culpable idleness. If they can by-and-by get into the habit of allowing themselves to be human, they will become a source of happiness to all around them, and their conversion may be considered as completed.

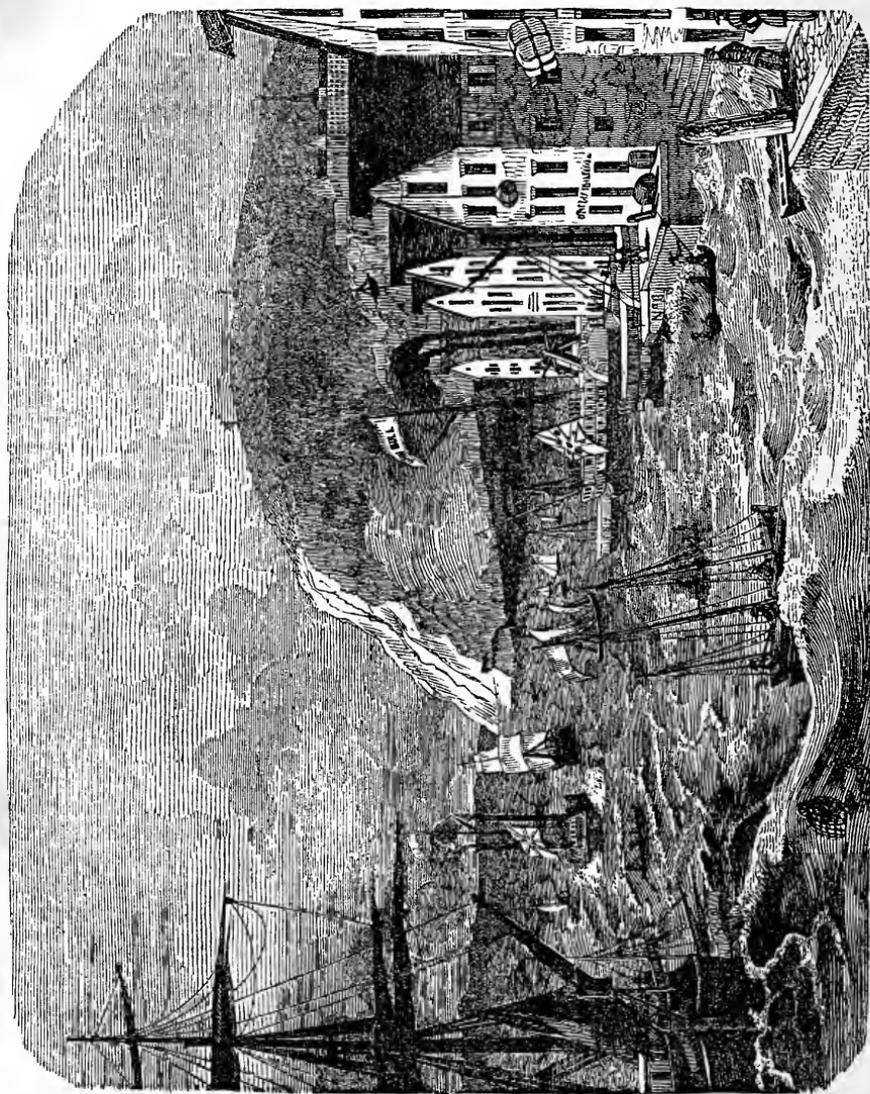
THE ST. LAWRENCE AND QUEBEC.

THE ascent of the river St. Lawrence, from the sea to Quebec and Montreal, though far from being devoid of interest, is tedious. The river, at its entrance, is from 90 to 100 miles wide; and its appearance for some time is more like the ocean than an estuary. Its waters are salt for upward of 300 miles; and they are brackish to within 20 miles of Quebec, which is nearly 400 miles from the sea. "Though," says a writer, "I can not but dwell with feelings of wonder and admiration on the majesty and power of this mighty river, I begin to grow weary of its immensity, and long for a nearer view of the shore; but at present we see nothing more than long lines of pine-clad hills, with here and there a white speck, which they tell me are settlements and villages to the south, while huge mountains divested of verdure bound our view on the north side of the river. During the last two days we have been anxiously looking out for a pilot to take us up to Quebec. Various signals have been fired, but hitherto without success; no pilot has condescended to visit us, so we are somewhat in the condition of a stage without a coachman, with only some inexperi-

enced hand to hold the reins. I already perceive some manifestations of impatience appearing among us; but no one blames the captain, who is very anxious about the matter, as the river is full of rocks and shoals, and presents many difficulties to a person not intimately acquainted with the navigation. . . . As we advance higher up the river, the country on both sides begins to assume a more genial aspect. Patches of verdure, with white cottages, are seen on the shores and scattered along the sides of the mountains; while here and there a village church rears its simple spire, distinguished above the surrounding buildings by its glittering vane and bright roof of tin. The southern shores are more populous, but less picturesque, than those of the north; but there is enough on either side to delight the eye."

From the tediousness of the voyage, and the circumstance that the navigation of the St. Lawrence is open for only about seven or eight months of the year, people on business and emigrants proceeding to the British settlements in America, to whom time is of more comparative importance than expense, generally prefer sailing to New York, and passing thence into Canada. The emigrant, however, to whom every shilling is an object, and who wishes to escape the unpacking of his baggage at New York, and the payment of custom-house duties, must be content to encounter the tediousness of the sail up the river. If his vessel happen to meet a favorable breeze, the voyage may not, after all, be tedious; and if the ship is bound to Montreal, which is 180 miles higher than Quebec, and up to which vessels of 600 tons can sail, the aid of steam may be called in at Quebec, and the remainder of the voyage be rendered as agreeable as river scenery and rapid motion can make it.

At Grosse Isle, twenty-five miles below Quebec, the St. Lawrence is about ten miles wide; but it is wider a mile or two higher up, where the centre of the channel is occupied by the island of Orleans. This island is about eighteen miles long, and five broad, and is well cultivated. Having cleared it, the river is seen to contract to about a mile in width, rushing



Cape Diamond and the Lower Town of Quebec.

from between steep and rocky banks, its course being broken, and its channel divided, by the island which has just been passed. Here Quebec appears in view, with its bold and glittering headland, called Cape Diamond, so termed from the circumstance that crystals of quartz frequently very pure and regularly formed, are found in it, between the layers of slaty rock on its brow.* Quebec has a grand appearance from the river. The lower town occupies a narrow space between the water's edge and the foot of the rock; the upper town occupies its summit, which is also covered with the far-famed fortifications of the city. But the feeling of admiration which the view from the river has excited is considerably diminished on landing in the lower town. The streets, or rather lanes, are narrow, crowded, inconvenient, and dirty; during the summer, the harvest-time of the trade and commerce of the place, there is an incessant clamor, in which French and English are intermingled, carmen and porters jolt each other, or knock the idler out of their way, and he who has no business to transact at merchants' offices, or at granaries or stores, had better not delay his visit to the upper town, lest the admiration with which he viewed Quebec from the river give place to a very different feeling.

But the upper town, and the views from the rock, will, in some measure, compensate for the annoyances of the lower town. Below lies the lower town, its houses huddled together, but their tin roofs glittering in the sun; opposite is Point Levi, the rocky precipitous banks covered with wood, out of which the village spire, also covered with tin, shoots up, giving a picturesque effect to the scenery; between

* Professor Silliman tells the following incident which occurred to him while hunting after these crystals. "As I was hammering," says he, "upon a rock to which I had climbed, so far up one of the precipices that I was above the chimneys of the houses in the contiguous parts of the lower town, a man came running out, and with a French accent, and much vehement gesture and expostulation, conjured me to desist, unless I meant to bury him and his house in ruins, by causing the rocks to fall. I saw no danger, as the rocks appeared tolerably firm, but of course desisted and came down. Indeed, so large a number of the houses in the lower town are built against the foot of the precipice, or near it, that the rocks look as if they might at any time fall and crush them."

the shores ply the ferry-boats; the harbor full of shipping, with steamboats arriving and departing; the St. Lawrence spreads out before the eye to a great distance, and rushing round the island of Orleans in separate channels; above the city the elevated table-land, so well known as the plains of Abraham, skirted by the fine river St. Charles, which falls into the St. Lawrence below Quebec; the distant country studded with cottages and villages, and the stupendous fortifications immediately around, which, even indifferently defended, would seem to mock the efforts of an enemy to master them. All this, however, must be enjoyed in the summer—the country has another, though to some minds, perhaps, not less grand appearance, when under the influences of frost and snow.

The river is considered to be just a mile across from Point Levi to the landing-stairs below the custom-house in Quebec; and it was a source of amusement to me to watch the horse ferry-boats that ply between the two shores. The captain told me that there were not less than twelve of these comical-looking machines. They have each their regular hours, so that you see a constant succession going or returning. They carry a strange assortment of passengers, well and ill-dressed, old and young, rich and poor; cows, sheep, horses, pigs, dogs, fowls, market-baskets, vegetables, fruit, hay, corn, anything and everything you will see by turns. The boat is flat, railed round with wicker at each end to admit the live and dead stock that go or are taken on board; the centre of the boat (if such it can be called) is occupied by four lean, ill-favored hacks, who walk round and round, as if in a thrashing-machine, and work the paddles at each side. There is a sort of pen for the cattle.

Quebec, as a city, has nothing to attract the attention of a visitor familiar with any of the large cities of Europe. The public buildings are not remarkable enough to call for particular attention. As the seat of the government and legislature of Lower Canada, the city is a place of some importance; and the emigrant, or visiter, who has not adverted much to the circumstance of Canada having been originally settled

by the French, and who is thinking more of the country as a British colony, and to which British emigration is fast flowing, will at first be surprised by the French aspect of the place. The English language more generally prevails among what may be termed the higher classes—the officers of government, a portion of the members of the legislature, and the merchants; the French, or rather a corrupt kind of French, in which English words are found, is spoken chiefly by the working population. The great bulk of the inhabitants of Lower Canada profess the Roman catholic faith.

“Canada was first discovered by John and Sebastian Cabot, in 1497. In 1525 it was visited by Verrazani, a Florentine, who took possession of the country for the king of France. In 1535 Jacques Cartier, bearing a commission from the French king, explored the river St. Lawrence, which he so called from his having first entered it on St. Lawrence’s day; but it was not until 1608 that the first permanent settlement, of which there is any record as having been made by Europeans on the continent of North America, was formed by the French under Champlain, on the spot now occupied by the city of Quebec. Settlements had been made about 1604, or the year following, under grants of Henry IV. of France, near the river St. Croix, and at Port Royal; but these settlements were broken up in 1614, owing to a successful attack on them by Sir Samuel Argal. Quebec surrendered to the English under Kirk, in 1629, but was immediately restored to France, peace having been established with that country in April of that year. In 1663 the colony was constituted a royal government, and the governors were thenceforth appointed by the king. Canada continued a possession of France until 1759, in which year Quebec was taken by General Wolfe, and the province was ceded in full sovereignty to Great Britain by the treaty of Paris, in 1763.”

Wolfe made an unsuccessful attempt on the heights of Montmorenci before he tried the plains of Abraham. The heights of Montmorenci are several miles below Quebec; here the Montmorenci, a mountain stream of considerable size, in its join-

ing the St. Lawrence, leaps down a rock upward of 200 feet high, and forms a cascade at once singular and beautiful. Having lost 500 or 600 of the flower of his army in attempting the heights of Montmorenci, Wolfe desisted; and sailing past Quebec, he landed at a little indentation now known as Wolfe’s cove. The banks at this spot are rocky and precipitous. “About an hour after midnight,” says Mr Duncan, a traveller who visited Quebec some years ago, “the troops scrambled up the woody brow of the hill, by a narrow path, which even now and in good daylight, would seem to present sufficient difficulties to a pretty zealous mineralogist. Having succeeded in gaining the heights [their summit presents a tolerably level plain, about a mile in width near Quebec], he formed his troops and awaited the attack of Montcalm, who collected his forces and marched against him about ten o’clock in the forenoon. The result is memorable—both the commanders fell—the French were defeated—and on the sixth day after Quebec capitulated.

“It is somewhat remarkable,” continues Mr. Duncan, “that no monument has been erected at Quebec to the memory of Wolfe. There is, indeed, a small wooden figure, in a niche at the corner of one of the streets of the upper town, attired in a broad-skirted scarlet coat and cocked hat; but it is a miserable attempt at sculpture, and would hardly be allowed to pass as a figure-head for a collier.” A monument has since been erected in the governor’s garden, looking toward the St. Lawrence, and to be seen from Point Levi. “Lord Dalhousie, with equal good taste and good feeling, has united the names of the rival heroes, Wolfe and Montcalm, in the dedication of the pillar—a liberality of feeling that can not but prove gratifying to the Canadian French, while it robs the British hero of none of his glory.” The monument is an obelisk, erected at the expense of Lord Dalhousie, while governor of Lower Canada.

The fortifications of Quebec have cost the British government an enormous sum of money, and even yet the original plan is not completed. They are considered impregnable on all sides, except that which looks toward the plains of Abraham.

"The walls are so high that escalade is hopeless—so thick, that a breach seems impracticable; and while Britain retains its naval superiority in the river, blockade is out of the question. The length and severity of the winter also acts as a powerful auxiliary, for field operations could scarcely then be carried on."

Viewing Quebec as a commercial city (keeping out of view its character as the seat of government) it is secondary to Montreal, and acts to it in somewhat the same capacity that Gravesend does to London, or as Greenock to Glasgow. The great body of emigrants who arrive by the river St. Lawrence are bound, generally, for the upper parts of Lower Canada, or for Upper Canada; and a large portion of the shipping passes upward to Montreal.

SCIENCE AND RELIGION.

It is most unfortunate that science and religion should ever have been made to assume a hostile front. This has been productive of incalculable mischief, which has operated in two different directions. In the first place, it has too frequently led the friends and advocates of religion to display an unwarrantable jealousy of the progress of science, and to frown upon those who were engaged in the ardent prosecution of it. It would appear as if the imagination had been indulged, that every new conquest achieved by science, involved the loss of a domain to religion—that every new pillar erected in the temple of science had been stolen from the temple of religion. This sort of groundless alarm might have suited the time when ignorance was esteemed the mother of devotion; and when undoubtedly it was the interest of the priesthood of a corrupt superstition that men should know as little and think as little as possible. But surely all such jealousy is unworthy of those who have an equally well-grounded conviction that the works of nature and the volume of revelation proceeded from the same source. If this be the case, then, while science and religion may each have their

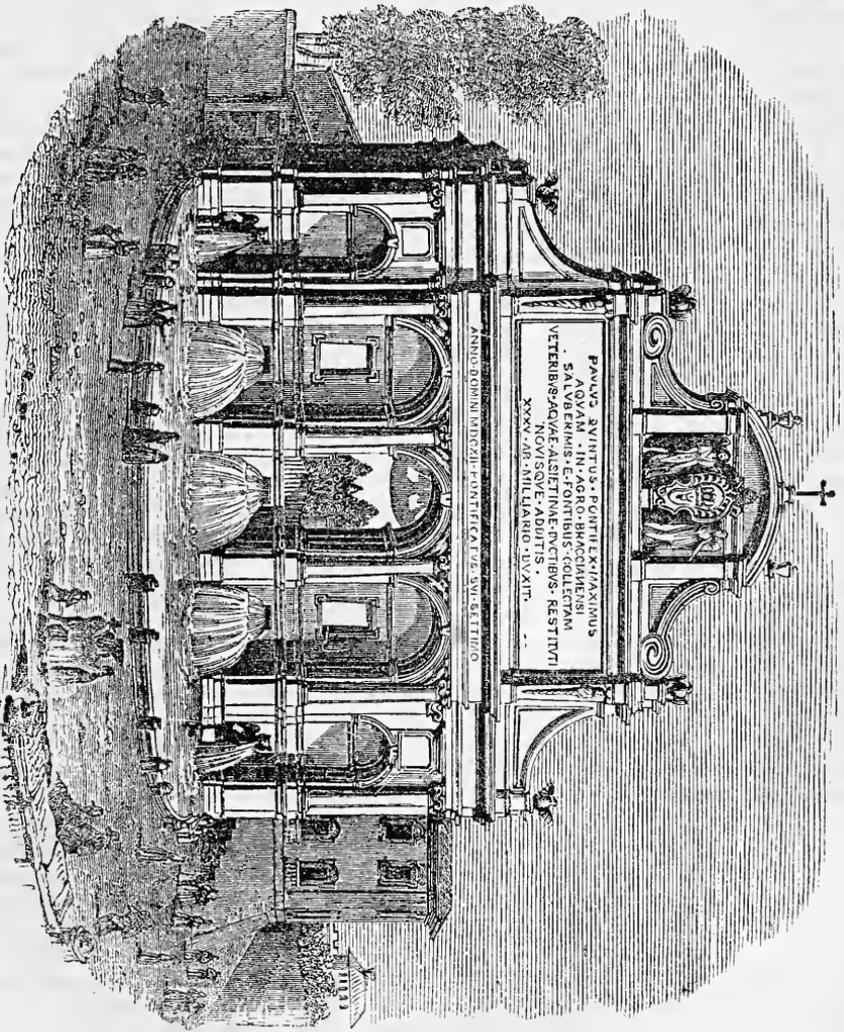
appropriate domain within which their *dicta* are absolute, it can never happen that these will be contradictory. God has not written one language in the Bible, and a contradictory language on the face of creation. Revelation and science may not always speak the same truths, but they will never speak opposite truths. The danger lies in a kind of twilight understanding of either. It is not only possible, but likely, that an imperfect knowledge of the Scriptures, on the one hand, and an imperfect knowledge of science on the other, may land us in irreconcilable difficulties, which can only be cleared away by a more complete understanding of both. But this, so far from leading us to be jealous of the advances of science, should lead us to encourage and stimulate them to the utmost. While it is not only justifiable, but right, that we should regard with suspicion any conclusion of science which seems subversive of the truths of the Bible, it would be at once irrational and sinful to attempt to stop its progress. Perhaps the conclusion may be a wrong one, deduced from a superficial acquaintance with science, which, if farther prosecuted, would lead to its abandonment. Perhaps the contrariety between science and revelation is only apparent, and results from our hasty and erroneous interpretation of the Bible. Take, for example, the well-known case of Galileo. He became convinced as he prosecuted the study of astronomy, that it was not the sun which revolved round the earth, as was universally believed at that time, but that the earth revolved round the sun. Alarm was taken at this conclusion, as if it expressly contradicted the language of the Bible, which speaks of the sun as rising and going down, and Galileo was subjected to persecution as an infidel. What then was the result? The science of Galileo has been established beyond the power of contradiction; but the Bible has not therefore been found to speak the language of falsehood. His discovery has only led to a sounder interpretation of those texts which the science of astronomy was thought to contradict. And this must be the issue of all seeming contradictions between revelation and science. It may happen that science now, as in the days

of Galileo, may subvert some of our views of scripture language ; but, if so, we ought rather to rejoice that science has aided us to a sounder and more correct interpretation of the Bible than we had hitherto attained. Here, then, are two errors to be guarded against, which we shall take time merely to notice. The first is the tendency to bend the facts of science to meet our views of revelation. No attempt could be more mischievous than this. When we are engaged in examining the properties and relations of matter, let us receive the facts it gives us without equivocation and without reserve—let us listen to the voice we evoke, as if there was not another in the universe. When we set ourselves to study nature, let us become the faithful and humble interpreters of nature. The second error is, the tendency hastily to adapt the language of Scripture to the inferences of science. This tendency is no less mischievous than the other, and has led in some instances to an utter subversion of all religious truth. When we are engaged in the study of the Bible, let us deal by it as we would by science itself. Let us hear what it says without reserve, and listen to its voice as the voice of God. Our part is to act as its faithful and humble interpreters, and to subject it only to such questionary processes as we would adopt with any other record, the real meaning of which we were anxious to ascertain. By acting thus honestly both with science and religion, it will be found that they speak a language always harmonious, because always true.

FOUNTAINS AT ROME.

No people ever equalled the Romans in the magnificence of the works which they constructed for the purpose of bringing supplies of water to their various provincial capitals, as well as to Rome itself. Strabo says, that such a quantity of water was introduced into the city, that whole rivers seemed to flow through the streets and down the sewers ; so that every house had its pipes and cisterns, sufficient to furnish a copious and abundant supply.

Their aqueducts are incontestable monuments of the greatness of their designs ; and valleys, mountains, and extensive plains, offered no impediments which they did not surmount by skill, and the exercise of an indomitable will. The edifice where various aqueducts united was called "castellum," and was generally not only a solid but even magnificent construction. Sometimes they were cased with marble, and ornamented with marble pillars. Pliny states, that Agrippa alone erected 130 of these reservoirs, and opened 105 fountains in connexion with them, which were adorned with 300 brass or marble statues. It is believed that the daily supply of water in ancient Rome amounted to 800,000 tons. The three aqueducts which now remain are those of the Aqua Vergine, of the Aqua Felice, and of the Aqua Paulina. The first discharges itself into the Fontana di Trevi ; the second into the Fontana di Termini ; and the third divides itself into two channels, one of which supplies the Fontana Paolina represented in the engraving. The quantity of water which is supplied is abundant, the quality extremely salubrious ; and the arrangements for an equal distribution of the element are on a scale of convenience as well as magnificence. Every quarter, however poor, is well supplied ; and there are few of the fountains which do not possess some claim upon the attention, either from their size, form, or situation. Mr. Eustace remarks, in his "Classical Tour," that "the modern Romans, though inferior in numbers and opulence to their ancestors, have shown equal taste and spirit in this respect, and deserve a just eulogium, not only for having procured an abundance of water, but for the splendid and truly imperial style in which it is poured forth for public use." He proceeds to draw an amusing comparison between these fountains and the water-works that often adorn public walks and palace-gardens. "Artificial fountains," he says, "in general are little better than ornamental pumps, which sometimes squirt out a scanty thread of water, and sometimes distil only a few drops into a muddy basin. Those on a greater scale now and then throw up a column, or pour a torrent, as occasion may require, on certain state days, or for



Fontain of Paul V., at Rome.

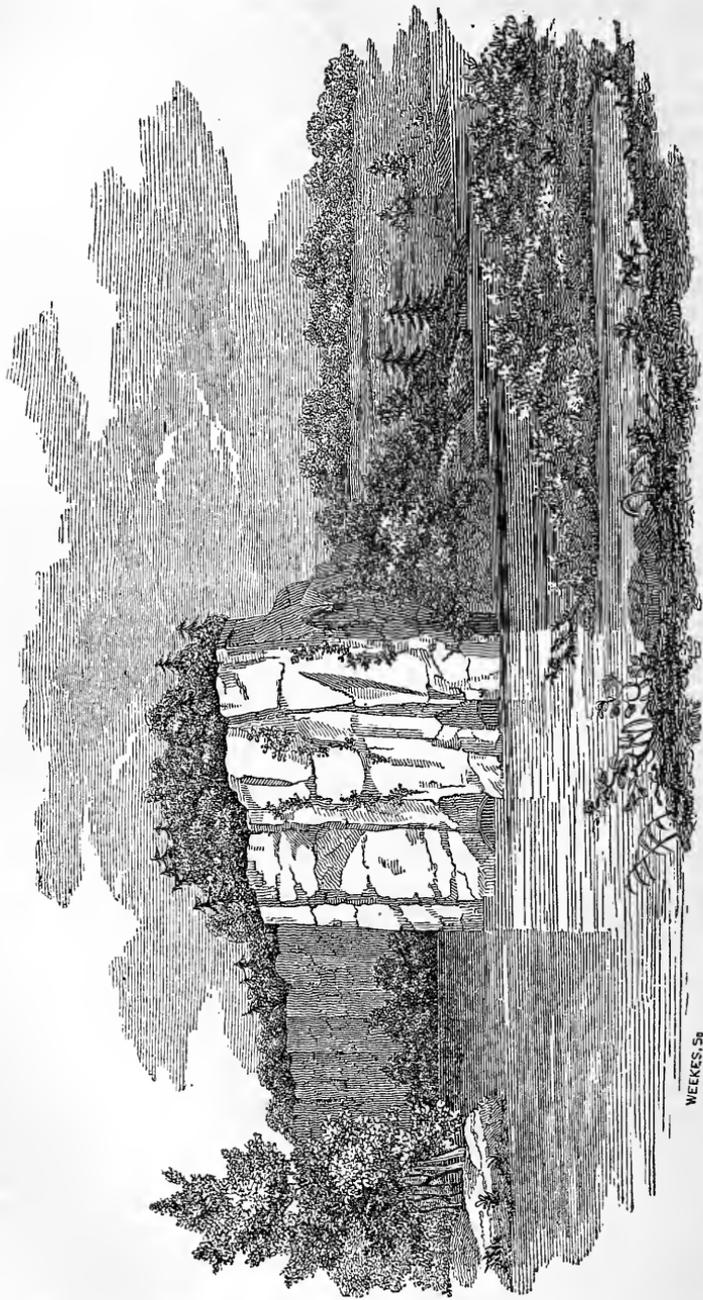
the amusement of some distinguished personage, and then subside till a fresh supply enables them to renew the exhibition. Such are the so-much-celebrated water-works of St. Cloud, Marli, and Versailles; inventions which can be considered only as playthings, calculated, like a theatrical decoration, to act an occasional part, and to furnish a momentary amusement, but too insignificant to be introduced into the resorts of the public." The three finest fountains of Rome are the Fontana Felice, the Fontana di Trevi, and the Fontana Paolina. The Fontana di Trevi is considered to be the finest fountain in the world. It is supplied with a deluge of water; and in the summer evenings the square in which it stands is resorted to on account of the freshness which is diffused through the air. The waters of the Fontana Felice are discharged into a vast basin through a rock, under an Ionic arcade, built of white stone, and faced with marble.

The fountain was constructed by the architect Fontana, by order of Pope Paul V., with materials taken from the forum of Nerva. Six Ionic columns of red granite support an entablature containing inscriptions, and supporting the arms of the pontiff. The water rushes in a complete torrent through the principal issues, and in a smaller stream through orifices in the mouths of dragons, which are placed in niches on each side. A fine basin of white marble receives this abundant supply of water, which is of the purest kind. Eustace says: "The lofty situation of this fountain renders it a conspicuous object to all the opposite hills. The trees that line its sides and wave to the eye through its arches, shed an unusual beauty around it; and the immense basin which it replenishes gives it the appearance, not of the contrivance of human ingenuity, but almost the creation of enchantment."

THE BIBLE.

A NATION must be truly blessed, if it were governed by no other laws than

those of this blessed book; it is so complete that nothing can be added or taken from it; it contains everything needful to be done; it affords a copy for a king, and rule for a subject; it gives instruction and council to a senate, authority and direction to a magistrate; it cautions a witness, requires an impartial jury, and furnishes a judge with his sentence; it sets the husband as lord of the household, and the wife as mistress of the table; tells him how to rule and her how to manage. It entails honor to parents, and enjoins obedience upon children; it prescribes and limits the sway of sovereigns, the rule of the ruler, and authority of the master; commands the subjects to honor, and the servant to obey; and promises the protection of its Author to all who walk by its rules. It gives directions for weddings and for burials; it promises food and raiment, and limits the use of both; it points out a faithful and eternal guardian to the departing husband and father; tells him with whom to leave his fatherless children, and in whom his widow is to trust, and promises a father to the former and a husband to the latter. It teaches a man how he ought to set his house in order, and how to make his will; it appoints a dowry for the wife, and curtails a right of the first-born, and shows how the younger branches shall be left. It defends the right of all, and reveals vengeance to the defrauder, overreacher, and oppressor. It is the first book and the oldest book in the world. It contains the choicest matter, gives the best instruction, and affords the greatest pleasure and satisfaction that ever were revealed. It contains the best laws and profoundest mysteries that ever were penned. It brings the best tidings, and affords the best comforts to the inquiring and disconsolate. It exhibits life and immortality, and shows the way to everlasting glory. It is a brief recital of all that is to come. It settles all matters in debate, resolves all doubts, and eases the mind and conscience of all their scruples. It reveals the only living and true God, and shows the way to him, and sets aside all other gods, and describes the vanity of them, and of all that put their trust in him. These are blessings that no other book can confer.



ROCK FORT, ILLINOIS.

WEEKS. 56

ROCK FORT, ILLINOIS.

This is an elevated cliff on the left bank of the Illinois, consisting of parallel layers of white sand-stone. It is not less than two hundred and fifty feet high, perpendicular on three sides, and washed at its base by the river. On the fourth side, it is connected with the adjacent ranges of hills by a narrow peninsular ledge, which can only be ascended by a precipitous winding path. The summit of this rock is level, extending about three fourths of an acre, covered with a soil several feet in depth, bearing a growth of young trees. Strong and almost inaccessible, this natural battlement has been still further fortified by the Indians, and many years ago was the scene of a desperate conflict between the Pottawatomies and one band of the Illinois Indians. The latter fled to this place for refuge from the fury of their enemies. The post could not be carried by assault, and tradition says that the besiegers finally succeeded, after many repulses, by cutting off the supply of water; to procure which, the besieged let down vessels attached to ropes of bark, from a part of the precipice which overhangs the river; but their enemies succeeded in cutting off these ropes as often as they were let down. The consequence was a surrender, which was followed by a total extirpation of the band.

On gaining the top of this rock, is found a regular entrenchment, corresponding to the edge of the precipice, and within this other excavation, which, from the thick growth of brush and trees can not be satisfactorily examined. The labor of many hands was manifest, and a degree of industry which the Indians have not usually bestowed upon works of defence. Upon this elevation is still found broken mussel-shells, fragments of antique pottery, and stones which had been subjected to the action of heat, resembling lava.

From this elevated spot, an extensive and diversified view of prairie scenery is presented.

“How fearful

And dizzy 'tis, to cast one's eyes so low!
The crows and choughs, that wing the midway air,
Show scarce so gross as beetles.”

The effect upon the observer is striking and imposing. But we are disposed to think the effect of loftiness produced by objects of this nature, is not so much the result of the actual as of the comparative height. The impression of grandeur produced by a solitary precipice, two or three hundred feet high, rising abruptly over a flat alluvial country or lake, is more striking and imposing than is often felt in traversing a region more elevated, and where “Alps on Alps arise.” Our view of this modern Oxus is taken from a position on the opposite side of the river, directly in front of the most precipitous face of the rock.

THE SECRET OF SUCCESS.

THERE are some men who appear born to good fortune, and others whose destiny appears to subject them to eternal failure and disaster. The ancients represented Fortune as a blind goddess, because she distributed her gifts without discrimination; and in more modern times, the belief has been prevalent that the fortunes of a man were ruled chiefly by the influences of the planet under which he was born. These superstitions, however ridiculous, show at least that the connexion between merit and success is not very conspicuous, yet it is not therefore the less perpetual. To succeed in the world, is of itself a proof of merit; of a vulgar kind indeed it may be, but a useful kind notwithstanding. We grant, indeed, that those qualities of mind which make a man succeed in life, are to a great extent subversive of genius. Nevertheless, numerous illustrious examples might be given of men of the highest genius being as worldly-wise as duller mortals. It is the pretenders to genius, rather than the possessors of it, who claim the large exemption from those rules of prudence which regulate the conduct of ordinary mortals, and array themselves in the deformities of genius, in the idea that they constitute its beauties. There are some indiscretions, we believe, to which men of a vigorous fancy and keen sensibility are naturally heir,

and for which it would be as unjust to condemn them with rigor, as it would be to blame one of the cold-blooded sons of discretion for being destitute of poetic fire. Yet every deviation from prudence is a fault, and is not to be imitated, though it may sometimes be excused.

The most important element of success is economy; economy of money and economy of time. By economy we do not mean penuriousness, but merely such wholesome thrift as will disincline us to spend our time or money without an adequate return either in gain or enjoyment. An economical application of time brings leisure and method, and enables us to drive our business, instead of our business driving us. There is nothing attended with results so disastrous, as such a miscalculation of our time and means as will involve us in perpetual hurry and difficulty. The brightest talents must be ineffective under such a pressure, and a life of expedients has no end but penury. Our recipe for succeeding in the world, then, is this: work much and spend little. If this advice be followed, success *must* come, unless, indeed, some unwise adventure, or some accident against which no human foresight could provide, such as sickness, conflagration, or other visitation of Providence, should arrest the progress onward; but in the ordinary course of human affairs, success will ever wait upon economy, which is the condition by which prosperity must be earned. Worldly success, however, though universally coveted, can be only desirable in so far as it contributes to happiness, and it will contribute to happiness very little unless there be cultivated a lively benevolence toward every animated being. "Happiness," it has been finely observed, "is in the proportion of the number of things we love, and the number of things that love us." To this sentiment we most cordially subscribe, and we should wish to see it written on the tablet of every heart, and producing its fruits of charity. The man, whatever be his fame, or fortune, or intelligence, who can treat lightly another's woe—who is not bound to his fellow-men by the magic tie of sympathy, deserves, ay, and will obtain, the contempt of human kind. Upon him all the gifts of for-

tune are thrown away. Happiness he has none; his life is a dream, a mere lethargy, without a throb of human emotion, and he will descend to the grave "unwept, unhonored, and unsung." Such a fate is not to be envied, and let those who are intent upon success, remember that success is nothing without happiness.

DEMOSTHENES.

AFTER the lapse of 2,000 years it might almost seem absurd to speak of party spirit as affecting our judgments of the great men of antiquity. But the same interests, the same principles, are continually recurring under different forms; so that those who think and feel deeply upon modern politics seldom release their minds from their habitual bias in speculating on the events of former ages. This appears most remarkably in the case of Demosthenes, who has been represented as a corrupt demagogue, or a man of enlightened patriotism, as the prejudices of historians have been in favor of republicanism or monarchy; and the scantiness of our information concerning both the public history of the times and the private history of the individual, gives the more room for the passions to affect the judgment on this point. There is little hazard in saying that the truth lies in the middle. To his distinguished personal qualifications, the brilliancy of his talents, and his supreme excellence as an orator, all ages have borne successive and concurrent witness.

Demosthenes was born about 385 or 384 years before Christ, when Athens had reached the zenith of her literary and had passed that of her political glory. Juvenal has represented him slightly as the son of a blacksmith, the fact being that the elder Demosthenes was engaged in various branches of trade, and, among others, was owner of a sword manufactory. His constitution appears to have been delicate; and it may have been on this account that he did not attend the gymnastic exercises, which formed a large portion of the education of youth in Greece; exercises really important where neither



Demosthenes, from the drawing by Rubens, after an Antique Bust.

birth nor wealth set aside the obligation to military service common to all citizens. His voice was weak, his breath short, his articulation defective: in addition, his style was thought strained, harsh, and involved. Though disheartened by his ill success, he was not dismayed. One aged man who had heard Pericles, cheered him with the assurance that he reminded him of that unequalled orator, and the actor Satyrus pointed out the faults of his delivery, and instructed him to amend them. He now set himself in earnest to realize his notions of excellence; and the singular and irksome methods which he adopted, denoting certainly no common energy and strength of will, are too celebrated and too remarkable to be omitted, though the authority on which they rest is not free from doubt. He built a room underground, to practise gesture and delivery without molestation, where he would spend two or three months together, shaving his head, that the oddity of his appearance might render it impossible to go abroad, even if his resolution should fail. The defect in his articulation he cured by reciting with small pebbles in his mouth. His lungs he strengthened by practising running up hill while repeating verses. Nor was he less diligent in cultivating mental than bodily requisites, applying himself earnestly to study the theory of the art, as explained in books, and the examples of the greatest masters of eloquence. Thucydides is said to have been his favorite model, inasmuch that he copied out his history eight times, and had it almost by heart.

"Meanwhile his pen was continually employed in rhetorical exercises; every question suggested to him by passing events served him for a topic of discussion, which called forth the application of his attainments to the real business of life. It was perhaps as much for the sake of such practice as with a view to reputation or the increase of his fortune that he accepted employment as an advocate, which, until he began to take an active part in public affairs, was offered to him in abundance. . . . The profession of an advocate itself required an extensive range of information. Causes especially which related to contested laws or decrees gene-

rally involved a number of questions that called for a large share of political and legal knowledge. Demosthenes, who, from the first, was always looking forward to the widest field of action, undoubtedly did not content himself with the indispensable study of the Athenian laws and constitution, but bestowed no less earnest attention on the domestic affairs, the financial resources, and the foreign relations of the commonwealth, and on the political divisions, powers, and interests of the rest of Greece. The state of the finances and of the naval and military establishments of Athens, the defects of the existing system, and the means of correcting them, appear more particularly to have occupied his thoughts."

Such was the process by which he became confessedly the greatest orator among the people by whom eloquence was cultivated as it has never been since by any nation upon earth. He brought it to its highest stage of perfection, as did Sophocles the tragic drama, by the harmonious union of excellences which had before only existed apart. The quality in his writings which excited the highest admiration of the most intelligent critics among his countrymen in the later critical age, was the Protean versatility with which he adapted his style to every theme, so as to furnish the most perfect examples of every order and kind of eloquence. They, who understood and felt the beauty of his compositions in a degree beyond the reach of the most learned foreigner, were aware that, with all their enthusiasm of delight, they could but faintly conceive the impression which that which they heard read must have produced on those who heard it animated by the voice and action of the orator, when he was addressing himself to real interests and passions. This, however, is a subject on which it would be foreign to our present purpose to enlarge. We will only observe that Demosthenes, like Pericles, never willingly appeared before his audience with any but the ripest fruits of his private studies, though he was quite capable of speaking on the impulse of the moment in a manner worthy of his reputation; that he continued to the end of his career to cultivate his art with unabated diligence, and that

even in the midst of a public business his habits were known to be those of a severe student.

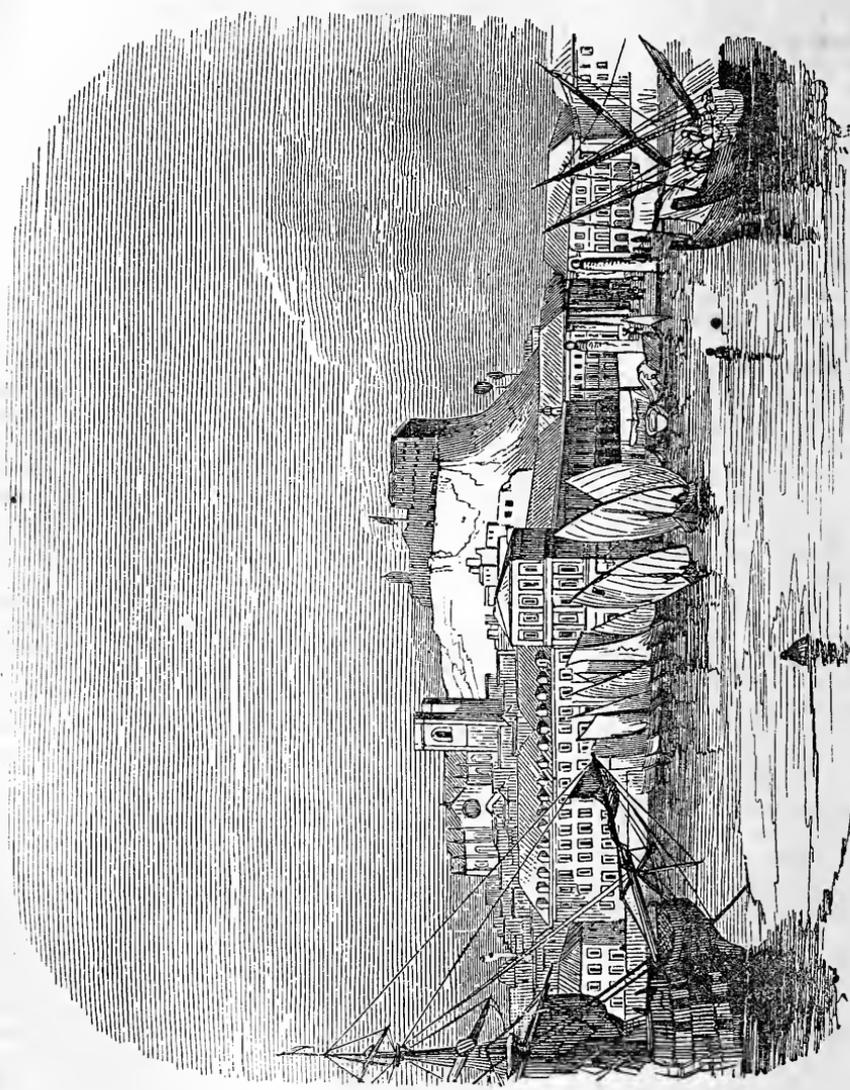
Being thus in possession of a large and lucrative practice, he did not again come forward in public business till the year 355, in which he delivered the oration against Androtion and that against Leptines, both extant; but these, though in their substance political, are still the forensic addresses of an advocate pleading for his client. His first appearance as a public adviser was made B. C. 354, when it was proposed to engage hastily in war with Persia. This project he combated in the speech on the Symmories, otherwise called "De Classibus," in which, besides pointing out the danger incurred by the projected war, he suggests a plan for remodelling and improving the Athenian navy. No specific mention is here made of the dangers to be apprehended from Philip, king of Macedonia; nor does it appear that, up to that time, any serious alarm had been felt concerning the power or intentions of that ambitious prince. The first manifestation of that just jealousy of him, which became the leading principle of Demosthenes' life, was made B. C. 352, when the orator delivered the first of those celebrated speeches called Philippics. The word has been naturalized in Latin and most modern European languages as a concise term to signify indignant invective. But this use of the word comes rather from those violent, abusive speeches against Anthony, which Cicero, whether in respect or rivalry of his great predecessor, chose to call Philippics, than from the speeches of Demosthenes, who rarely indulges in personal vituperation, and indeed continually sets off the good qualities of Philip, his energy and abilities, to rouse his countrymen into emulation of those virtues.

From this time forward it was the main object of Demosthenes to inspire and keep alive in the minds of the Athenians a constant jealousy of Philip's power and intentions, and to unite other states of Greece in confederacy against him. The policy and the disinterestedness of his conduct have both been questioned; the former by those who have judged, from the event, that resistance to the power of

Macedonia was but rashly to accelerate a certain evil; the latter by those, both of his contemporaries and among posterity, who believe that he received bribes from Persia as the price of finding employment in Greece for an enemy whose ambition threatened the monarch of the east. With respect to the former, however, it was at least the most generous policy, and that of the elder Athenians, in their more illustrious days, not to await the ruin of their independence submissively, until every means had been tried of averting it: for the latter, such charges are hard either to be proved or refuted. The character of Demosthenes certainly does not stand above the suspicion of pecuniary corruption; but it has not been shown, nor is it necessary or probable to suppose, that his jealousy of Philip of Macedon was not in the first instance far-sighted and patriotic. During fourteen years, from 352 to 338, he exhausted every resource of eloquence and diplomatic skill to check the progress of that aspiring monarch; and whatever may be thought of his moral worth, none can undervalue the genius and energy which have made his name illustrious, and raised a memorial of him far more enduring than sepulchral brass. For the history of his efforts during this period, we must refer the reader to the various histories of Greece, of which this is too obscure and complicated a portion to be readily made intelligible, standing thus by itself.

LISBON.

THE contrasts which Lisbon presents are very striking: viewed as it rears itself amphitheatrically on the right bank of the Tajo or Tagus, extending from east to west, from Xabegas to Belem, about seven leagues, and about three in breadth from south to north, it is no less imposing than captivating; while many parts of the interior of the city—in fact nearly all that portion which escaped the dreadful earthquake of 1755—are absolutely repulsive, being no better than a labyrinth of narrow, crooked, filthy streets—a chaos of



Praça do Comercio, Lisbon.

habitations gloomy and dismal to the eye, and unhealthy for their occupants. In the new town, on the contrary, which is daily enlarging itself, the principal streets are wide and long, many of them quite straight, and all intersected by lesser streets or lanes called *travessas*. The houses, too, have a certain cheerfulness of aspect; the very reverse of the murkiness that characterizes those of the old city. They are generally from three to five stories in height, and several have gardens attached to them. Yet, although the streets themselves are kept tolerably clean, they are, for the most part, unpaved, with the exception of *trottoirs*, along the sides.

Although it may be asserted that, with the exception of the celebrated aqueduct, Lisbon does not possess a single building that will bear the test of critical examination, or that can be reckoned a really fine piece of architecture, there are many which are striking enough in regard to decoration, and some which exhibit several beautiful parts. Of the 250 churches which this city boasts, the principal are the Patriarchal Church, or cathedral, called also the *Se*, and Santa Maria, a modern edifice, which, notwithstanding its vast size, has an air of melancholy rather than of solemnity or grandeur; the church Da Roia, remarkable for the magnificent chapel of San Joao Bautesta, which John IV. caused to be fabricated at Rome, and afterward conveyed to Lisbon as a present to the Jesuits; that called Do Coração de Jesus, the largest and most splendid pile of any erected since the great earthquake, and which is crowned with a dome that in regard to its construction may be pronounced a work of surprising hardihood. This edifice serves also as the mausoleum of its foundress, Queen Maria I., the same who commenced the palace of Ajuda.

The convents, formerly so numerous, are now all of them suppressed, and their spacious and magnificent buildings have either been converted to other purposes, or stand empty; that, for instance, called Necessidades, is now the residence of the queen, and in that of San Bento, the Cortes now hold their sittings. Among the public buildings of this capital, the

aqueduct Agoaslivres is incontestably the finest—one of the noblest productions of modern architecture in all Europe, and one that may fairly challenge anything of the kind achieved by the ancients. Notwithstanding its being yet incomplete, and moreover displaying many defects, Ajuda is an imposing architectural pile—one of the finest royal palaces anywhere to be seen, and possesses besides a nobleness of site and prospect which hardly any other can boast of.

OPINIONS.

WE are accustomed to regard freedom of opinion as a very sacred thing, and almost every man speaks of "my opinions" as something which he bears in particular respect. "I have a right to entertain what opinions I please," is a phrase often heard; and perfect freedom in the publication of opinions is a principle of social polity which has been powerfully argued for, and embraced by a large section of educated humanity. But while the words *opinion* and *opinions* are of this importance with mankind, how strange it is to reflect on the very little pains which most men take to ascertain whether their opinions are well-founded or not! It is no uncharitable presumption, that probably not one man in a hundred ever seriously considers how far the opinions which he cherishes have a sound basis, or whether they are in reality anything but a series of impressions which have been made upon him, or of mere sentimental biases which he has insensibly contracted through the effect of circumstances in the course of his lifetime.

There can be no doubt that of the opinions of all men a vast portion have been received from others with little or no examination. We hear, in early years, persons whom we venerate, expressing a particular set of opinions, and decrying or scoffing at those which are opposite. Respect for these persons, and a desire of possessing their approbation, are strong inducements to us to adopt their opinions, even should we not insensibly contract

them from the mere frequency of their being impressed on our minds. Hearing little or nothing that is inconsistent with these prepossessions, we retain them from year to year, without ever dreaming that they possibly may be fallacious or ill-founded, or that the opposite set which we have been accustomed to hear decried may perhaps be, after all, the more correct. Nor, though we were to conceive that they ought to be examined, have all men the leisure or power of doing so. The consequence is, that the opinions which we have received from mere authority, which we have never examined, and do not suppose are in any need of examination, remain with us through life, ranking us in parties, governing the strain of our conversation, and operating in all the principal affairs of our lives. It may be reasonably asked, are opinions so acquired and so cherished entitled to any particular respect? Assuredly no one would think of modifying his actions from the dictates of any such opinions in another. Viewing them objectively in a fellow-creature, they only can appear as a set of crude hap-hazard ideas, which may be right or wrong, but bear no stamp to assure us of their being entitled to authority. Such opinions, therefore, are manifestly of no sort of value, and the arrogant and jealous terms in which they are occasionally spoken of by those holding them, are simply ridiculous.

There is an equally large class of opinions which are merely reflexes of affections or sentiments of the mind, or the result of particular positions in which men are placed. A towering self-esteem, indisposing to all submission—a powerful benevolence and conscientiousness, eager to redress sufferings and wrongs—discontent with the personal circumstances assigned by providence—may be described as so many influences constantly at work to incline men to embrace the lower end of the scale of political opinions: these agencies more or less govern the intellect; they lead it in a particular path: it may battle for a time on the contrary side; but they are sure in the end to gain the ascendancy; and it finally submits to adopt that set of opinions in which alone it can be in harmony with those affections which

it is doomed to accompany in the harness of life. The opposite class of political opinions are as frequently determined by the sentimental part of our nature—particularly by a veneration inclining to a submission to authority both of persons and dogmas. The whisperings of the feeling are mistaken for intellectual reasonings, and soon settle into the character of convictions. Positions from birth and fortune tell not less powerfully. He who has, at the wakening of existence, all the agreeable appliances which affluence and artificial distinction can confer, is naturally disposed by his personal feelings to adopt the opinions which tend to a securing and perpetuating of these advantages. He can not readily suppose that to be bad generally, or in its ultimate operation, which is good in the meantime for one in whom he is so deeply interested; and we are so constituted, that even such inferior feelings will, if not carefully watched, become the foundations of opinions to which we shall cling as to the most sacred dictates of wisdom. He, on the other hand, who, with appetites and aspirations as strong, feels himself stunted and kept down by mean circumstances, is as much inclined by his personal sensations to form the opposite class of opinions. Sometimes, indeed, we see the tendencies of social circumstances not end in these results. There are peasant aristocrats, and aristocratic democrats; but these are only exceptions to the rule, and can generally be explained as depending on innate dispositions or chance conditions sufficiently strong to give an opposite bend. For example, Shelley the poet, who was the heir of a wealthy English baronetcy, derived from nature a humane disposition, which revolted at tyranny in all its shapes. It was roused by the antiquated systems of cruelty which he saw practised at school. He rebelled, was punished, became exasperated, fell out even with his relations, and from one thing went on to another, till he was a confirmed hater of all rule and authority whatever. Accidental contrasts or relations often operate largely in engendering opinions. Burns, while a peasant among peasants, was a tory; but when he was brought into contact with the great, and made to feel how vain was

mere superiority of intellect against conventional distinction—when he walked in Edinburgh, and was bespattered and nearly ridden over by the carriage of an unthinking dutchess—then he changed to a malcontent. This is but the type of a large class of cases; and were the simple swains of England to be all at once translated into the position of operatives in large manufacturing towns, some corresponding changes might be expected.

Interest and convenience also influence opinion to a great extent, or may even be said to be sources of it. Few men would admit this in their own case, and most are in a manner blind to the fact; but it is nevertheless true. When a man finds it either incompatible with an object which he deems important to retain opinions which he has formerly cherished, or necessary to that object to adopt other opinions which he had once disregarded or disliked, it is surprising how adroitly some occult power within will bring him about to the point, without in the least alarming his conscientiousness. The expedient most commonly adopted by this internal agent to reconcile us to a desertion, is to get up a little pique against some person identified with the opinions to be deserted. I differ from that man on some trivial point—I become irritated, and speak sharply—there is a retort, at which I fling off. My fidelity is then questioned—I feel indignant at the whole party—a little while sees me ranked on the other side, professing those opposite opinions which I had desired to adopt. The same result may be brought about by commencing with a sudden start at one of the measures, or new applications of the opinions of the party, or by splitting with respect to some dogma which may be wakened up from its sleep for the purpose. In short, there never can be wanting some pretext for such a revolution, sufficient to pass muster with poor self-deceiving human nature. Coolly to adopt opinions previously rejected, is a more difficult task, but it is not in general beyond men's power. By giving to that side the benefit of every doubt, and treating the other uncandidly, it is possible, in a little time, to see things in the desired light. Handsome is that handsome does, and we nat-

urally incline to think those abstractions good and beautiful, which are essentially connected with honor and profit. A little anger at objections helps the process wonderfully, and if to this be added a notion that the new opinions are the best for the public interest, the matter is settled.

Such, unquestionably, are the ways in which men become possessed of a large proportion of their opinions. They call them their sentiments—"I will give you my sentiments on the subject." Well may they use the term; for, in nine out of ten cases, their feelings, and not their judgment, are concerned. Is there, then, any importance to be attached to all this mass of thought? Is it entitled to the respect which is claimed for it? These questions can not be answered in monosyllables.

The subject must be regarded in two divisions. Considered collectively, we are forced to receive the opinions of mankind, such as they are, with respect, for there is no other guide for all common affairs. There may be vast and pernicious error, but we can not help it for the time. Let every means be taken to extinguish the error, and introduce truth in its stead; but still we must meanwhile submit to the general dictate as it has been given forth. Very differently, however, may the opinions of an individual be regarded. Here we are clearly at liberty to inquire how these have originated, and to consider the general intellectual grade of the man, so as to judge of his power of forming sound opinions. If he is a mere impulsive being, inspired with another man's breath, actuated solely by his feelings and interests, and who has never taken any pains to ascertain the soundness or fallacy of any of his thoughts, all his self-complacent talk about his opinions on this and that subject ought to pass for only so much empty air. On the other hand, where we find a free and active intellect in union with a respectable moral nature, the opinions of the individual must be entitled to respectful attention, and ought to have their due sway in the determination of affairs in which he is a party concerned.

It is not given to all men to possess the clear and vigorous judgment which is the most likely to give soundness to their

opinions; but all men have it, nevertheless, in their power to give them some degree of correctness and value. The first duty is to look searchingly and challengingly into those already stored up, with a view to testing their accuracy, and to be prepared to abandon those which shall appear fallacious, however endeared they may be to us from habit and association; trusting fully in the maxim, that nothing which is not true can be good. A second duty is to watch carefully over the feelings, especially all which relate to sordid views of interest, so as to prevent them from corrupting judgment. When any man is sure in his conscience that he has done all that his nature permits thus to secure right views of abstract questions, he may be considered as entitled to bring his opinions before his fellow-creatures, be listened to and allowed their fair share of influence—but not, I humbly conceive, till then.

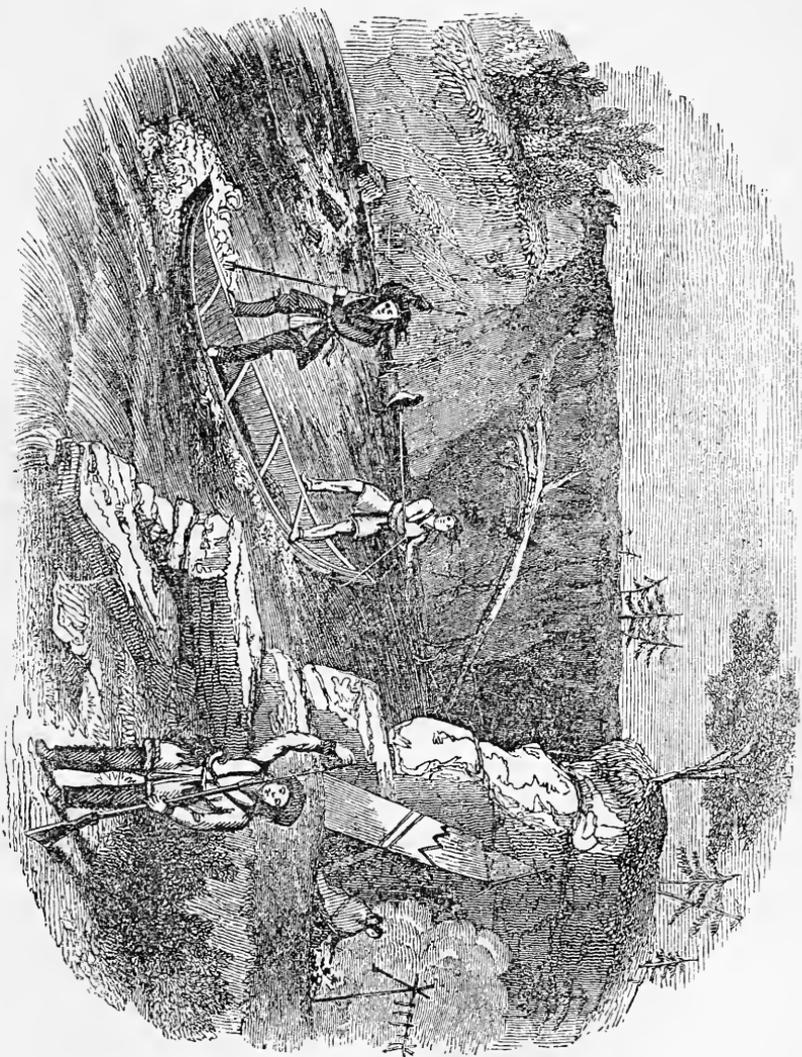
INDIAN FISHING IN NORTH AMERICA.

MACKENZIE, in his account of his voyages from Montreal to the Pacific and Frozen oceans, says that when the French missionaries first visited the shores of Lake Superior, they found the country full of inhabitants; but their numbers are now greatly diminished. Scanty remnants of the Chippeways are living under the protection of the British government, and lead a kind of half-civilized life, but retaining much of their primitive habits in obtaining subsistence. They are described as not being remarkable for their activity as hunters, which is owing to the ease with which they snare deer, and spear fish: and these occupations are not beyond the strength of their old men, women, and boys; so that they participate in those laborious occupations which among their neighbors are confined to the women. The country which these people claim as their land [Mackenzie means the country north and northwest of Lake Superior, to which his description applies, and not the more fertile country round the great lakes] has a very small quantity of

earth, and produces little or no wood or herbage. Its chief vegetable substance is the moss, on which the deer feed; and a kind of rock-moss, which, in times of scarcity, preserves the lives of the natives. When boiled in water, it dissolves into a clammy glutinous substance, which affords a very sufficient nourishment. But, notwithstanding the barren state of their country, with proper care and economy, these people might live in great comfort—for the lakes abound with fish, and the hills are covered with deer. Though, of all the Indian people of this continent, they are considered as the most provident, they suffer severely at certain seasons, and particularly in the dead of winter, when they are under the necessity of retiring to their scanty, stunted woods. This was written over forty years ago. The approaches of emigration have assisted to ameliorate the condition of those who still remain.

The view here given, represents Chippeway Indians fishing on the river Thames. The Thames is the name given to a river of considerable size, which rises in the country between lakes Ontario and Huron, and, after passing several settlements bearing English names, such as Oxford, London, and Chatham, falls into Lake St. Clair. The mode of fishing represented in the engraving requires a dexterity in its management which scarcely any but an Indian can achieve. Two Indians occupy a canoe in the centre of the stream. One poises himself on each edge of the vessel in front, the other in a similar way behind: each has a fish-spear. The canoe, though probably in the centre of a rapid stream, amid rocks, and shoals, and eddies, is kept perfectly steady, and in a straight course, by occasional thrusts and shoves at any object which presents itself—an overhanging or sunken rock, or the broken trunk of a fallen tree. The labor of keeping the boat steady does not interfere with the spearing of the fish, which is carried on in silence, and with unceasing attention. The fish, as caught, are jerked off the spear into the boat; they are afterward handed over to the women, who clean them, and dry them by suspending them from a stick over a smoky fire, as repre-

Chippeway Indians Fishing on the River Thames.



sented in the engraving. The Indians resort to the streams and rapids in spring and autumn, as the fish are then *running*—attempting the passes in shoals.

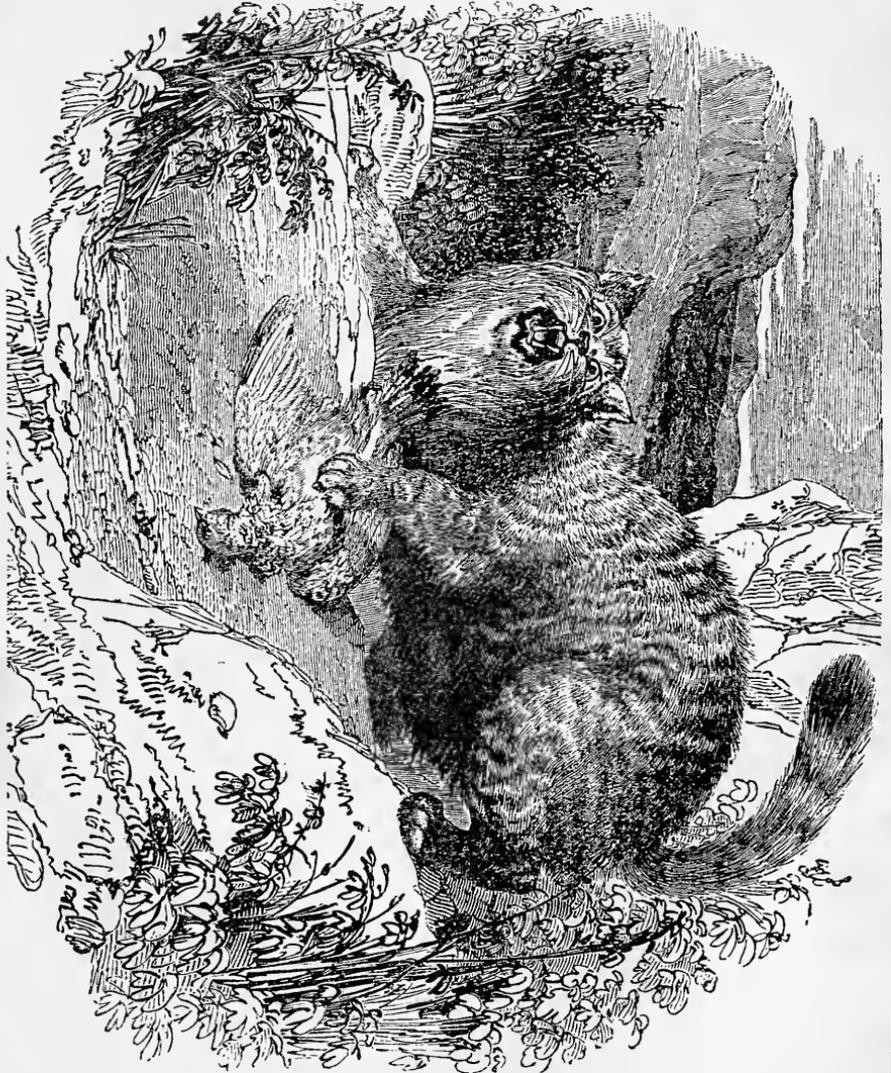
Near Fort Erie, the waters of the lake escape over a low barrier of limestone rock, and thence form the Niagara river. A little below this outlet I used to amuse myself, says a writer, on the fine summer nights with spearing bass (two or three sorts), pickerel, white-fish, salmon-trout, herring, muskanungee (large pike), perch, &c. The mode I adopted was that of the Indians. Accompanied by another person to steer my canoe, with a few blazing pine-knots in an elevated basket of iron-wire fixed in the bow of the vessel, we would launch ourselves on the eddies and slack waters of the river, and drift silently along with the current. My steersman would sit with his paddle in the stern of the canoe, while I stood, spear in hand, as near the blazing fire as practicable. There are shoals of small fish frequenting the shores and shallows in the summer season, when, soon after nightfall, the larger fish leave the deep water and go in quest of the small fry, upon which they prey. I have sometimes found them in such abundance, that at nearly every plunge of my trident I brought a good-sized fish into the canoe. Sometimes we happened to fall in with an overgrown muskanungee, weighing sixty or seventy pounds, on which occasions I would resign my spear to my steersman (who was all but amphibious); who, having struck the barbed prongs into the body of the fish, at a single bound would jump astride of the wounded and alarmed creature, and away they would flounder together through the water. It then became my duty to paddle after them as close as possible, in order to afford my companion the benefit of the light in the canoe, as well as to have my small vessel at hand, in case the fish and the fisherman got into deep water. If the fish could be prevented from attaining this object (which it invariably attempted) then its fate was all but certain, for where the water was sufficiently shallow to admit of it, the dexterous fisherman would rest his whole weight upon the pike's back, through which means, and the loss of blood, it was soon com-

pelled to yield up the contest. This amusement was never practised but when the water was unruffled and the weather moderately warm. The waters of Lake Erie being rather shallow, they consequently become warm by the continual action of the sun during June, July, and August, to a degree the waters of our lakes and rivers never attain. The plan I have mentioned was but a rude mode of fishing, but it was nevertheless a productive one; and for the want of some other more refined and intellectual I sometimes practised it, induced to do so by the twofold consideration of profit and amusement.

THE WILD-CAT.

THE *Felidæ*, or cat-tribe, form one of the most natural and characteristic groups of the class mammalia. From the lion or tiger to the domestic cat, all are endowed with the same instincts—the same appetites—the same organic structure. Carnivorous in the extreme, they are admirably framed for a life of rapine.

The larger of the feline race, the lion, the tiger, the leopard, and the panther, are natives of the hotter portions of the globe, where life teems to excess, and where the larger herbivorous mammalia abound upon which they habitually prey. The feline race, as a whole, are concentrated in the warmer latitudes—the species being fewer and more widely dispersed as we pass from the warm to the temperate or colder regions. No country, however, is without its *felidæ*—not even the bleak regions of Siberia, or Canada. That the genuine wild-cat is specifically distinct from our *domestic race*, is now universally admitted. At the same time, it often happens that individuals of our domestic breed betake themselves to the woods, or to extensive preserves of game, where, finding their supply of food abundant, they permanently establish themselves, and lead an independent life. Such emancipated individuals as these must not be confounded with the genuine wild-cat, an animal essentially distinct. In the



The Wild Cat.

domestic cat the head is moderate and rounded, the body slender, the tail long and tapering, the colors variable.

The origin of our domestic cat is attributed by M. Temminck to a species indigenous in Nubia, Abyssinia, and northern Africa, and known under the scientific name of *Felis maniculata*. However this may be, the domestic cat was among the sacred animals of the Egyptians; it was kept in their temples, is figured on the remains of Egyptian monuments, and its mummies are found in the tombs—circumstances leading to a plausible hypothesis that its first domestication is to be attributed to that people, and that it is an aboriginal of the country adjacent to Egypt, or of Egypt itself.

WASHINGTON AT EIGHTEEN.

It was a calm, sunny day in the year 1750, the scene a piece of forest land in the northern neck of Virginia, contiguous to a noble stream of water. Implements of surveying were lying about, and several men idly reclining under the trees, betokened by their dress and appearance that they composed a party engaged in laying out the wild lands of the then frontier of the Old Dominion. These persons had apparently just finished their noontide meals, for the relics of the banquet were scattered around.

Apart from the group walked a young man, evidently superior to his companions, though there was nothing obtrusive in his air, which, on the contrary, was distinguished by affability. A certain dignity of aspect, however, accompanied him. Added to this, he was of a tall and compact frame, and moved with an elastic tread of one accustomed to constant exercise in the open air. His countenance could not have been said to be handsome, but it wore a look of decision and manliness not usually found in one so young, for he was apparently little over eighteen years of age. His hat had been cast off, as if for comfort, and he had paused, with one foot advanced, in a graceful and natural attitude, at the moment we have introduced him to the reader.

Suddenly there was a shriek, then another, and several in rapid succession. The voice was that of a woman, and seemed to proceed from the other side of a dense thicket. At the first scream the youth turned his head in the direction whence the sound proceeded, but when it was repeated, he pushed aside the undergrowth which separated him from it, and quickening his footsteps as the cries succeeded each other with alarming rapidity, he soon dashed into an open space or clearing, as the borderers even then called it, on the banks of the stream, in the centre of which a rude log-cabin stood, whose well-pole over one end, and smoke curling from the chimney, gave signs of habitation. As the young man, with a face flushed by haste, broke from the undergrowth, he saw his companions crowded together on the banks of the river, while in the midst, a woman, from whom proceeded the shrieks, was visible, held back by two of the most athletic of the men, but struggling vigorously for freedom.

It was but the work of an instant to make his way through the crowd and confront the female. The moment her eye fell on him she exclaimed—

“Oh! sir—you will do something for me. Make them release me—for the love of God! My boy—my poor boy is drowning and they will not let me go.”

“It would be madness—she will jump into the river,” said one of those who held her, as the frantic mother strove again to break from his grasp. “The rapids would dash her to pieces in a moment.”

The youth had scarcely waited for these words. His eyes took in at a single glance the meaning of the sad group. He recollected the meaning of the woman, a bold little fellow of four years old, whose handsome blue eyes and flaxen ringlets made him a favorite with strangers and filled the mother's heart with pride whenever she gazed on him. He had been accustomed to play at will, in the little enclosure before the cabin, but this morning, the gates having accidentally been left open, he had stolen incautiously out, when his mother's back was turned, reached the edge of the bank, and was in the act of looking over when his parent's eye caught sight of him. The shriek she

uttered precipitated the catastrophe she feared, for the child, frightened at the cry, lost his balance, and fell headlong into the stream, which here went foaming and roaring along amid innumerable rocks, constituting the most dangerous rapids known in that section of country. Scream now followed scream in rapid succession, as the agonized parent rushed to the bank.

She arrived there simultaneously with the party whom we left reclining in the shade, and who were scattered about within a few steps of the accident. Fortunate was it that they were so near, else the mother would have jumped in after her child and both been lost. Several of the men approached the brink and were on the point of springing in after the child, when the sight of the sharp rocks crowding the channel, the rush and whirl of the waters, and the want of any knowledge where to look for the boy deterred them, and they gave up the enterprise.

Not so with the youth we have introduced. His first work was to throw off his coat; next to spring to the edge of the bank. Here he stood for a second, running his eyes rapidly over the scene below and taking with a glance the different currents and the most dangerous of the rocks, in order to shape his course when in the stream. He had scarcely formed his conclusion, when his gaze rested on a white object in the water that he knew at once to be the boy's dress, and while his companions stood aghast at his temerity, were prevented as much by consternation as by the awe with which he had already inspired them, from interfering, he plunged headlong into the wild and roaring rapids.

"Thank God—he will save my child," gasped the woman, "there he is—oh! my boy, my darling boy, how could I leave you."

Every one had rushed to the brink of the precipice, and was now following with eager eyes the progress of the youth, as the current bore him onward, like a feather in the embrace of the hurricane. Now it seemed as if he would be dashed against a jutting rock, over which the water flew in foam and a whirlpool would drag him in, from whose grasp escape would appear impossible. At times the current bore

him under, and he would be lost to sight: then just as the spectators gave him up he would appear, though far from where he vanished, still buffeting amid the vortex. Oh, how that mother's straining eyes followed him in his perilous career—how her heart sank when he went under—and with what a gush of joy when she saw him emerge again from the waters, and flinging the waves aside with his athletic arms, struggle on in pursuit of her boy. But it seemed as if his generous efforts were not to avail, for though the current was bearing off the boy before his eyes scarcely ten feet distant, he could not, despite his gigantic efforts, overtake the drowning child.

On flew the youth and child; and it was miraculous how each escaped being dashed in pieces against the rocks. Twice the boy went out of sight, and a suppressed shriek escaped the mother's lips; but twice he reappeared, and then, with hands wrung wildly together and breathless anxiety, she followed his progress as his unresisting form was hurried with the onward current.

The youth now appeared to redouble his exertions, for they were approaching the most dangerous part of the river, where the rapids contracting between the narrowed shores, shot almost perpendicularly down a declivity of fifteen feet. The rush of the waters at this spot was tremendous, and no one ventured to approach its vicinity even in a canoe, lest they should be sucked in. What then would be the youth's fate unless he speedily overtook the child? He seemed fully sensible of the increasing peril, and urged his way now through the foaming current with a desperate strength. Three several times he was on the point of grasping the child when the waters whirled the prize from him. The third effort was made just as they were entering within the influence of the current above the fall, and when it failed, the mother's heart sunk within her and she groaned, fully expecting to see the youth give up his task. But no, he only pressed forward the more eagerly, and as they breathlessly watched, amid the boiling waters, as if bearing a charmed life, the form of the brave youth followed close after that of the boy. And

now, like an arrow from the bow, pursuer and pursued shot to the brink of the precipice. An instant they hung there, distinctly visible amid the glassy waters, that they seemed to pause on the edge of the descent. Every brain grew dizzy at the sight. But a shout of involuntary exultation burst from the spectators when they saw the boy held aloft by the right arm of the youth—a shout that was suddenly checked by horror, when the rescuer and the rescued vanished into the abyss.

A moment—or at least many moments elapsed, before a word was spoken or a breath drawn. Each of the group felt that to look into the mother's face was impossible. She herself had started eagerly forward, and now stood on the bank, a few paces nearer the cataract, where she could command a view of its foot, gazing thither with fixed eyes, as if her all depended on what the next moment should reveal. Suddenly she gave a glad cry.

"There they are," she exclaimed, "see, they are safe—Great God, I thank thee!" and for a moment, wildly turning her face to heaven, she hurried with trembling steps along the side of the river in the direction of the fall.

Every eye followed hers, and sure enough there was the youth still unharmed and still buffeting the waters. He had just emerged from the boiling vortex below the cataract. With one hand he held aloft the child, and with the other he was making for the shore.

They ran, they shouted, they scarcely knew what they did, until they reached his side just as he had struggled to the bank. They drew him out almost exhausted. The boy was senseless, but his mother declared that he still lived, as she pressed him frantically to her bosom. His preserver, powerfully built and athletic as he was, could scarcely stand, so faint was he from his exertions.

Who can describe the scenes that followed—the mother's calmness while she strove to resuscitate her boy, and her wild gratitude to his preserver, when the child was out of danger, and sweetly sleeping in her arms? Our pen shrinks at the task. But her words pronounced then were remembered afterward by more than one who heard them.

"God will reward you," she said, "as I can not. He will do great things for you in return for this day's work, and the blessings of thousands besides mine, will attend you."

And it was so: for to the hero of that hour were subsequently confided the destinies of a mighty nation. But throughout his long career, what tended to make him more honored and respected beyond all men, was the self-sacrificing spirit, which in the rescue of that mother's child, as in the more august events of his life, characterized our Washington.

THE STREETS OF CONSTANTINOPLE.

OUR engraving exhibits one or two of the peculiarities presented by the streets of Constantinople. Almost all the streets of this interesting metropolis are narrow and winding. Instead of spacious thoroughfares, with the windows of shops set out with wares of all kinds, while passengers on foot and vehicles of every description are incessantly passing and repassing, the streets of Constantinople with but little exception, are silent and almost deserted-looking during the day; and though toward evening they exhibit a more animated aspect, as the inhabitants come out to pass on to the coffeehouses, or to smoke their pipes in some favorite spot, there is but little of that kind of character which gives the sensation of the "sweet security of streets." The only sort of windows presented by the houses toward the streets are those projections represented in the engraving, containing little windows latticed and closed, and many of the houses have no windows at all toward the streets, but only a low, narrow, dingy door. Mr. McFarlane thus alludes to these windows, in describing a walk through some of the streets: "I walked up one street and down another; for wherever chance led me I was sure to find novelty and interest of some sort. Except what seems the most considerable street of the city—a street that traverses nearly its whole length, and tolerably broad and airy, runs in a slightly diverging line from the north-



View of a Street in Constantinople.

western extremity of the Hippodrome to the gate of Adrianople—all seemed gloomy and depopulated. I passed through several large empty spaces in the very heart of the town, where houses had been burned down, and not rebuilt; and even in other quarters exempt from the devastation of fire, where the dark red-painted dwellings of the Turks stood close around me, so rarely was a human being seen, so uninterrupted the silence, that I could scarcely believe myself in the capital of a vast empire—in splendid Stamboul—of whose overflowing population I had so often read. Some half dozen of times, perhaps, in the course of my musing peregrination, my observations were enlivened by the sight of sundry black eyes that (wondering, no doubt, at what I could be doing in those unfrequented quarters) were seen peeping through their white *yasmaks*, and the thick lattices (so appropriately denominated in French *jalousis*) that shut up every *shah nishin* of a Turk's house. Once or twice my ears were greeted with a titter from my concealed observers; pleasant sounds—as they showed, at least, that all gayety had not fled from the place. Another refreshing relief, the charm of which I still recall with delight, was to catch through the gloomy avenue of one of the deserted streets at the back of the town a view of the broad blue basin of the Propontis, of the lovely Princes' islands, of the distant mountains of Nicomedia, and of the still more remote and sublime heights of the Bithynian Olympus, all shining gay and bright in the beams of the glorious sun."

Though Mr. McFarlane saw Constantinople when it was under the influence of depressing circumstances, the silence of the streets is a general description. Our own engraving seems to contradict this, for it exhibits a crowd of figures, as if the narrow street was thronged; but the *time* is evening, when the middling and poorer classes have a strong inducement to do what all classes avoid as much as possible—to *walk* the streets; and the door exhibited in the foreground of the engraving is the door of a coffeehouse. All the life and activity of the interior of the city is concentrated in the bazars or *bezestines*. These are long, wide cor-

ridors, communicating with each other mostly in an irregular and striking manner. Their side walls are built of stone, and are covered in with stone arches, or successions of domes, through which a subdued light is admitted. The dealers are separated by nations, or religions, or by trades.

Another of the peculiarities of the streets of Constantinople, represented in our engraving, is the dogs—those pests of all Mohammedan towns. Mohammedanism proscribes dogs as unclean. Hence, although they are exceedingly numerous in towns, they are not attached to particular houses, or belong to particular persons. They live in the streets and open places, and subsist upon offal, with some uncertain assistance from the charity of individuals. In large towns, where there is much activity and intercourse, the dogs do not generally offer any molestation to any person in the daytime, or only to persons whom they detect by the scent or costume to be decided foreigners; but at night it is very hazardous to pass the streets, and few like to do so alone, and never without being properly armed. When two persons go together both armed with strong sticks, they are seldom molested. One person alone, and particularly if unarmed, would be in danger of being seriously injured, if not torn in pieces, unless assistance came, as the attack of one dog would serve as a signal to bring others in great numbers to the assault. In small towns and villages seldom visited by strangers, the dogs know the inhabitants, and do not molest them, unless perhaps when any one of them should happen to stir abroad at night; but a stranger of any description often dares not approach such places even by day, unless under the conduct of an inhabitant.

The dogs of Constantinople are somewhat more under control, and are not at all so dangerous to strangers, owing to the perpetual influx of foreigners of all descriptions, and the constant intercourse. Still they are hungry and savage enough to annoy, if not by their attack, at least by their presence. "We hardly met a soul on our way up," says Mr. McFarlane, describing his landing in Constantinople, "but swarms of starving, mangy dogs per-

ambulated the silent streets, giving me an opportunity, on my very first arrival, to make the acquaintance of this pest of the Ottoman capital." Even when dogs are without individual masters they will frequent the abodes of man. They are found in this half-wild state at Lisbon and at Constantinople, and other cities of the east. They are driven as unclean from the houses of the Mohammedans, and yet the same people protect them when they are roaming about their dwellings. The dog of the Seven Sleepers, according to a tale in the Koran, is the only quadruped admitted into heaven, but the people of the east have more substantial reasons for patronizing those half-wild dogs than they find in the legends of their faith. Volney, in his "Travels," describes the dogs of Turkey and its dependencies as particularly useful in clearing the streets of the garbage and carrion which would otherwise become the cause of pestilence and death. It is to this circumstance that the powerful but somewhat revolting description of Lord Byron refers in the poem of the "Siege of Corinth":—

"I saw the lean dogs beneath the wall
Holding o'er the dead their carnival,
Gorging and growling o'er carcase and limb,
They were too busy to bark at him."

THEORIES OF LIGHT.

Two rival theories of light have, during nearly the last two centuries, divided the suffrages of philosophers. The corpuscular, investigated by Newton, accounts for many of the ordinary facts and laws, by supposing infinitely small material particles projected with inconceivable velocity in all directions, in straight lines, from luminous bodies; these are reflected back from polished surfaces, exactly as billiard balls are, and being attracted by transparent media through which they pass, are drawn out of their previous direction, or undergo refraction. Many other of the known facts are explained in a somewhat similar way.

Huyghens started the other theory, that of undulations. He supposed an infinitely

subtile medium or ether to fill all space and penetrate all bodies; luminous bodies excite vibrations in this ether, which spread and propagate themselves in waves, exactly like those formed by dropping a stone into still water: by this hypothesis he explained the phenomena of reflection and refraction in a way as plausible as the other theory.

But other phenomena have presented themselves calling for explanation. The singular fact of a double refraction existing in some crystals, the colors of the thin films formed by blowing soap-bubbles, the stripes and bands of light formed on placing opaque bodies in a narrow beam of sunlight; these and other phenomena drew the attention of philosophers to the question of preference between the theories. But little real advance can be said to have been made, till our distinguished countryman, Dr. T. Young (about 1802), pointed out the beautiful principle which he termed interference of the waves of ether: two waves propagated from opposite points may arrive at the same point either exactly at the same time, so as to conspire, and thus produce a double effect, or may follow at just such an interval as to oppose and clash, and thus mutually destroy each other. Upon this principle, which he proceeded fully to develop, he succeeded in explaining perfectly a vast range of phenomena, including all those above named. It is difficult, if not impossible, and certainly has never been done, to frame any application of the corpuscular theory which shall explain how two rays of light conspiring together, shall produce, instead of a uniform double light, an alternation of dark and light spaces. But the analogy of the waves gives a perfect explanation.

A vast range of new facts have been elicited by modern research: the labors of Brewster, Malus, Arago, Fresnel, and Airy, have brought to light an immense assemblage of curious optical phenomena, all of which the undulatory theory explains in the most perfect and satisfactory manner, while nothing approaching to an explanation has been proposed on any hypothesis.

There are, however, a few phenomena for which no theory has as yet assigned

a complete explanation. The absorption of light in such singular varieties of proportion, by different colored media, the dark bands which are seen crossing the spaces of the prismatic spectrum, and several analogous facts, are at present wholly unexplained: they have even been urged against the theory of undulations; they are, however, at present no further objections than merely that they are unexplained; there is nothing to show that they may not be explained on these principles.

Another most material case is that of the unequal refrangibility of light, as exhibited by the prism. Of this fundamental fact in optics, no kind of explanation was afforded by the corpuscular theory, and (till lately) the undulatory was supposed to be absolutely at variance with it. M. Cauchy, however, has suggested a new modification of the first principles of the theory, which assigns a certain relation, by virtue of which such effects ought to take place. The verification of this theory must depend upon comparison of numerical data. As far as this has been yet done, it establishes M. Cauchy's principles in a most remarkable manner; but the data we at present possess are but scanty; researches, however, are known to be now in progress, which will, before long, throw some additional light on the subject.

DIFRACTION OF LIGHT.

The following experiment is recommended for exhibiting, without any apparatus, by the light of a common candle or lamp (though only on a minute scale) the phenomenon of the diffraction or interference of light:—

Take a small pocket lens (such as those commonly used for magnifying insects, &c.), stretch across it, close to the glass, a piece of fine wire, then applying the eye to the other side, look through it at a distant candle (the wire being vertical, or parallel to the length of the flame), and the dark space, or shadow of the wire will be seen beautifully and distinctly marked by several bands, alternately dark and bright in the direction of its length, while it will be edged on the outside all the way by one or more light parallel

bands on each side. The centre band in the shadow is always a bright one; these bands are formed by the interference of the two portions of light which come from each side of the wire and diverge into the shadow.

ANALOGIES OF LIGHT AND SOUND.

If two pipes be pitched a little out of unison, and sounded together, they will produce not a uniform double harsh sound, but a series of regular beats or alternations of sound and silence. So two streams of light arriving almost by the same length of route at the same point, will produce not a uniform double light, but stripes, or alternations of darkness and light. The experiment is shown best in this way. Let the sun's light be admitted through a pin-hole into a dark room (or what may be still better, let them be collected at the focus of a small lens); provide a piece of perfectly regular plate-glass, and cut it into two, so as to insure two pieces of precisely the same thickness; lay these two pieces together on a table, and look at the image of the light reflected from them by a small magnifying-lens, at a few inches distance. By gently pressing one of the two pieces, it will be very easy to alter very slightly their inclination, and thus two images of the luminous point will be formed close together, and partly overlapping. In the part where they overlap, or where the light is double, will be seen (by the lens) a series of dark and light bands; these are produced by the interference of the two reflected rays with each other.

POLARIZATION OF LIGHT.

The fanciful term polarization has been applied to designate a particular state or condition into which light may be brought, the reality of which may be evinced by the properties which actually distinguish the light so modified, by whatever name it may be described.

Light may be polarized by various means, reflection from the surface of a transparent medium is one of the simplest. At a certain angle, perfectly, but more or less at all angles, the effect is produced. That it is produced is evinced by several

experimental methods; the simplest is to look at the reflected light through a piece of tourmaline. When the tourmaline is held in one position, the light of the clouds, reflected from a plate of glass, is almost wholly obscured; while in other positions it appears of its natural brightness. If a piece of unannealed glass, or a plate of mica, or a plate of rock-crystal, or of several other crystallized bodies be interposed between the glass plate and the tourmaline, it appears tinged with vivid colors, arranged in various bands or rings. The explanation of these colors is satisfactory and complete on the undulatory theory of light; but no other explanation has ever been imagined by the supporters of any other theory.

CITY OF STOCKHOLM.

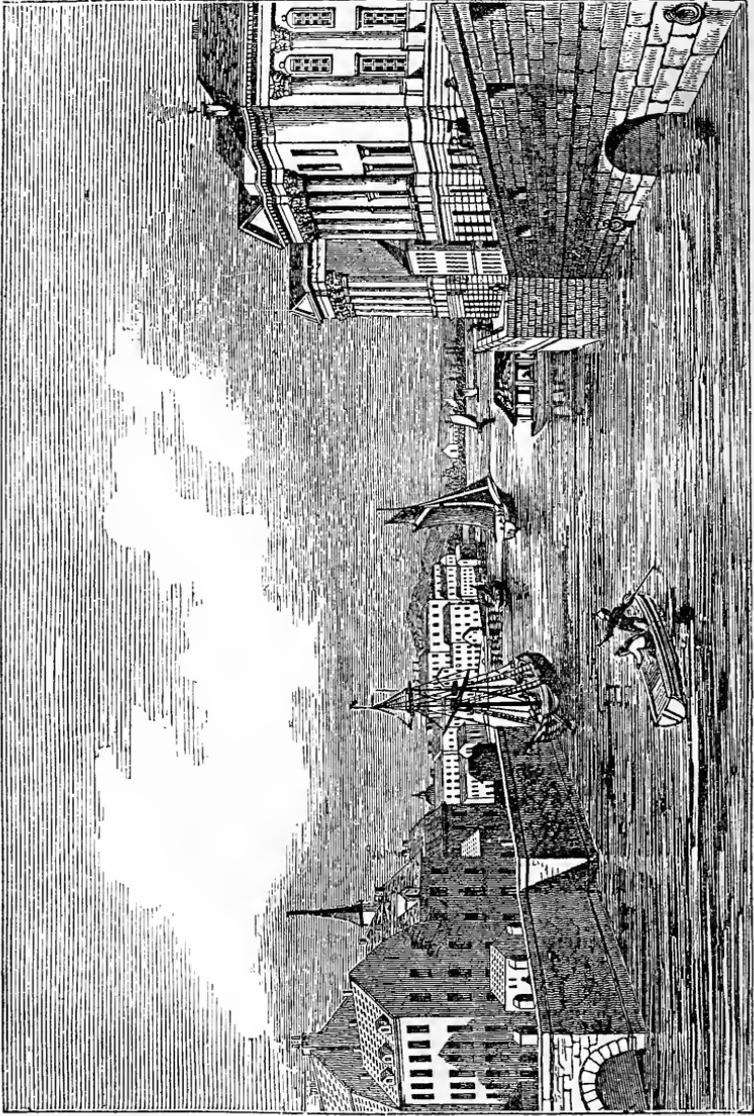
THE most interesting church in Stockholm is the Riddarhuskyrken, which contains a great number of tombs, sarcophagi, trophies, and the ashes of a long line of Swedish kings, among whom are Gustavus Adolphus and Charles XII. The exterior of this edifice is exceedingly rich in details and ornaments, without appearing to be overloaded by them. A steeple of prodigious height, but very slender and tapering, shoots boldly up from the midst of a group of small domes or cupolas, that remind the traveller of some of the mosques of Constantinople, and of the church of San Marco at Venice.

The great arsenal of Stockholm, contains many interesting objects, and some which are very dear to the military pride of the Swedes. There is a large hall, filled on one side with effigies of the kings of Sweden on horseback, done in wood and wax. In other apartments there are prodigious heaps of arms, standards, and other trophies, taken by the victorious Swedes from the Danes, Russians, Poles, Saxons, and Austrians. There is a curious boat, said to have been built by Peter the Great, when he was studying the art of ship-building, which was taken by the Swedes on its passage from Saardam. They preserve with scru-

pulous care the breastplate, buff-coat, and bloody shirt which Gustavus Adolphus had on when he fell at Lutzen, in 1682; and the famous uniform worn by Charles XII. when he was killed at Fredericshall, in 1718. Charles's coat is a coarse blue cloth regimental one, such as was worn by every common soldier. He had round his waist a broad buff-leather belt, in which hung his sword—a plain rapier, almost five feet long. His gloves and boots are remarkably small, and with other parts of his dress prove the hero to have been a man of very slight make. In the hat there is a hole not more than an inch square, in that part of it which lies over the temple, where the ball penetrated that caused his death. From circumstances attending his fall by night, doubts arose whether the king had not been assassinated by one of his own attendants firing a pistol close to him; and an English traveller thought the smallness of the aperture in the hat conclusive evidence to this effect, as the hat must have been much more injured by a cannon-shot.

The admiralty, the military academy, the cabinet of natural history, and the senate-house, are interesting objects; and the hospitals and other charitable establishments, together with the manner in which they are administered, are highly honorable to the Swedish government and people. From the inequality of the surface of the rocks on which they are built, some quarters of the town are steep and inconvenient for carriages; nor are the streets of Stockholm in general well paved. There are no flag-stones at the sides for foot-passengers.

The numerous passage-boats, which, like the gondolas at Venice, are kept in constant requisition, are all rowed by women. For longer excursions, elegant steamboats are now employed, one or two of which set out every day, during the fine season, with holiday parties to visit the island of Drottningholm, where there is a summer palace of the king, surrounded by woods and gardens. In the immediate neighborhood of the city there are two public promenades open to all classes, and available alike to those who walk, ride, or drive in carriages. There is a royal palace at each of these favorite



City of Stockholm.

spots; the one called Haga, the other Rosendal, or Valley of Roses. The views from the latter, which is situated on the left bank of the Salt-Sjon, as the channel of the Mälär is called below Stockholm, are very interesting. In one direction the eye takes in dark forests of pine, in another, the bed of the channel, dotted all over with small islands and rocks, of which some are covered with magazines of naval or military stores, and others left in their native rudeness. Where the Salt-Sjon is broad and unimpeded the stream is tranquil and slow, but in the narrow passages between the islands it rushes on rapidly, whitening their rocks with froth and foam. On the whole, few situations can be more romantic than that of this extraordinary town and suburbs.

The present population of Stockholm exceeds 80,000 souls. One of the principal exports is bar-iron, of most excellent quality, the ore of which is procured in the magnificent mines of Danmora, situated between Stockholm and Upsala. Between 30,000 and 40,000 tons of these bars are sent annually to England and other countries.

MENTAL EXERCISE CONDUCTIVE TO HEALTH AND HAPPINESS.

THE mind, like the body, demands exercise. That the proudest faculties of our nature were intended for slothful inaction—that talents were given us to remain buried and unproductive—is repugnant alike to reason and analogy. There is, in fact, no power of the living economy, however humble, but needs action, both on its own account, and on that of the general constitution. So closely united by sympathies are all our functions, that the judicious exercise of each one, beside conducting to its individual welfare, must contribute, in a greater or less degree, a healthful influence to every other.

Man, as already affirmed, discovers a natural desire for knowledge; and the very exertion necessary to its attainment, and the delight experienced in the gratification of this innate curiosity, diffuse a

wholesome excitement throughout the system. There is a pleasure in the exercise of thought, in whose kindly effects all the functions must in some measure participate. Agreeable and well-regulated studies or mental occupations are as essential to the integrity of the mind, as are judicious exercises to that of the body; and as the health of the latter, as all admit, conduces to that of the former, so also does a sound state of mind communicate a salutary influence to the functions of the body.

The mind, then needs occupation, not only for its own sake, but also for that of the organism with which it is so intricately involved. Mental inactivity, in the existing constitution of society, is the occasion of an amount of moral and physical suffering which, to one who had never reflected upon the subject, would appear scarcely credible. From this proceeds that *tedium vitæ*, that dreadful irksomeness of life, so often witnessed among the opulent, or what are termed the privileged classes of society, who are engaged in no active or interesting pursuits, and who, already possessing the liberal gifts of fortune, and consequently the means of gratifying all their natural and artificial wants, lack the stimulus of necessity to awaken and sustain in wholesome action their mental energies. Hence, although they may be objects of envy to those whose straitened circumstances demand continued and active exertions, yet is their situation too often anything but enviable. Their cup of life drugged with the gall and bitterness of ennui, their paramount wish is to escape from themselves, from the painful listlessness of a surfeited existence. The mind must be occupied, else discontented and gloomy, if not wicked feelings, will be likely to take possession of it.

Paradoxical as it may seem, yet is it questionable if a much heavier curse could be imposed on man, with his present nature, than the complete gratification of all his wishes, leaving nothing for his hopes, desires, or struggles. The joy and animation of the huntsman last but with the chase. The feeling that life is without aim or purpose, that it is destitute of any motive to action is of all others

the most depressing—the most insupportable to a moral and intellectual being.

Men of different constitutions, habits, talents, and education, will, as might be expected, require different sorts and degrees of mental action. Such as are endowed with vigorous intellectual powers, and in whose exercise they have been long accustomed to indulge, are liable to suffer the most when their minds are left unemployed. Those, for example, who are fond of study, and have been long used to devote a part of their time to its prosecution, may even sustain a manifest injury, both in their moral and physical health, by a sudden and continued interruption of such habit; a painful void being thus left in the mind, indirectly repressing its feelings, and, by a necessary consequence, all the important functions of life.

It is told of Petrarch, when at Vaucluse, that his friend the bishop of Caumont, fearing lest his too close devotion to study would wholly ruin his health, which was already much impaired, having procured of him the key of his library, immediately locked up his books and writing-desks, saying to him, "I interdict you from pen, ink, paper, and books, for the space of ten days." Petrarch, though much pained in his feelings, nevertheless submitted to the mandate. The first day was passed by him in the most tedious manner; during the second, he suffered under a constant headache; and during the third, he became affected with fever. The bishop now, taking pity on his condition, returned him his key, and thus restored him to his previous health.

Those, again, who, while yet in the vigor of life, retire from their wonted business, be it mercantile or professional, and thus all at once break up their habits of mental application, are apt to fall into a painful state of listlessness or ennui, and which, in certain temperaments, will often grow into a morbid melancholy, shading every scene and every prospect with a dismal and hopeless gloom. And sometimes the disgust and loathing of existence become so extreme, that they rid themselves of its hated burden with their own hands. This state of moral depression, if long continued, may also originate

painful and fatal physical infirmities, or may pass into some settled form of insanity, especially that of monomania. In some instances it would change into, or alternate with, a reckless and ungovernable excitement, the individual running into wild extravagance or rash speculations—giving himself up to habits of gambling, or gross intemperance, to relieve the painful void in his purposeless existence.

Elderly persons, who all at once give up their accustomed occupations, and consequently their mental activity, and retire to enjoy their ease and leisure, will not rarely, especially if they have been previously free-livers, experience a rapid breaking up of their mental, and perhaps bodily powers, passing sometimes into a more or less complete state of what has been termed senile dementia.

Under the circumstances of mental *inertia* to which I have been referring, it is often observed, that anything arousing the mind to exertion, even positive misfortunes, will, by reviving the almost palsied feelings, be attended with a manifestly salutary influence. Thus it is that the retired opulent are oftentimes, if not past the age of action, made happier, healthier, and I may also add, better, by the loss of so much of their property as to render renewed exertions necessary to their subsistence. Retirement from long-established and active duties demands intellectual and moral resources of which few, in the present condition of society, have a right to boast.

It is an opinion not uncommonly entertained, that studious habits or intellectual pursuits tend necessarily to injure the health and abbreviate the term of life—that mental labors are ever prosecuted at the expense of the body, and must consequently hasten its decay. Such a result, however, is by no means essential, unless the labors be urged to an injudicious excess, when, of course, as in all overstrained exertions, whether of body or mind, various prejudicial effects may be naturally anticipated. I mean not to assert that those in whom the intellect is chiefly engaged will enjoy the same athletic strength, or display equal muscular development, with others whose pursuits are of a more mechanical character—for

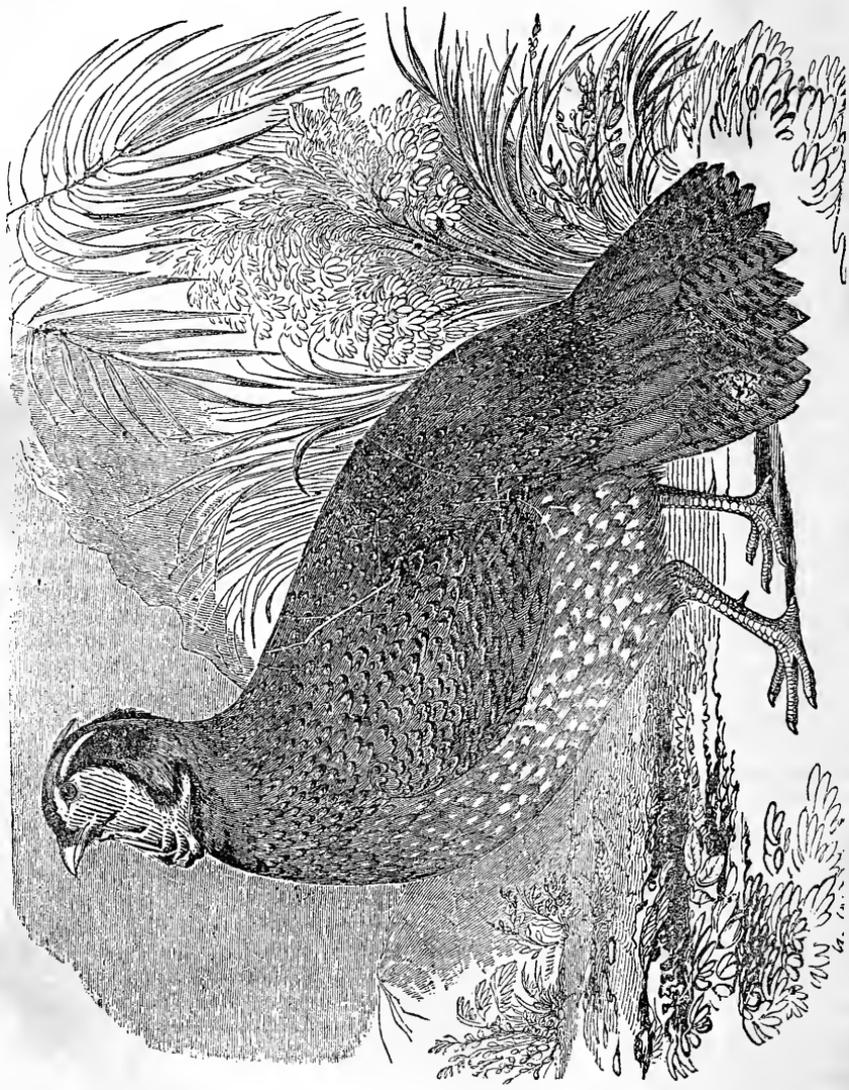
Nature seldom lavishes upon us a full complement of her various gifts ; but I do believe that, under prudent habits of life, and with a naturally sound constitution, they may preserve as uniform health, and live as long as any other class of persons. In support of such belief abundant instances may be cited, both from ancient and modern times, of men eminently distinguished for the amount and profundity of their mental labors, who, being temperate and regular in their habits, have continued to enjoy firm health, and have attained a protracted existence. It has indeed been said by some eminent writer, that "one of the rewards of philosophy is long life." But let me illustrate by a few examples. Among the moderns, Boerhaave lived to seventy, Locke to seventy-three, Galileo to seventy-eight, Sir Edward Coke to eighty-four, Newton to eighty-five, and Fontenelle to a hundred. Boyle, Leibnitz, Volney, Buffon, and a multitude of others of less note that could be named, lived to quite advanced ages. And the remarkable longevity of many of the German scholars, who have devoted themselves almost exclusively to the pursuit of science and literature, must be sufficiently familiar to my readers. Professor Blumenbach, the distinguished German naturalist, died not long since at the age of eighty-eight ; and Dr. Olbers, the celebrated astronomer of Bremen, in his eighty-first year.

THE HORNED PHEASANTS OF INDIA.

THE pheasants (*phasianidæ*) form one of the most interesting groups of the feathered race, whatever be the point of view in which we contemplate them. Their beauty of form and the splendor of their hues have attracted universal admiration. Many dazzle by the metallic lustre of their plumage, which gleams with green, and blue, and gold. Such, for example, is the case with that gorgeous bird the Impeyan pheasant (*Lophophorus Impeyanus*) of the Himalayan mountains, which it has several times been attempted to bring alive into this country, but hith-

erto without success. Others, as the golden pheasant of China (*phasianus pictus*), delight us with the richness and multiplicity of their teints, which contrast admirably with each other. The common pheasant is exceedingly beautiful, but is far surpassed by many of its congeners, of which we may mention that elegant Chinese species the *Phasianus Reevesii* (*P. venesatus*, Temm.). It is to be observed, however, that this beauty of plumage is confined to the males ; the females are universally attired in a sober dress of brown, often indeed exquisitely pencilled with spots and zigzag lines, but totally destitute of the brilliant hues which glisten in their mates. Independently, however, of the beauty of the pheasant tribe, there is another point of interest which can not be overlooked—we allude to their value as it respects the table. The flesh of all the gallinaceous birds affords to man a wholesome and nutritious food, and that of the pheasants is deservedly in high estimation. Hence the introduction and naturalization of the common pheasant is a positive good, and it is desirable therefore to add other species to the list of those which are acclimated with us.

The pheasants (family *phasianidæ*) are all natives of Asia. The common pheasant was originally brought from the river Phasis by the Greeks, in some of their earlier expeditions ; that of the Argonauts under Jason has the popular credit of having introduced it. However this may be, the name given to the bird (*Phasianus*) of which all our modern names for it are merely corruptions, points to the banks of the Phasis as the place from which it was derived ; and to the present day the pheasants of Mingrelia (the Colchis of the ancients) are celebrated for their beauty and size. Extreme brilliancy of plumage is in general the characteristic of birds dwelling in torrid regions beneath a glowing sky ; such is not the case as it regards the most gorgeous and beautiful of the pheasant tribe. On the contrary, the high mountains of the Himalaya, bordering upon the limits of perpetual snow, are tenanted by the most splendid of this family. The Impeyan pheasant is an example in point : adapted



The Horned Pheasant.

for regions where the temperature is at the most only moderate, and often at a low degree, this noble bird soon dies when taken from its Alpine home into the burning lowlands of India; and hence arises one of the difficulties in the way of our obtaining living specimens. But besides the Impeyan pheasant, the Himalaya chain of mountains presents us with a group or genus of this family, containing a very limited number of species remarkable both for their great beauty and their characters, which indicate an affinity to the turkeys, between which group and that of the genuine pheasants, they constitute an intermediate link. The genus to which we allude is that termed *Tragopan* (Cuvier), of which three species only are known. They are easily distinguishable from all the rest of the *phasianide* (at least as far as regards the male birds) by the presence of large throat-wattles, or naked carunculated flaps of skin (resembling those of the turkey), which extend from the naked cheeks, spread over the throat, and proceed down each side of the neck, while from behind each eye rises a soft fleshy horn. The whole of these appendages are capable of being contracted and dilated at pleasure, or at least in accordance with the emotions of anger, fear, &c., as we see in the male turkey: the teints of the horns and wattles are rich purple, mingled with scarlet, and are most probably changeable from one hue to another. The tail is broad and rounded, and the plumage is dotted with round spots of white on a brown or red ground, the effect of which is very pleasing.

Of the three species that are known at present, two have been but recently introduced to science, nor, indeed, is our acquaintance with the one first described of distant date. The first species is the horned pheasant of Nepâl (*Tragopan satyrus*). The second species is from Thibet and the Chinese borders. The third species is from the northern range of the Himalaya. In size this species rather exceeds the *Tragopan satyrus*, its total length being twenty-three inches. The head of the adult male is covered with a pendent crest of feathers, which, together with the ear-coverts and the

throat, are black; the neck and shoulders are rich maroon; the chest, fine orange red; the naked skin round the eyes is scarlet; the wattles and horns, purple, tinted here and there with scarlet. The upper parts exhibit a mixture of zigzag lines, and marks of dark and light brown, forming a ground on which are scattered numerous distinct spots of white. The young male is less brilliant, and the wattles are but little developed.

The plumage of the female consists of a uniform brown, mottled, barred, and dashed, irregularly with dark brown and dull fawn color; the cheeks are clothed with feathers, and the head is slightly crested: there are neither horns nor pendent wattles.

Of the habits and manners of these noble birds in a state of nature little is accurately known. The strength of their legs (*tarsi*), which are clothed with large scales, and in the males armed with a short sharp spur, together with the rounded form of the wings, indicate them to be chiefly terrestrial. The bill is strong and large, but wants that spoonlike form of the tip of the upper mandible, so conspicuous in the Impeyan pheasant (*Lophophorus Impeyanus*), by which it is adapted for the scooping up of bulbous roots, on which that bird is known to feed. Most probably the diet of the present group consists, as in others of the *rasorial order*, of grains, roots, and the larvæ of ants and various insects.

AFFECTIONS OF ANIMALS.

AFFECTION—that wonderful instinct by which an animated being increases its own happiness by caring for that of another—is partaken of by the lower animals only less conspicuously than by the human family. Among them, as with us, existence could not, apparently, be conducted without this generous feeling, and there accordingly we find it, the need being with the Divine Author ever a sufficient cause for the endowment. Nor is there a limited show of the affections in the humbler species; there is hardly one affection of our nature which is not to be

plainly traced in some of these our lower fellow-creatures. In one sense, indeed, there is a limitation; some of the affections are not required by the lower animals, in consequence of peculiarities in their economy, and there accordingly these affections are wanting. In some of the very humblest tribes, there is perhaps no kind of affection whatever. It is surprising, however, how far down in the scale we find this beautiful principle operating, and how many of our finest affections are to be observed in a considerable number of species.

Attachments between individuals of the same species, but different sexes—that is to say, attachments in which it can be said that any sentiment exists—are not widely spread throughout the animal world. The pairing arrangement, which forms the natural basis for the matrimonial alliance among ourselves, is only practised where the aid of both parents is necessary for the sustenance of the young—the final cause, obviously, of the arrangement. It is particularly conspicuous among the birds, the pairs of which usually present in spring a delightful reflection of the fondness, tenderness, and unselfishness, which fill the bosoms of a newly-wed pair of our own species. The male exerts himself to obtain food for the female while she is engaged in the duty of sitting upon her eggs; with a gallantry rivalling that of the troubadour, he sits upon a neighboring bough for hours, pouring forth his lively song to cheer her under the tedium of her situation. In the exclusiveness of his regard, he might form a pattern for the most virtuous of husbands. The mixture, indeed, of kindness and faithfulness shown by the humblest field-bird to his mate, is nowise externally distinguishable from those traits of human character which we are accustomed to applaud as moral. In some particular species, this attachment lasts throughout life, and the death of one of the pair is almost sure to prove fatal to the other. There is a species of parrot called the love-bird, in which the passion is of this kind. A pair being confined in a cage, the male is seen to sit fondly beside his mate, feeding her with his bill, and evincing the greatest gentleness and tenderness in all his conduct toward her.

Bonnet gives a description of a pair, the female of which falling sick, the other attended her with unremitting care till her death, when he went round and round her in the greatest agitation, trying occasionally to open her bill and give her nourishment. He then gradually languished, and survived her death only a few months.

Bowdich gives two interesting anecdotes of this affection faithful till and beyond death. "When I lived in Paris," he says, "there were two remarkably fine ostriches, male and female, kept in the rotunda of the Jardin du Roi. The skylight over their heads having been broken, the glaziers proceeded to repair it, and in the course of their work let fall a triangular piece of glass. Not long after this, the female ostrich was taken ill, and died after an hour or two of great agony. The body was opened, and the throat and stomach were found to have been dreadfully lacerated by the sharp corners of the glass which she had swallowed. From the moment his companion was taken from him, the male bird had no rest; he appeared to be incessantly searching for something, and daily wasted away. He was moved from the spot, in the hope that he would forget his grief; he was even allowed more liberty; but naught availed, and he literally pined to death.

"A gentleman had for some years been possessed of two brown cranes; one of them at length died, and the other became disconsolate. He was apparently following his companion, when his master introduced a large mirror into the aviary. The bird no sooner beheld his reflected image, than he fancied she for whom he mourned had returned to him; he placed himself close to the mirror, plumed his feathers, and showed every sign of happiness. The scheme answered completely; the crane recovered his health and spirits, passed almost all his time before the looking-glass, and lived many years after at length dying from an accidental injury."

The connubial feeling, however, sinks far below the parental in intensity among the lower animals. Once a mother, the female has for a time no other feeling than that of devoted affection for her offspring, for whose sake she seems cheerfully to

sacrifice her own convenience, and to give up all her wonted habits. Wondrous and beautiful is it to contemplate this parental self-devotion in some poor bird, or other humble creature, reflective as it is of what we never fail to acknowledge as among the most pure and holy of all the emotions that animate our own species. The wildest and fiercest tribes are equally remarkable as the gentlest for their affection for their young, provided only that this affection is needed for their protection and nurture. It would even appear as if the felinæ were among the most remarkable for the philoprogenitive sentiment: the lioness is proverbially devoted to her cubs, and we rarely witness more intense examples of the feeling than in the common cat. This latter animal, during the early days of her progeny, gives herself entirely up to them, and then only leaves them for the sake of food. If apprehensive of danger to them, she brings them forth and keeps them in some obscure place, where she will remain unknown to the family until she thinks the lives of her young ones may be safe. Not long ago, a young cat, recently become the mother of a set of kittens, all of which had been destroyed but one, was missed from her home. When she had been absent two days, it was concluded that she was lost or had met with some fatal accident, and her sole surviving kitten was then taken from the nest and drowned. Soon after, the poor mother made her appearance, with one of her feet nearly cut to pieces by a rat-trap, which had closed upon and confined her in a neighboring granary. Miserable as she was from this accident, she wandered about the house incessantly for a day in search of her lost kitten, manifesting such an anxiety about it, as could neither be mistaken nor beheld without sympathy. Some cats provide for the family they are about to have by storing up mice for them, and when they have lost their kittens, it is not unusual for them to continue collecting provisions in the hope of their returning. An instance is mentioned of one which, for more than a fortnight after the loss of her young ones, would come in with a mouse, and search over the whole house to give it to them, making a complaining noise.

The extremity of this parental feeling has a remarkable effect in making the most timid animals bold for the time in protecting their young, or in seeking for food wherewith to support them. The quiet hen is seen in a new character of courage and determination when surrounded by her brood. Even feeble birds will then fly fiercely at men or other animals which may have given them any alarm on account of their progeny. "It is a well-known fact," says Mr. Swainson, "that a pair of ravens which dwelt in a cavity of the rock of Gibraltar, would never suffer a vulture or eagle to approach the nest, but would drive them away with every appearance of fury. The missel thrush, during the breeding-season, will fight even the magpie or jay. And the female titmouse will frequently allow herself to be made a prisoner, rather than quit her nest; or, if she herself escape, she will speedily return, menacing the invaders by hissing like a snake, and biting all who approach her: this we have ourselves experienced. The artifices employed by the partridge, the lapwing, the ring-plover, the pewit, and numerous other land-birds, to blind the vigilance and divert the attention of those who may come near their little ones, are equally curious. The partridges, both male and female, conduct their young out to feed, and carefully assist them in their search for food; but, if disturbed in the midst of this employment, the male, after first giving the alarm, by uttering a peculiar cry of distress, throws himself directly in the way of danger, and endeavors, by feigning lameness or inability to fly, to distract the attention and mislead the efforts of the enemy—thus giving his mate time to conduct her little brood to a place of security. "A partridge," says White, "came out of a ditch, and ran along, shivering with her wings, and crying out as if wounded, and unable to get from us. While the dam feigned this distress, a boy who attended me saw the brood, which was small and unable to fly, run for shelter into an old fox's hole under the bank." The lapwing pushes forward to meet her foes, employing every art to allure them from the abode of her young. She rises from the ground with a loud screaming voice, as if just flushed from hatching,

though probably, at the same time, not within a hundred yards from the nest. She afterward whines and screams round the invaders, and invariably becomes more clamorous as she retires further from the nest. The ring-plover will flutter along the ground as if crippled, and, if pursued, will hasten to a short distance, stretch out its feathers, and appear to "tumble heels over head," till it has enticed its enemy to a distance; while, on similar occasions, the pewit resorts to the same expedient of appearing wounded as soon as it perceives the approach of a stranger. Sheldrakes are equally ingenious: during the period of incubation, which lasts thirty days, the male keeps watch on some adjoining hillock, which he only leaves that he may satisfy the calls of hunger, or occupy the post of the female while she quits it for food. After the young are hatched, the parents lead, or sometimes carry them in their bills, toward the sea; and, if interrupted in their progress, it is said that they employ numberless arts to draw off the attention of the observer.

There are few things more disarming than this anxious fondness of an humble animal for her offspring. It is therefore to be considered as strictly in accordance with the more generous feelings of human nature, that the Israelites were enjoined to respect female animals, as the doe and the ewe, while taking their young. It is painful to think that the spirit of this command is often broken by men from cupidity or wantonness. A striking instance is related in Phipps's Voyage to the North Pole. An old she-bear was attracted with her cubs by the smell of a sea-horse, which had been killed several days before, and the flesh of which she carefully divided between her young ones, reserving but a small portion for herself. "As she was fetching away the last piece, the sailors levelled their muskets at the cubs, and shot them both dead; and in her retreat they wounded the dam, but not mortally. It would have drawn tears of pity from any but unfeeling minds, to have marked the affectionate concern expressed by this poor beast during the last moments of her expiring young. Though she was herself dreadfully wounded, and could but just crawl to the place where they lay,

she carried the lump of flesh she had fetched away, as she had done others before, tore it in pieces, and laid it before them; and when she saw they refused to eat, she laid her paws first upon one, and then upon the other, and endeavored to raise them up: all this while it was pitiful to hear her moan. When she found she could not stir them, she went off, and when she got to some distance, looked back and moaned; and that not availing her to entice them away, she returned, and smelling round them, began to lick their wounds. She went off a second time as before, and, having crawled a few paces, looked again behind her, and for some time stood moaning. But still her cubs not rising to follow her, she returned to them again, and with signs of inexpressible fondness went round, pawing them and moaning. Finding, at last, that they were cold and lifeless, she raised her head toward the ship and uttered a growl of despair, which the murderers returned with a volley of musket-balls. She fell between her cubs, and died licking their wounds."

Nor does the parental feeling of animals always rest content with merely protecting and cherishing the young. There are some which take pains to give their offspring something of the nature of education. "Some of the eagles," says Mr. Swainson, "take out their young before they are fully grown, on purpose to teach them the arts necessary for securing their prey. The female lark conducts hers, to exercise their powers of flight, herself fluttering over their heads, directing their motions, and preserving them from danger. The butcher-bird, or common wood-chat shriek, continues her regard for her offspring even after they have attained maturity, while the latter reward her care by assisting her in providing for the support of all, until the following spring." The monkeys, too, which are surpassed by no animals in the philoprogenitive feeling, are observed to go through something like a process of education with their young. They keep them under proper obedience and restraint, much after the fashion of human mothers. A set of female monkeys has been observed to suckle, caress, and cleanse their young ones, and

then sit down to see them play with each other. If, in the course of their sports, any showed a tincture of malice, the dams would spring upon them, and, seizing them with one paw by the tail, correct them severely with the other.

It has been remarked, that the parental feelings of animals are not reciprocated to any considerable extent by their progeny—a fact in nature for which there is this obvious reason, that it is not necessary, in the economy of the animals, that the young should have any strong attachment to their parents. There are, nowever, some remarkable instances of strong filial love on the part of the lower animals. Mr. Turner, who resided long in America, mentions an affecting trait in the character of the bison when a calf. “Whenever a cow bison falls by the murderous hand of the hunters, and happens to have a calf, the hapless young one, far from attempting to escape, stays by its fallen dam with signs expressive of the strongest natural affection. The body of the dam thus secured, the hunter takes no heed of the calf, of which he knows he is sure, but proceeds to cut up the carcass; then laying it on his horse, he returns home, followed by the poor calf, which never fails to attend the remains of its dam.” Mr. Turner says that he has seen a single hunter ride into the city of Cincinnati, followed in this manner by three calves, which seemed each to claim of him the parent of whom he had cruelly bereft it. To the same effect is an anecdote of two spaniels, dam and son, who were hunting by themselves in Mr. Drake’s woods, near Amersham, in Bucks. The gamekeeper shot the mother; the son, frightened, ran away for an hour or two, and then returned to look for her. Having found her dead body, he laid himself down by her, and was found in that situation the next day by his master, who took him home, together with the body of the mother. Six weeks did this affectionate creature refuse all consolation, and almost all nutriment. He became at length universally convulsed, and died of grief.

That the maternal feeling in animals is entirely independent of the intellect, is amply proved by the numerous instances in which particular mothers have not only

taken the progeny of others of their own species under charge, but even the young of entirely different animals. A female cat will foster a young dog. A young panther has been nourished by a bitch. A cat has even been known to rear a young bird; and there is one instance of a still more extraordinary kind of fostership. According to Mr. Jesse, in his interesting volume, *Gleanings in Natural History*, “A cat belonging to Mr. Smith, the respectable bailiff and agent of the earl of Lucan, at Laleham, is in the constant habit of taking her place on the rug before the parlor fire. She had been deprived of all her litter of kittens but one, and her milk probably incommoded her. I mention this in order to account in some degree for the following circumstance. One evening, as the family were seated round the fire, they observed a mouse make its way from the cupboard, which was near the fireplace, and lay itself down on the stomach of the cat, as a kitten would do when she is going to suck. Surprised at what they saw, and afraid of disturbing the mouse, which appeared to be full-grown, they did not immediately ascertain whether it was in the act of sucking or not. After remaining with the cat a considerable length of time, it returned to the cupboard. These visits were repeated on several other occasions, and were witnessed by many persons. The cat not only appeared to expect the mouse, but uttered that sort of greeting purr which the animal is so well known to make use of when visited by her kitten. The mouse had every appearance of being in the act of sucking the cat; but such was its vigilance, that it retreated as soon as a hand was put out to take it up. When the cat, after being absent, returned to the room, her greeting call was made, and the mouse came to her. The attachment which existed between these two incongruous animals could not be mistaken, and it lasted some time. The fate of the mouse, like that of most pets, was a melancholy one. During the absence of its nurse a strange cat came into the room. The poor mouse, mistaking her for its old friend and protectress, ran out to meet her, and was immediately seized and slain before it could be

rescued from her clutches. The grief of the foster-mother was extreme. On returning to the parlor she made her usual call, but no mouse came to meet her. She was restless and uneasy, went mewing about the house, and showed her distress in the most marked manner. What rendered the anecdote I have been relating the more extraordinary, is the fact of the cat being an excellent mouser, and that during the time she was showing so much fondness for this particular mouse, she was preying upon others with the utmost avidity." It would appear that the faculty for the love of offspring—the philoprogenitiveness of Gall's system—is excited at the time of parturition, and that the feeling, craving for exercise, is ready to take up with any object capable of gratifying it, if the one primarily contemplated by nature be wanting.

Animals are also possessed of the ordinary social affections. Some are gregarious, which is just another term for the feelings which induce men to form regular societies. Almost all have a liking for company. A cow in a herd appears a happier creature than a cow alone. Enter the paddock of a solitary horse, and it is odds that he comes up and follows you, as if courting your society. The dog attaches himself to man with a devotion which touches every generous nature. The cat, notwithstanding the doubts of many upon the subject, is also capable of the warmest attachment to the human beings among whom it lives. Mr. Blain, in his *Canine Pathology*, relates an instance of a dog belonging to a tailor in Tooley Street, Southwark, which haunted the grave of its deceased master in St. Olave's churchyard till it died. There are other examples of dogs which have proved quite inconsolable for the death of their owners; and died of grief on that account. Friendships such as those of Damon and Pythias, and Pylades and Orestes, are rivalled in the animal world. An instance is furnished in the story of two Hanoverian horses, which had long served together in the Peninsular war, in the German brigade of artillery. "They had assisted," says Mr. Jesse, "in drawing the same gun, and had been inseparable companions in many battles. One of them was

at last killed; and after the engagement, the survivor was picketed as usual, and his food brought to him. He refused, however, to eat, and was constantly turning round his head to look for his companion, sometimes neighing as if to call him. All the care that was bestowed on him was of no avail. He was surrounded by other horses, but he did not notice them; and he shortly afterward died, not having once tasted food from the time his former associate was killed. A gentleman who witnessed the circumstance, assured me that nothing could be more affecting than the whole demeanor of this poor horse."

When cut off from friendships with their own kind, animals will form attachments to individuals of different species. Gilbert White tells a curious anecdote of a horse and a solitary hen spending much of their time together in an orchard, where they saw no creatures but each other. The fowl would approach the quadruped with notes of complacency, rubbing itself gently against his legs; while the horse would look down with satisfaction, and move with the greatest caution and circumspection lest he should trample on his diminutive companion. The celebrated horse, the Godolphin Arabian, and a black cat, were for many years the warmest friends. When the horse died in 1753, the cat sat upon his carcass till he was put under ground; and then crawling slowly and reluctantly away, retired to a hayloft, where she was soon after found dead. Lions confined in menageries have in numerous instances spared little dogs that had been thrown to them, and formed with these creatures a permanent friendship. St. Pierre describes such an attachment between a lion at Versailles and a dog, and concludes by saying—"Their friendship is one of the most touching exhibitions which Nature can offer to the speculations of the philosopher." The dog has admitted, the cat to similar intimacies; and a tame fox has been admitted by dogs to course with them. One of the most extraordinary animal friendships was related to Mr. Jesse by a trustworthy person, who had resided for nine years in the southern states, in charge of some extensive public works. One of these works consisted in

the erection of a beacon in a swamp in one of the rivers, where he caught a young alligator. This animal he made so perfectly tame, that it followed him about the house like a dog, scrambling up the stairs after him, and showing much affection and docility. Its great favorite, however, was a cat, and the friendship was mutual. When the cat was reposing herself before the fire (this was at New York), the alligator would lay himself down, place his head upon the cat, and in this attitude go to sleep. If the cat was absent, the alligator was restless; but he always appeared happy when the cat was near him.

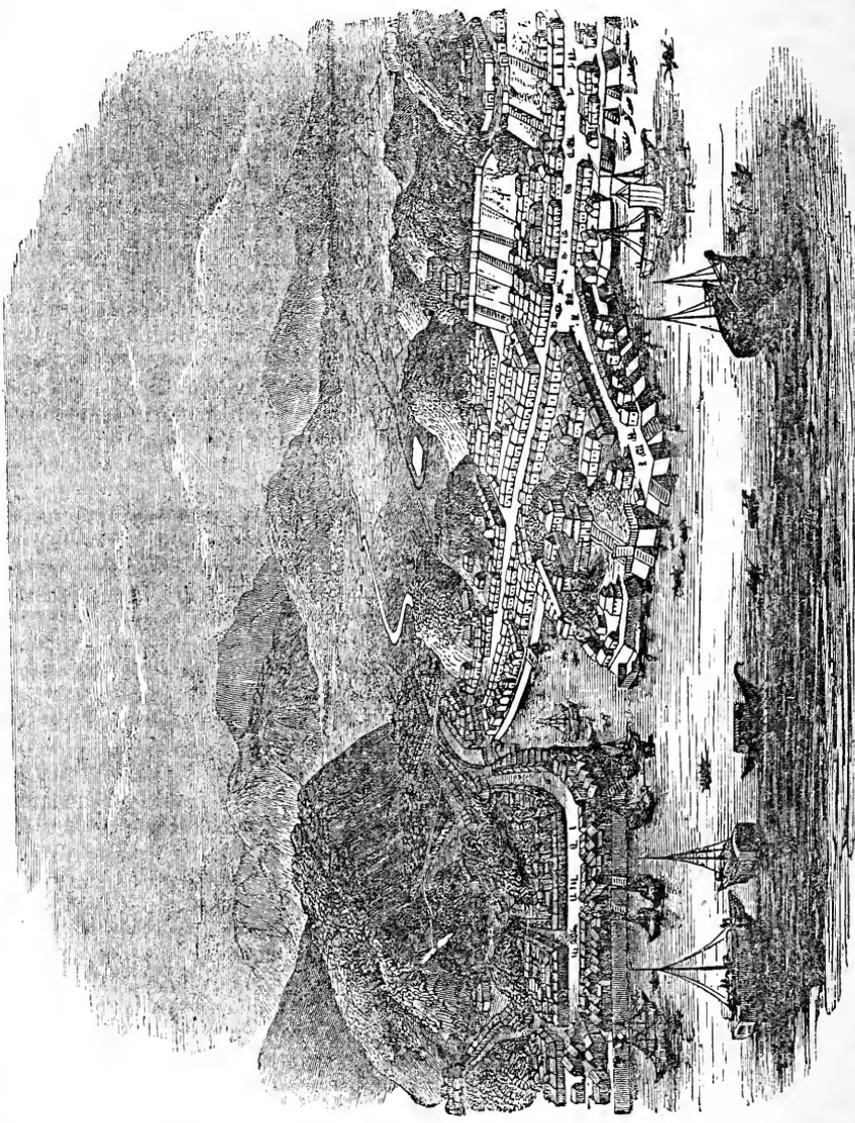
What do all these anecdotes, which might be almost indefinitely multiplied, tend to show? That the lower animals possess qualities superior to what in general we are disposed to allow, and might be to us sources of far greater social pleasure than we permit them to be. Man deems his breathing associates in this sphere only fit subjects for the wanton exercise of his self-esteem and destructiveness; and he reaps the proper consequences of such conduct. Did he take a more true and benevolent view of the animal nature, and treat it on the same simple principles of justice and kindness which he is taught to display toward his fellow-creatures, he would find his own interests immensely advanced by it. The docility and social feelings of the animals would be more strongly developed than at present; their services would be more heartily rendered; and man would himself be improved by the reflection of better feelings from these humble creatures.

THE EMPIRE OF JAPAN.

JAPAN was first made known to Europeans by Marco Polo. This intelligent old Venetian traveller resided for many years at the court of the great Kublai Khan, the conqueror of China. Being in much favor with the emperor, and employed in missions that led him to take extensive journeys throughout the Mongol empire, he obtained a knowledge of many parts of the world, & which Europeans

were quite ignorant; and it is affirmed that if the name of a discoverer of Asia were to be assigned to any person, nobody would better deserve it. Marco Polo did not visit Japan. He could therefore only describe it from such reports as were made to him. He calls Japan Zipangu, a name supposed to be formed from the Japanese Dshi-penkue, or, as Charlevoix gives it in French, "Gepuan-que," the meaning of which is, "The kingdom or empire of, or toward, the rising sun." We have evidently got Japan from the same word. Marco Polo's account of Japan, or Zipangu, is interesting.

Zipangu is an island in the eastern ocean, situated at a distance of about 1,500 miles from the mainland, or coast of Manji. It is of considerable size; its inhabitants have fair complexions, are well made, and are civilized in their manners. Their religion is the worship of idols. They are independent of every foreign power, and governed only by their own kings. They have gold in the greatest abundance, its sources being inexhaustible; but as the king does not allow of its being exported, few merchants visit the country, nor is it frequented by much shipping from other parts. To this circumstance we are to attribute the extraordinary richness of the sovereign's palace, according to what we are told by those who have access to the place. The entire roof is covered with a plating of gold, in the same manner as we cover houses, or more properly churches, with lead. The ceilings of the halls are of the same precious metal; many of the apartments have small tables of pure gold considerably thick; and the windows also have golden ornaments. So vast, indeed, are the riches of the palace, that it is impossible to give an idea of them. In this island there are pearls also in large quantities, of a pink color, round in shape, and of great size; equal in value to, or even exceeding, that of the white pearls. It is customary with one part of the inhabitants to bury their dead, and with another part to burn them. The former have a practice of putting one of these pearls into the mouth of the corpse. There are also found there a number of precious stones. Of so great celebrity was the wealth



Simonoseki, a Seaport on the southwest of Nippon, the chief Island of Japan.

of this island, that a desire was excited in the breast of the grand Khan Kublai, now reigning, to make the conquest of it, and to annex it to his dominions. In order to effect this, he fitted out a numerous fleet, and embarked a large body of troops, under the command of two of his principal officers. The expedition sailed from the ports of Zaitun and Kinsai (Zaitun is probably Amoy, and Kinsai the port of Ning-po, or of Chu-san), and crossing the intermediate sea, reached the island in safety; but in consequence of a jealousy that arose between the two commanders, one of whom treated the plans of the other with contempt, and resisted the execution of his orders, they were unable to gain possession of any city or fortified place, with the exception of one only, which was carried by assault, the garrison having refused to surrender. Directions were given for putting the whole to the sword, and in obedience thereto the heads of all were cut off, excepting eight persons, who, by the efficacy of a diabolical charm, consisting of a jewel or amulet introduced into the right arm, between the skin and the flesh, were rendered secure from the effects of iron, either to kill or wound. Upon this discovery being made, they were beaten with a heavy wooden club, and presently died. (The idea of being rendered invulnerable by the use of amulets is common among the natives of the eastern islands.)

It happened after some time that the north wind began to blow with great force, and the ships of the Tartars, which lay near the shore of the island, were driven foul of each other. It was determined, therefore, in a council of the officers on board, that they ought to disengage themselves from the land; and accordingly, as soon as the troops were re-embarked, they stood out to sea. The gale, however, increased to so violent a degree, that a number of the vessels foundered. The people belonging to them, by floating upon pieces of the wreck, saved themselves upon an island lying about four miles from the coast of Zipangu. The other ships, which, not being so near the land, did not suffer from the storm, and on which the two chiefs were embarked, together with the principal of-

ficers, or those whose rank entitled them to command a hundred thousand or ten thousand men, directed their course homeward, and returned to the grand Khan. Those of the Tartars who remained upon the island where they were wrecked, and who amounted to about thirty thousand men, finding themselves left without shipping, abandoned by their leaders, and having neither arms nor provisions, expected nothing less than to become captives or to perish, especially as the island afforded no habitations where they could take shelter and refresh themselves. As soon as the gale ceased and the sea became smooth and calm, the people from the mainland of Zipangu came over with a large force in numerous boats, in order to make prisoners of the shipwrecked Tartars, and having landed, proceeded in search of them, but in a straggling disorderly manner. The Tartars, on their part, acted with prudent circumspection, and being concealed from view by some high land in the centre of the island, while the enemy were in pursuit of them by one road, made a circuit of the coast by another, which brought them to the place where the fleet of boats was at anchor. Finding these all abandoned, with colors flying, they instantly seized them, and pushing off from the island, stood for the principal city of Zipangu, into which, from the appearance of the colors, they were permitted to enter unmolested. Here they found few of the inhabitants besides women. When the king was apprized of what had taken place, he was much afflicted, and immediately gave directions for a strict blockade of the city, which was so effectual that not any person was suffered to enter or to escape from it during six months that the siege continued. At the expiration of this time the Tartars, despairing of success, surrendered upon the condition of their lives being spared. These events took place in the course of the year 1264. The grand khan having learned, some years after, that the unfortunate issue of the expedition was to be attributed to the dissension between the two commanders, caused the head of one to be cut off, and the other he sent to the savage island of Zorza."

Kæmper quotes from the Japanese an-

nals an account of this attempt at conquest by Kublai Khan, thus confirming the general accuracy of Marco Polo. The annals, however, take no notice of the rather extraordinary event mentioned toward the end of the last page, and simply state that the entire expedition perished; a result attributed to the favor and protection of the gods of Japan.

Marco Polo was the guiding star of Columbus; and during the years in which he nursed the visions which led to the discovery of America, the hope of finding the golden island of Zipangu, or Cipango, as well as Cathay, inspired him with persevering zeal. On his first voyage he fancied Cuba was Zipangu; and in the same year, 1492, a German geographer, who had accompanied the Portuguese navigator Diogo Cam in his voyage of discovery along the coasts of Guinea, made a terrestrial globe, in which he placed Zipangu at no great distance to the west of the islands of Cape Verd. The progress of discovery dispelled these errors. The Portuguese, during the next half century, in their active career, both of conquest and discovery, explored the eastern seas and countries of Asia; and in 1542 one of their navigators was driven by a storm into a harbor of the principal island of Japan, the Zipangu of Marco Polo. He was treated with great kindness by the natives, for the rigid restriction which now for exactly two centuries has prohibited all access to the country was then unknown. The Portuguese were not slow in availing themselves of the opportunity of extending their commerce; and in 1549 a young Japanese who had been taken to Goa, and was baptized, induced the Jesuits to send a mission to Japan. Among the first who arrived was Xavier, the apostle of the Indies. The progress of the Jesuits was at first very slow, for they had all the difficulties attendant on the acquisition of language and acquaintance with customs. Kæmpfer says, "The fathers being then as yet unacquainted with the manners, customs, language, and policy of the Japanese, were obliged to get their sermons, and what else they had to propose to the people, translated into Japanese by not over-skilful interpreters, and the Japanese words ex-

pressed in Latin characters, which being done, they read out of their papers what they did not understand themselves, and in a manner, as may easily be imagined, which could not but expose them to the laughter of a less serious and inattentive audience." But perseverance conquered these difficulties. They established themselves in the country, and built a college at the great city of Meaco; a rough English captain, who visited Japan in 1612, and who speaks rather contemptuously of the Jesuits, admits that they had accomplished some good.

While the Jesuits were prosecuting their labors, their commercial countrymen were also successfully establishing themselves in Japan. A number of marriages between the Portuguese and the Japanese took place; and as the Portuguese acquired wealth, and thought their footing firm in the country, they became proud and overbearing. This led to ill-feeling. Those of the Japanese who were attached to their old customs and religious practices, became naturally jealous of the proud foreigners, and of those of their countrymen who adhered to them; and thus two parties were formed; one, by far the most numerous, attached to the old institutions and old state of things; the other, much inferior in numerical strength, but active and numerous enough to irritate into hatred the growing jealousy. Meanwhile the Dutch, and also the English, were trying to undermine the influence of the Portuguese, and to get a share of the Japanese trade.

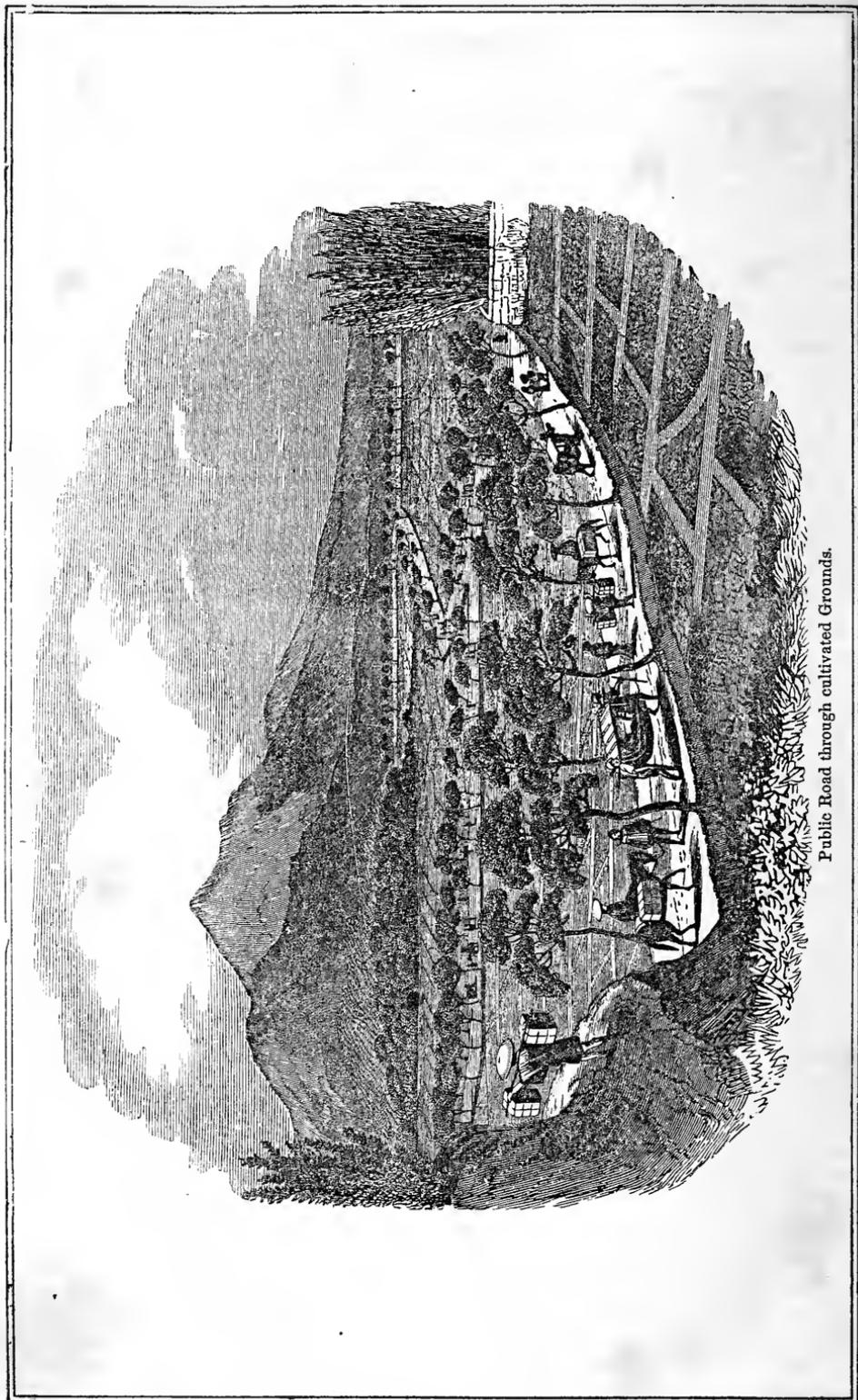
The Dutch, who had previously established themselves at Firando, were jealous of the English; and the Portuguese were jealous of both. There are several letters left by Captain Saris in charge of the English station at Firando; in one of them, dated in 1619, the following odd story is told: Mr. C. "having gone to do his duty to the emperor, on the coming in of the English ships, found in the presence a certain boasting Dutchman, that told the emperor strange stories of his own country, and extolled his king of Holland to the skies, as the greatest and most potent prince in all that part of the world, together with a vast deal of such stuff. But he, who understood the Japan lan-

guage, though the Dutchman thought he did not, told him, before the emperor, that he need not have told his majesty such a lie as that, since all the world knew that they had no king in Holland, but only a stadholder, who did not so much govern the people as the people governed him. And whereas he had the impudence to say that his king, as he called him, held all other princes of Christendom in subjection; 'twas well known that the king of England had been his country's protector, or they had never been in a condition to come and make a noise abroad in the world. The Dutchman was pretty much confounded to lose his king all of a sudden; but there was no help for that; and the Spaniards and Portuguese that were there at the time well knew the truth of what was said. The company were extremely diverted, and there was old laughter among the Europeans to see the Dutchman so bewildered to find out his king, which they very well knew he never could do."

Meanwhile, the hatred and jealousy between the Portuguese, and the natives professing Christianity, and the great body who adhered to the old superstitions, had been growing stronger every day. So early as 1590, it had broken out into an open feud, and many lives were lost. Events also occurred which placed them in the situation of parties politically opposed to each other. The supreme authority in Japan had been usurped; and the usurper, doubtless to consolidate his authority, patronized the stronger party, and discouraged the weaker. Still, though restrictions were laid upon the exertions of the Jesuits, they were not altogether proscribed, until the rash indiscretion of some Franciscans brought down the vengeance of the court. These friars arrived from Manilla, and in spite of the pressing solicitations of the Jesuits, and in defiance of imperial authority, set about building a church, and publicly preaching in the streets of Meaco. For this they urged the very proper plea that we "ought to obey God rather than men." But in their zeal they forgot another great guiding rule laid down for missionaries, to "be wise as serpents and harmless as doves," for they excited the Japanese

to destroy their idols, and even went the length of attempting to set fire to a temple. From this period the power and influence of the Portuguese and the Jesuits declined rapidly, and the native Christians were exposed to all manner of insults from their countrymen. The English resident at Firando, writing in 1614, speaks of "a civil war being ready to commence that threatens very great calamities to the whole country;" and in 1619 mentions the dreadful sufferings to which the Christians were exposed. The Portuguese affirmed that the Dutch, in their zeal to supplant them, replied to the question if they were Christians—no, that they were Dutchmen. Kämpfer denies this, and says that the reply was, that they were Christians, but of a different sect from the Portuguese priests. In the persecution to which the Japanese Christians were subjected, "they made their very children martyrs with them, and carried them in their arms to the stake, choosing rather to resign them to the flames, than leave them to be educated in the Pagan religion." Under one of the plates in Charlevoix's book on Japan is this inscription: "Father Spinola, attached to a stake, giving his benediction to a child of *four* years, who is going to be beheaded."

The Dutch found on board a Portuguese vessel, letters addressed by a Japanese of rank to the king of Portugal. They were forwarded to the governor of Firando, and by him to the emperor of Japan. These letters were said to contain proofs of an extensive plot among the Portuguese and Japanese Christians against the emperor. The reputed writer of them was condemned and executed; and immediately afterward, in 1637, appeared the decree which, from that day to this, has shut up Japan from all foreign access. It was ordained that "the whole race of the Portuguese, their mothers and nurses, and whatever belongs to them, shall be banished to Macao," the Portuguese settlement in China; native Christians were ordered to be arrested and committed to prison, and rewards were to be paid for the discovery of priests and Christians; the Japanese were forbidden to leave their own country, and foreigners were prohibited from entering Japan.



Public Road through cultivated Grounds.

Several thousands of the Japanese Christians rose in arms, and, taking possession of an old fortification in the neighborhood of a place called Simabarra, determined to defend themselves to the last extremity. The emperor called upon the Dutch, as a proof of their sincerity as allies, to aid him in reducing the insurgents. Feeling their own influence to be tottering, they complied, and sent a ship of war to batter the place. It was taken; and it is affirmed that 40,000 Japanese perished in this insurrection. In the same year, 1638, the buildings on the little island of Firando were demolished, and the Dutch removed to an island in the harbor of Nagasaki, the only port that from that time has been open to foreigners. An attempt was made by the Portuguese, in 1640, to recover their lost footing; they sent an embassy from Macao, which consisted in all of 73 persons. The emperor of Japan paid little respect to the rights or privileges of ambassadors. The Portuguese were arrested, and all executed, with the exception of twelve men, who were turned adrift in a small vessel, with a haughty message from the emperor, that if the king of Portugal dared to set foot in the empire of Japan, he would receive the same treatment. These twelve men were never afterward heard of.

We owe to the Dutch almost all the information that has been collected respecting Japan during the two centuries in which it has been shut to foreigners. The greater part of what is known respecting the interior has been gathered in the annual journeys made from Nagasaki to Yeddo, the metropolis, the Dutch being required to send a yearly embassy to the emperor. Three individuals, who, at different times, held the post of physician to the Dutch factory, and who had the opportunity of visiting Yeddo, have written accounts of Japan.

The number of islands composing the empire of Japan is unknown. There are, however, three large islands, which, with a number of islands or islets, compose what is properly the empire. The names of the three islands, which lie close to each other, are Kioussiou, Sitokof, and Nippon, the largest. These cover about as many degrees of latitude, from south

to north, as do the British islands. But at the northern end of Nippon is the island of Yesso, which, though not included in what is properly called the empire, is a dependency of it; it is about as large as Ireland. Beyond Yesso, covering the sea between it and the southern point of the projecting peninsula of Kamschatka, are the Kurile islands, on some of which the Japanese have settlements.

The sea around the islands of Japan is dangerous, from sudden storms and the extreme shallowness of the shores. This physical circumstance assists the Japanese authorities in maintaining their non-intercourse system. Large European vessels can not lie near to the land; and for the same reason the Japanese vessels or junks are of small draught of water. Water-spouts are occasionally formed in the adjoining seas—"the Japanese fancy that they are a kind of water-dragons flying up into the air." Japan is also liable to earthquakes, which have occasionally done great damage; they "happen so frequently that the natives dread them no more than we do an ordinary storm of thunder and lightning. They are of opinion that the cause of earthquakes is a huge whale creeping under ground, and that they signify nothing."

The interior of the islands is yet too slightly known to be described with any minuteness or accuracy. Even the coasts are far from being laid down with distinctness. The general aspect of the islands may be described as varying from the hilly to the mountainous. This is more especially the case with the large island of Nippon; the rapidity with which its rivers run down to the sea is stated as a proof of its being generally elevated in the centre.

From the populousness of the empire of Japan, all the large islands abound with towns and villages. The capital of the empire is Yeddo, sometimes called Jedo, Iedo, and Eddo, though Yeddo seems to be the generally-received orthography. It lies on the east side of the island of Nippon, on the gulf of Yeddo. Captain Saris, from whose account we have already quoted, saw it in 1612, and describes it as "glorious in its appearance, the very tiles of the houses being gilded,

and the posts of the doors set off with a shining varnish. They have no glass windows, but all of board, which open in leaves, and are very delicately painted." Being the residence of the emperor and the court, it is a very populous city, supposed to contain from a million to a million and a half of inhabitants.

The engraving on page 452 will give an idea of a Japanese seaport town. It represents Simonoseki, a small seaport on the southwestern extremity of the island of Nippon, on the strait which divides at this part Nippon from Kioussiou. It lies in the route taken by the Dutch embassy in going from Nagasaki to Yeddo. From Nagasaki this route crosses the island of Kioussiou to Kokura; then passing from that town it crosses the strait to Simonoseki, on the island of Nippon; from Simonoseki it travels to the great trading city of Osaka, and thence to Yeddo. The other engraving, representing a public road in Japan, will give an idea of the mode of travelling.

The commercial intercourse of the Japanese is entirely internal, with the exception of the guarded commerce with the Dutch and the Chinese. The intercourse among themselves is kept up by coasting-vessels, and by the roads. There is a custom-house in each port, which has the superintendence of the loading and unloading of goods, levies the duty, &c. They have also officers having functions analogous to our harbor-masters; and for the advantage of the merchants the government publishes a kind of commercial gazette, which contains an account of the prices of goods in different parts of the empire. The state of the crops is also watched, and particulars communicated from time to time. Owing to the variety in the climate and productions of Japan there is considerable inducement to keep up the internal traffic.

The origin of the Japanese is uncertain; from the cast of their features they are supposed to belong to the Mongol race. It seems probable that the civilization of the country was derived from China. The Japanese traditions carry up their origin to demi-gods. Though traditions of this sort, are ridiculous and incredible, yet we must not disturb the

belief of the people in them, as this may be useful to the state. They cause the people to prefer themselves to all other nations, to despise foreign manners, and, in general, everything that is foreign; and the Japanese have learned by dear-bought experience that it has always been attended with misfortune to them when they adopted anything foreign, or suffered foreigners to interfere in their concerns. Besides, the same prejudice that teaches a people to love their country, binds them to their native soil, and hinders them from exchanging it for a foreign land.

PROFANITY.

A MAN of sense will never swear. The least pardonable of all vices to which the folly or cupidity of man is addicted, is that of swearing. Could he who so freely and impiously indulges in profanity and indecent language—in fine, could the profane swearer behold himself in a glass, as others behold him, he would shrink from his own image, as from a thing of contamination. In other vices, more or less may be found some kind of excuse; the gratification of some passion or the indulgence of some appetite may be pleaded as a palliation; but in this vice are no mitigating circumstances to be found—no plausible pretext for such folly. How often is the name of the Great Supreme appealed to on the most trivial occasions, to test the speaker's truth, when, at the same time his veracity could justly be called in question, and his statement proved false. Suppose he should be taken at his word, with his impious imprecations upon his tongue—what horror would seize his guilty conscience, what sensations of unutterable despair overwhelm him!—and yet history furnishes many instances of speedy retributive justice being awarded the blasphemer. Such appeals are therefore not only wicked, but absurd—manifesting a great degree of moral depravity. How weak and how wicked are the wild denunciations of man: to revile, to outrage his fellow-man is wicked—to revile, to outrage his Creator, is horrible.





HELL-GATE.

"Here, where we rest, the gentlest waters glide,
 There, hurry on a strong impetuous tide;
 But yonder, gods! with tenfold thunder's force,
 Dashing the war-ship in its whirlpool course."

MODERN fastidiousness, which often, with pharisaical inconsistency, strains at a gnat and swallows a camel, has endeavored to impress us with a belief that our Dutch ancestors were too puritanical to give such a name as Hell-Pot to a natural whirlpool as the one found in the East river, seven miles from the city of New York. This is not reasoning correctly. The Teutonic nation from which the Dutch descended, were possessed of a wild and powerful imagination, and gave poetic terms to every natural phenomenon. The Maelstrom on the coast of Norway, is the name of a whirlpool which varies but little in signification from the one given to the same thing in the East river. Scylla and Charybdis, between Sicily and the mainland of Italy, have also a miraculous origin in the legends of Rome; the former, now a ledge of rocks of great height, was an enchantress changed by Circe, a more powerful and more wicked spirit, to this mass of stone, on which unfortunate voyagers might be wrecked and dashed to pieces when they steered too near her dreadful coast to get rid of Charybdis, now a direful whirlpool, but once an avaricious woman, condemned in her change to a ravenous and insatiate appetite for devouring her prey. In every nation where a Syrtis is found, it is in the imagination of the people of the country, in some measure, connected with their legends, in its name, at least, with infernal spirits. This is natural. The early Dutch settlers were as likely to indulge their imaginations as other people. It was indeed, when first discovered, a wonder, and is so now. He was a brave man who first ventured to examine Hell-Gate and pass it. Washington Irving has told the story in a playful way. His description is a piece of easy and felicitous humor. All the other descriptions of it that we have seen, are sufficiently dull to put one to sleep. Spafford, in his very clever Gazetteer of the state of New York, says: "Horll-Gate, Hurl-Gate, or Hell-Gate, is a

narrow and difficult strait in the East river, eight miles above New York, formed by projecting rocks that confine the water to a narrow and crooked channel, and causing strong eddy currents."

The following description from the American Coast Pilot, is a brief and business-like account of this singular passage-way: "Hell-Gate, and the narrow pass, leading into Long Island sound, at the time of slack water, and with a leading wind, may safely be attempted with frigates; small ships and vessels, with a commanding breeze, passed at all times with the tide. On the flood, bound into the sound, you pass to the southward of the flood-rock, which is the southernmost of the three remarkable rocks in the passage. On the ebb you go to the northward of the Mill-rock, the stream of the tide setting that way, and forming eddies in the flood-passage, which at that time is rendered unsafe. The Pot on which there are ten feet at low water, shows distinctly by the whirlpool, as also the Pan, which is a part of the Hog's Back."

On the slack of the tide in the strait, the young anglers venture to bring their boat over the chasm, and while two of them with their oars keep the boat in the position required, others throw out their lines and draw from the depths below, fine large white-nosed black-fish, or the striped bass. This sport lasts only about fifteen or twenty minutes at a time. The boat is darted with skill and velocity to the shore, on the slightest indication that the whirlpool is awakening from its momentary repose.

Vessels are frequently wrecked in this strait. When the artist sketched the view given in this number, there were two stranded vessels in sight, a faithful view of them has been presented by the engraver to give spirit, truth, and nature, to the scene. The one in the distance, on Rhinelander's reef, is the British brig Evelina of Halifax, the one in the foreground is the schooner Lexington of Kennebeck, both shipwrecked within a few days of each other. The vessels alongside are lighters, in the act of removing the cargoes.

The aborigines had numerous tales of wonder in regard to this whirlpool, which

they had learned to pass with skill and safety, but not without some superstitious fears of evil spirits. The first European settlers had a different, but not a much inferior love of the marvellous, than that which the red men had cherished. They heard the moanings of evil spirits before the storm, and in it their triumphant roar at the havoc they had made, of property and human lives. The drowned of all times, who had found a grave in this rush of waters, added the cry of danger as a warning for those crossing their oozy bed.

The English frigate *Huzza*, during the revolutionary war, in attempting to pass Hell-Gate to get to sea by the sound, struck the rocks, and was so much injured that after sailing a few miles she sunk in deep water. It was supposed that she had a rich military chest on board, destined for some British port. This general impression induced some enterprising men to examine the sunken vessel by means of diving-bells, but either they were under a wrong impression in regard to the money on board of her when she went down, or were not able to make thorough examination, for they found no money. The better opinion now is, that the treasure was landed before she sailed. Frigates, however, have passed the strait in safety. Two French frigates were blockaded in the harbor of New York, by a British squadron during the French revolution. By the aid of a trusty pilot, watching the most favorable winds and tides, they attempted the dangerous navigation with success. One of the vessels struck the rocks once, and the other twice, but neither of them received any essential injury. Thousands were watching this adventurous enterprise with anxiety, but with different feelings; enmity has its hopes and fears, as well as friendship. Party spirit was then raging with more fury than the waters of Hell-Gate.

The shores on either side of the strait are beautiful, and in their sunny quietude, viewed on a summer's morning, form a pleasing contrast to the agitation of the waters, and the roar they make when the tide is low, and the rocks are visible. It is conjectured by some philosophers that Long Island was once a part of the mainland, and that in some violent agita-

tion of nature, these rocks, which had perhaps been at the head of an estuary, began to give way to the omnipotence of the waters, which went rushing onward, conquering and dividing the heretofore main land.

PROFESSION.

PROFESSION and practice are, by universal confession, very different things. It is all a matter of natural disposition. Some have a turn for profession; others have a genius for practice. We must not expect all qualities to be united in one person. These rarely are so. On the contrary, persons with a predisposition to either, seldom exhibit any trait of the opposite quality. The man of profession has little or no practice; the man of practice has hardly any profession. It looks like an eccentricity of nature, and few are more odd or noticeable. Everybody is invariably as much surprised to find profession disunited from practice, as if it were a fact entirely new to him in the economy of human nature.

Unexpected, however, as this phenomenon always is, and confounded as all men are when it comes strongly under their attention, there must be some law of our mental system concerned in it, rendering it no wonder when rightly considered. May it not be this? That the sense of those wishes, tendencies, or inclinations, which prompt profession, is sufficient to satisfy many persons, without their taking the trouble or going to the expense of realizing them in action. I, for instance, am charitably inclined. I never hear of people being unclothed, but I would wish to send them apparel. I never hear of them being sick, but I would wish to see them restored to health. I never hear of great multitudes being in starvation for want of employment, but I feel most anxious that they should all get work next week, or, at the worst, be fully relieved from their misery by subscription. Now, I can not wish to see the naked clothed, the sick healed, or the unemployed relieved, without a gratification to my be-

nevolence. This feeling places me at my ease. I have done something in the case. I look benevolently on with my hands in my pockets, secure from all attacks from my own conscience or any other quarter, in the thick panoply of good wishes in which I am enshrouded. Perhaps I go farther than this, and feel indignant at the cold-hearted people who regard the sufferers with indifference; in which case I am the less likely to think of doing anything in behalf of the good object, seeing that the merit of my benevolent sensations is then the more powerfully brought before me. Or, say that I am a person possessing a strong sense of the value and importance of certain moral feelings. I cherish this sense, and I do all I can to impart it to others. In other words, I preach much, and take every opportunity of condemning all departures from the right course. And what can be more natural than that I, satisfied with the earnest entertainment and advocacy of such feelings, should either never think of acting positively in obedience to them, or make occasional trespasses into the opposite ground? I know that my wishes are right; I tell everybody else to be good, as I wish myself to be. My nature is satisfied, and at ease; therefore I may take no further trouble. Amid inclinations so splendid, a few external manifestations in act and deed would be insignificant. Protected, sanctioned, made holy, by such noble dispositions, even a few indulgences in an opposite course of action are nothing. It might not do for others, for they are weak in tendency; but with me there can be no fear. Hence, I err with a peaceful mind. Such, I think, may be an approximation to the true theory of that separation of practice from profession which is so often remarked. In this light, of course, profession appears as the enemy of practice. It is a weed which supplants or suffocates the right flower. And they are not to be expected to appear often flourishing together.

It would be rash, nevertheless, to set down the profession in such cases, as altogether false and hollow. This is a vulgar kind of mistake often made. The feelings are as genuine as feelings ever are, although destined never to undergo

the test of deed. They are not assumed or pretended for a show merely, or as an excuse for the absence of active benevolence. That absence is an accident for which the feelings are not responsible. They are there, true and earnest sentiments, wistful of the right, but only happen to be unaccompanied by sufficient impulse to produce action, or are of a nature to be satisfied with themselves, and supersede all presumption of a necessity for anything else. Were they not, indeed, real—real in their own way—our explanation would fall entirely to the ground, for they could not then be supposed to have that power of satisfying the conscience which has been assumed.

On the other hand, it is easy to see how practice is often unaccompanied by profession. The act indisposes to the word. Satisfied with having done what was right, filled, perhaps, with a pride—a just pride—in the act, we feel that talk would be equally unnecessary and degrading. Or it may be that the right course has been taken more from intellectual perception of what was proper and fitting, than from sentimental impulse; and profession is accordingly absent, simply because there is no feeling calling for display.

If I be right in my speculations on the cause of the frequent exhibition of profession without practice, it must follow that profession, in however oblique and secretive a way it may be made, is fraught with danger to the human character. And perhaps in such circumstances as those attending our present national position, there is more than the customary need for a warning against this perilous principle; for how much is there now in the state of large portions of the community to call forth expressions of sympathy from other classes, and how often do we see these expressions wasting themselves on the desert air, altogether unattended by practical benevolence of any kind! We can not doubt, if the theory be correct, that all such professions must be working an effect on those who make them, producing self-satisfaction, and taking away from, instead of aiding, all righteous actions. Whether for this exigency, or for common life in all its phases, let us keep strongly in view the danger of all profes-

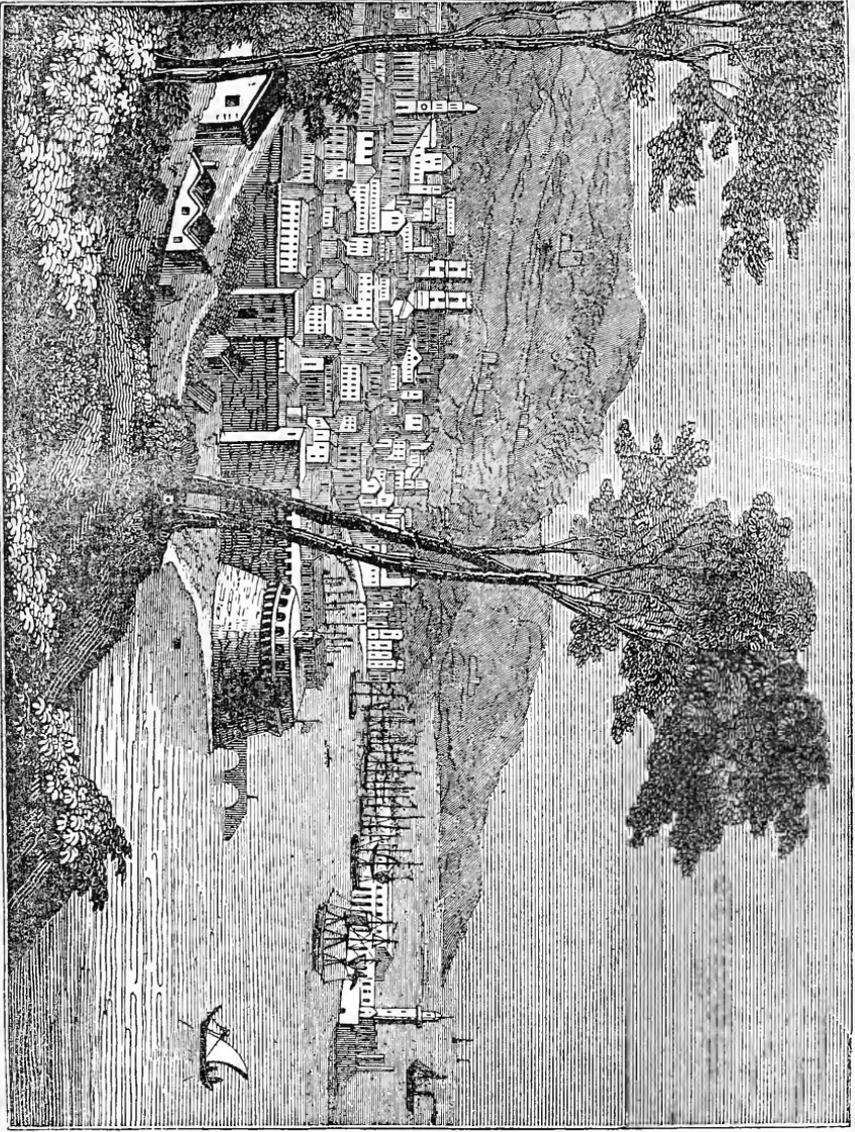
sion whatever which is not immediately attended with appropriate action. Better it would be for any one who hears of misery, private or public, to let it pass without remark, than to indulge a condolence over it, which, while altogether fruitless for the benefit of the suffering, tends to build up the speaker in a practical inattention to all distress. More agreeable would it be to find a young person entirely regardless of the outcries of the miserable, than to see him get into a habit of professing sympathy, without at the same time acquiring a habit of making exertions and undergoing self-denials for the sake of turning those cries into the murmurs of relieved humanity.

BARCELONA.

As the early navigators of the Archipelago crept along the coasts of the Mediterranean, making themselves acquainted first with the shores nearest to them, and soon afterward with those more distant, it is extremely probable that the suggestions of antiquarians, which assign to Barcelona a high degree of antiquity, are in the main correct. Barcelona, like Marseilles, was most probably a Greek colony. Its Latin name was *Barcinona*, and it is said to have been so called after Hannibal *Barcino*, a Carthaginian general. The Romans, Goths, Moors, and French, have successively been masters of the town. During the middle ages it was governed by its own sovereigns, who held the title of counts of Barcelona; but their possessions passed into the hands of the kings of Aragon, and finally were reunited to the Spanish monarchy. In 1706 Barcelona resisted the pretensions of Philip V. to the Spanish throne, and sustained a siege which, though unsuccessful, afforded decisive proofs of the heroism of the Catalonian character. Barcelona has experienced on many occasions the calamitous effects of war. It endured no less than five sieges in the course of sixty-two years, including the one to which we have alluded, which were attended with the usual effects on public interests and

individual prosperity. In 1715, after the siege of the preceding year, the population was reduced to 37,000 souls. In the course of half a century, the continuance of peace being favorable to industry, wealth accumulated, and the population had increased, in 1769, to 54,000; eighteen years afterward it had more than doubled, being 111,410. Thus, not only had the town been enabled to afford the means of livelihood to the inhabitants, who in consequence of the state of comfort in which they were generally placed, had rapidly increased in number, but the progress of enterprise was sufficiently active to create a demand for the services of the adjoining population. In 1807 the population amounted to 130,000. From 1808 to 1814 Barcelona was occupied by the French. The capitalists were in a state of alarm, industry was paralysed, and an extensive emigration took place. In 1820 the population was 140,000. In 1821 the yellow fever ravaged Barcelona in a most disastrous manner, and it is computed that one fifth of the inhabitants became its victims. But the infliction of a pestilence produces less effects on men's interests than the continual influence of those alarms which exist during a war, or when a country is torn by internal contests; and accordingly we find that, in 1830, nine years after the yellow fever had ravaged the town, the population had increased to 160,000 inhabitants. When Spain shall be more peaceful and industrious, and when the Levant becomes a more active scene of commerce, the intercourse of Barcelona with Turkey, with Greece, and Egypt, and the eastern shores of the Mediterranean generally, can not fail to increase. This result will be the consequence both of the geographical position of Barcelona, and of the character of the Catalonians.

Barcelona is the capital of the province of Catalonia. The form of this province is triangular. It has its base, 140 miles in length, on the Mediterranean; one of its sides, 120 miles in length, on the frontiers of France; and the other side, 140 miles in length, is formed by the province of Aragon, and at its southwestern extremity, by the province of Valencia. Barcelona is nearer than Marseilles to



Port and City of Barcelona.

Algiers and the coast of Africa, by 150 miles. The natural productions of Catalonia are corn, wine, oil, flax, hemp, Indian corn, and rice; and the cork-tree is a native of the province. Almonds, figs, olives, nuts, and various kinds of fruit, are abundant. There are mines of lead and of iron, and also marble mines. Near Barcelona a beautiful black marble, veined with white, is procured. The population of the province exceeds 1,000,000. Catalonia does not grow sufficient agricultural produce for its own consumption. It therefore imports from other provinces, and it sends to them in return calicoes, silk-handkerchiefs, ribands, tapes, cotton-stockings, silk-stockings, coarse cloth and serges, superfine cloths, woollen-stockings, lace, steel goods, firearms, printed cottons, paper, dressed hides, and shoes. The foreign trade of Barcelona is in brandy and wine, oil, nuts, cork-bark, wrought silk, wool, fruits. Its foreign imports consist of corn, sugar, salt-fish, spices, hides, cotton wool, and cotton goods, linen, hardware, earthenware, &c. In 1820 the number of vessels entered in the port of Barcelona was 3,838, of which 3,625 were Spanish traders, seven ships-of-war, and 206 foreign ships. The principal part of the Spanish vessels were coasters of small burden.

The Catalonians are proud, haughty, violent in their passions, rude in discourse and in action, turbulent, untractable, and passionately fond of independence; they are not particularly liberal, but active, industrious, and indefatigable; they are sailors, husbandmen, and builders, and run to all corners of the world to seek their fortunes. They are brave, intrepid, sometimes rash, obstinate in adhering to their schemes, and often successful in vanquishing, by their steady perseverance, obstacles which would appear insurmountable to others.

Much to the credit of the Barcelonese, we may state that, thirty years ago, they endeavored to render the fine arts auxiliary to the improvement of manufactures. A school of design was established and supported by the inhabitants, and every one who desired might obtain admission. The number of masters in every department was sufficient for an extensive es-

tablishment. We have the testimony of M. Laborde a few years after the school had been in existence, that it had in some measure attained the ends for which it was instituted. He says, in speaking of the designs for calico-prints: "The designs have been much improved lately, and more taste has been displayed in them."

Barcelona stands on a gentle eminence, between two rivers, and open to the sea on the east, northeast, and southeast. The river Bergos runs to the north and southeast of the town, and on the south the river Llobregat. The country is mountainous to the north and northeast. The climate is temperate, the winters mild, and the summers not too hot; but although the seasons, in their general character, are not irregular, yet in a single day great vicissitudes are frequently experienced at Barcelona. The east wind frequently blows, and the neighboring elevations often occasion rain. The town is defended by a citadel, situated at its northeastern extremity. The port is below the citadel, and between the town and Barcelonetta. It is chiefly artificial, being formed by piers, solid quays, and the ramparts of the town. The sand which the waves and tides bring into the port is removed at considerable trouble and expense. The town is divided into two unequal parts by a promenade, ornamented with rows of trees. The new town is the smallest, and contains the best houses. The streets are narrow, crooked, and badly paved in the old town. The best houses are of simple and rather pleasing appearance, from four to five stories high, and have large windows and balconies. Many of the houses are adorned externally with paintings in fresco. The public edifices are the cathedral, churches, convents, the palace in which the ancient cortes held their sittings—that in which the counts of Barcelona resided, the custom-house, exchange, theatre, &c. The cathedral was begun in the thirteenth century, but is not yet completely finished. There are about thirty fountains in Barcelona, in the various squares and public places. The town possesses several colleges, three public libraries, a school for the deaf and dumb, an academy of arts

and sciences, and one of belles lettres, and a botanic garden.

Barcelonetta is a suburb of Barcelona, and is inhabited chiefly by sailors.

The environs of Barcelona are highly beautiful. Though the Catalonians are distinguished for their habits of economy, yet their passion for a country residence is the one which they are least capable of opposing; and there is no city of Europe of an equal size which possesses so many country-houses in its neighborhood. It is not the richer class who alone enjoy the advantages and pleasures of the country; these residences, ornamented according to the taste and circumstances of each of their occupiers, form a most agreeable diversity in the prospects around the town, especially when the town itself and an extensive view of the sea are included, as they may be from certain places. In a fine day, the eye may wander with delight over this agreeably-varied landscape.

EXAGGERATION.

"If there be one mannerism that is universal among mankind," remarks an observant writer, "it is that of coloring too highly the things we describe. We can not be content with a simple relation of the truth—we must exaggerate, we must overdraw, we must have a little too much red in the brush."

This fault is, I am inclined to believe, peculiarly characteristic of modern manners. Formerly, truth and falsehood were separated by a broad and straight boundary-line, so plain and visible, that there was no excuse for mistaking it; the positive and negative of every statement were expressed in certain clear and definite words. If a man had to tell the truth, he told it bluntly, decisively, and without embellishment; if he desired to lie, he lied heartily, and without mincing. He did not, as contemporary liars do, trick out his falsehoods in the vestments of verity; he made no efforts to "lie like truth." His crime, like that of the old-fashioned highwayman, had an open daring in it: there was none of that specious refinement

which belongs to modern swindling and to the new school of fibbing.

If, on the contrary, we narrowly watch the words and actions of many of our companions, we shall find that the boundary-line has become so uneven, that it is difficult to distinguish when it encroaches on the domains of truth, or when it strays into those of falsehood—and so fine, that it is often imperceptible. The sober tints of fact are so blended with the gaudy colors of fiction, that it is frequently impossible to discover where the one ends and the other begins. This dazzling but false effect is produced by that deceitful prism, exaggeration, which it is the constant practice of modern talkers to place before our eyes when they would have us look at truth.

The main-spring of this habit is a desire to create dramatic effects in conversation. Simple narratives have lost their charms, from a proneness to introduce into every sort of description—whether of persons, things, feelings, or circumstances—a certain degree of effect. A plain, straightforward matter-of-fact, is thought, in modern conversation, unworthy of being described without an adventitious flourish or a "spicy" superlative. The application of some degree of art is deemed indispensable, as if people were expected, instead of conversing colloquially, to talk literature. The consequence of all this is, that the adjectives of our language are gradually losing their positive and comparative degrees, from the constant use and misapplication of superlatives. The sober expressiveness of "bad" and "good," is aggravated to "vile," "disgusting," or "exquisite." "Vast," "splendid," "magnificent," "superb," "awful," "frightful," "tremendous," are introduced in connexion with the most ordinary matters. If a young lady wet her feet by being caught in the rain, she is nearly certain to describe it at home as a "most tremendous shower." Her papa will scold his servant for leaving a door open, by complaining that the "tremendous" draught will in all probability "cut him in two." Grand-mamma is troubled with a "tremendous" cough, for which she is obliged to take "tremendously" powerful medicines. Thus, the petty evils of life are described by an

adjective which formerly belonged to a heavy fire of artillery or an earthquake. We seldom hear now of a good picture, though "splendid works of art" are common enough. Fine days give place to "splendid weather;" and it is not unusual for a guest to compliment his hostess by declaring that she "makes tea splendidly." Thus, when anything really splendid is to be described, the attempt is difficult; for the proper adjectives have been so used up in their wrong places by small critics and fawning gossips, that they are not understood in their right ones. A pine-apple ice, and a young lady's singing, are both said to be "delicious." Ben Nevis, and a rich man's wealth, are equally "immense." Pretty landscapes go by the name of "magnificent scenery;" and I have heard a buxom widow likened to Cleopatra, and called a "magnificent woman."

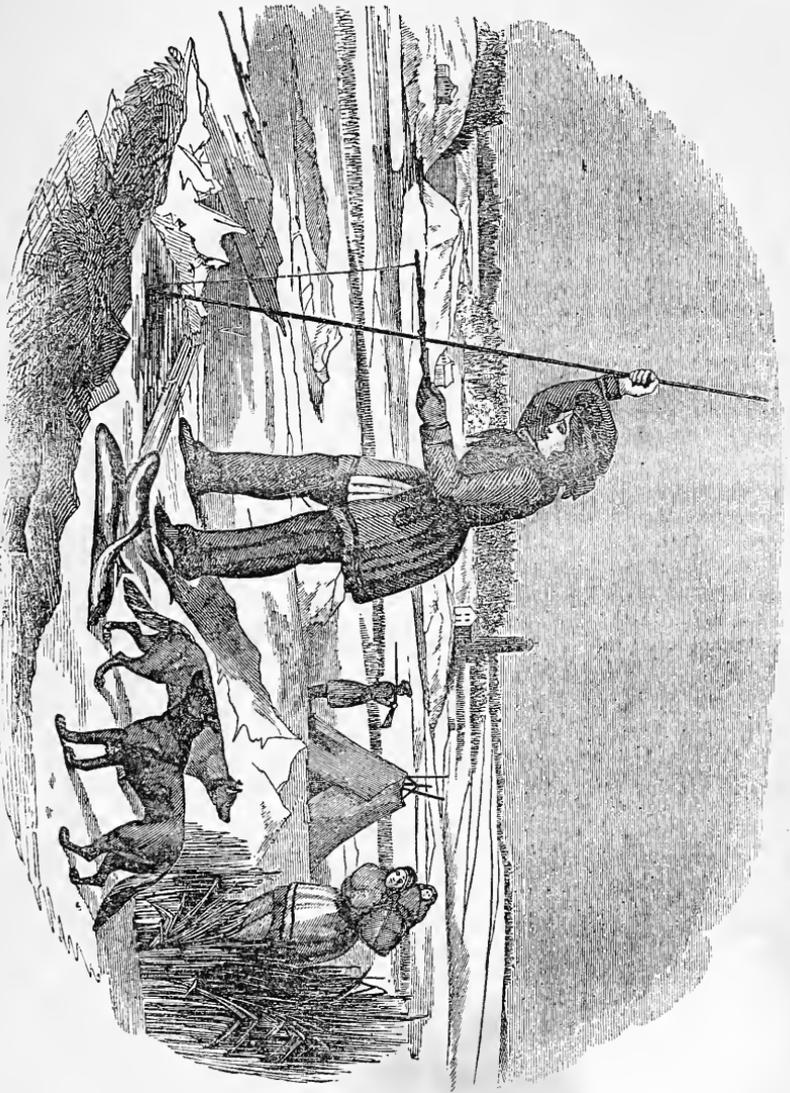
So completely imitative a being is man, and so easily does he fall into bad habits, that this fault has become almost universal; insomuch, that if one narrowly watches the conversation of nine out of ten even well-educated persons, they may be detected in exaggerating by the misuse of some of the adjectives we have named. There are, however, particular individuals, and by no means a small class of them, who carry exaggeration a great way beyond the mere use and abuse of words. They habitually exaggerate facts. If what they are continually saying be true, they live a life of extremes; it is their lot to enjoy all the delights, and be plagued with all the miseries of mortality, in their extremest excesses. My friend Mrs. Jackson, for example, never complains of being simply unwell; but when she has a pain, "the agony is excruciating," her headaches are "frightful." On the contrary, she seldom professes to be pleased; she is "delighted," "enchanted." So, when speaking of her acquaintance, her descriptions would lead you to infer that they are the most extraordinary beings upon earth. Miss Adams, by her account, is as beautiful as an angel, and Mr. Roberts writes better verses than Byron. One is blessed with an immense property, the other possesses all the cardinal virtues. Then, of her servants, she reports that

they are either wonderfully obedient and dexterous, or horribly stubborn and clumsy. In short, although Mrs. Jackson would not utter a wilful, deliberate falsehood, on any account, yet the habit of exaggeration makes her every third word something like a fib. The line which separates truth from fiction, and which always lies between two extremes, is nearly rubbed out in her mind. The reader doubtless knows many a Mrs. Jackson.

Such sacrifices of truth, be they ever so slight, are the first steps toward habitual falsehood, for which reason every inclination to exaggerate should be jealously checked. Exaggeration is a sure mark of vulgarity; for, among the higher classes, every tendency to strain after effect, either by overstating circumstances, or by an inconvenient display of private feeling, is habitually guarded against. As the well-bred man is recognised by the simplicity of his dress, so he is known by plainness and the direct signification of his words

FISHING IN NORTH AMERICA.

OUR engraving represents what is termed a British Indian—one of those located near British settlements. He is represented in the usual costume worn by these Indians, and engaged in fishing in the ice. During winter, when their supplies of dried flesh and fish are exhausted, they resort to this uncomfortable and cold mode of obtaining food. A hole is broken in the ice with a hatchet; a piece of wood carved into the shape of a fish, and colored, to resemble one, having tin fins and tail, and balanced by a piece of lead in the belly, is suspended in the water by a string of gut from a short stick which is held in the left hand. This deception attracts the fish to the spot, when they are struck by the spear held in the right hand, and brought up. When cold frosty winds prevail, the Indians frequently erect a temporary hut of poles and blankets over the hole which they have made in the ice, with an opening in the top to admit the light; this not only protects them in some



Chippeway Indians fishing in the Ice—Lake Huron.

measure from the effects of the cold, but also enables them to see the fish more easily, as the rays of the sun on the snow dazzle and injure the eyes. In the distance is a lighthouse on the shores of Lake Huron, and to the left are the rapids of the St. Clair, unfrozen, with Fort Gratia.

The lakes and rivers of North America yield an abundance of excellent fish, as well as aquatic wild-fowl. The only lake in the great chain of lakes which yields such fish as make migratory excursions to the sea, salmon, &c., is Lake Ontario—the falls of Niagara presenting an effectual barrier to their visiting the other lakes. But the fresh-water stock of fish in these lakes is sufficiently diversified; among the favorite sorts are white-fish, particularly those of the Detroit river, the gray or salmon-trout, black and rock bass (there are also white and striped bass), pickerel, pike, and fresh-water herrings. Some of the outlets of the lake abound with sturgeon, but in general the flesh of the American sturgeon is but little esteemed. A species of pike called the Muskanun-gée grows to a large size, and is considered by many an excellent fish.

The settlers who reside within a moderate distance of the lakes are in the habit of repairing to the bays and inlets, or wherever there is “fishing-ground,” as soon as the spring has fairly opened. Two or three families commonly unite their forces on a fishing excursion. Having prepared their barrels and nets, they proceed to the fishing-ground in a farm-wagon, where they generally contrive to arrive in the evening. Lighting a fire on the beach, for the waters of the lakes are still very cold in the “fishing-season,” they set to work, regaling themselves with whiskey or cider at intervals during the night. If when the morning arrives the casks are not filled, they commonly remain till satisfied with the quantity caught. The fish taken in this manner are divided among the party, and conveyed home. A portion is reserved, to be eaten as long as the fish remain tolerably fresh—the rest are salted for a supply of provisions at the season when salt pork and butcher's-meat become scarce in the “back settlements.”

CHYMISTRY.—SULPHUR.

SULPHUR, sometimes called brimstone, is a non-metallic body which has been known from remote antiquity; for, according to Pliny, the ancients used it as a medicine, and the fumes of it to bleach wool. It occurs pure, as well as in various states of combination with metals, forming sulphuret of iron, copper, lead, antimony, &c.; it combines with oxygen in various proportions, one of which is sulphuric acid, and this acid combines with lime, as sulphate of lime or gypsum; with barytes as sulphate of barytes: it is also in combination with various other earthy substances; it is found in combination with hydrogen, forming sulphuretted hydrogen gas. It enters the organic kingdom in albumen and hair.

The most considerable deposit of sulphur is that of Solfatara, near Naples; it is exhaled in large quantities from volcanoes, sometimes in combination with hydrogen, sometimes it condenses in the fissures of mountains, where it is exhaled in combination with hydrogen. The sulphuretted hydrogen is decomposed by the atmosphere, the oxygen of which combines with the hydrogen, forming water. The sulphur is precipitated and forms a deposit on the surface of the earth. Sulphur may be obtained in abundance by distilling bisulphuret of iron, or iron pyrites.

Sulphur may be easily crystallized by melting roll-sulphur in a stone-ware crucible. Having placed it to cool, as soon as the surface begins to harden, break it, and pour out the liquid sulphur from beneath; when quite cold, if the crucible be broken, beautiful needle-shaped crystals will appear. The most liquid state of sulphur is at about 270° or 280° ; at a higher temperature it becomes thicker, and at about 480° it will scarcely flow from an inverted vessel; after this to its boiling point, which is, according to Thompson, 750° , it becomes thinner. At the temperature of 420° , if poured into water, it becomes soft like wax, and readily receives and retains an impression; hence it is useful in making casts.

If a piece of roll-sulphur be held in the hand, it will break, from the sudden

warmth, with a cracking noise ; in the centre of the roll it is frequently found crystallized.

The flowers of sulphur are obtained by receiving the vapors of heated sulphur in a closed vessel, the temperature of which is below the point of fusion of this substance. It condenses in the vessel in the same manner as the vapor of water condenses in the atmosphere to form snow.

Sulphur, from its ready inflammability, has been long used for wood-matches ; and, although so readily inflamed, it may, under particular circumstances, be used to extinguish combustion. Sulphur dropped into a burning chimney will extinguish the flame ; this arises from its negative influence, or its property to exhaust of oxygen a confined portion of atmosphere. It is of considerable importance in making gunpowder and other combustibles.

Sulphur combines with oxygen in four proportions, but in none of these directly, with the exception of that of sulphurous acid.

Hyposulphurous acid (from *ὑπο* under, meaning an acid containing less sulphur than sulphurous acid) ($S_2 O_2$), or two atoms of sulphur and two of oxygen ; sulphurous acid ($S_2 O_3$) one atom of sulphur and two of oxygen ; hyposulphuric acid ($S_2 O_5$) two atoms of sulphur and five of oxygen ; sulphuric acid, or oil of vitriol ($S_2 O_6$), one atom of sulphur and three of oxygen.

Hyposulphurous and hyposulphuric acid are not isolable, that is, they can not exist unless in combination with some substance as a base ; and not being of common occurrence, their description will be deferred. There is no oxyde of sulphur, as all its combinations with oxygen possess acid properties.

The uses of sulphuric acid are numerous. It is used to prepare chlorine from chloride of sodium (common salt), and also in the formation of many sulphate salts, particularly sulphate of soda, from which, by decomposition, nearly all the carbonate of soda of commerce is prepared. It is also used in bleaching.

Dr. Priestley discovered sulphurous acid as a gas, in which state it commonly is. It is of very pungent odor, as may easily be ascertained by burning roll-sulphur. With the barometer at 45° , it is liquid

under the pressure of two atmospheres ; at 0° , it is liquid under the pressure of one atmosphere. It possesses considerable bleaching properties, and hence the vapors of burning sulphur or sulphurous acid are used to whiten straw, and to bleach silk, to which they impart a considerable gloss. If a piece of litmus paper be exposed to it, the paper will first become red, then it will be bleached, but commonly the colors are not destroyed, as they may be restored by the application of a stronger acid, as sulphuric or an alkali. If sulphurous acid gas be respired, it causes violent spasms and irritation of the glottis, and even when diluted to a large extent with common air, it causes much uneasiness in the chest. It extinguishes burning bodies, and if a small animal be introduced death ensues.

To many substances sulphuric acid will yield one part of its oxygen, and upon this principle depends an easy method of making sulphurous acid.

Into a Florence flask put half an ounce of copper, mercury, or charcoal, and upon this pour *four* liquid ounces of sulphuric acid ; upon the application of heat effervescence takes place from the escape of sulphurous acid, the substance acted upon being oxydized with one of the oxygens of the sulphuric acid ; the gas escaping may be caught at the mercurial trough ; water, which will dissolve about 17 times its volume, may be impregnated by passing the gas into it. Sometimes sulphuric acid gas passed over, or the liquid in the flask containing the acting materials, is thrown out, to prepare the watery solution of sulphurous acid gas free from an admixture of sulphuric acid ; and to prevent a failure in the experiment, an intermediate bottle is used. The first bottle contains a small portion of water, to condense any sulphuric acid gas that may pass over ; the second bottle is nearly filled with the liquid to be impregnated with sulphurous acid gas.

If to a little of the solution chloride of barium be added, a white precipitate will fall : this precipitate is soluble in hydrochloric acid.

To another part add acetate of lead : a white precipitate will fall ; this is soluble in nitric acid.

To another part add protonitrate of mercury : a gray precipitate of reduced mercury will fall.

To another part add sulphuric acid : sulphurous acid is disengaged.

Sulphurous acid may be converted into sulphuric acid by the addition of strong nitric acid, which gives to the sulphurous acid one of its oxygens ; being thus converted to sulphuric acid, the quantity of it in solution is easily ascertained by throwing it down with chloride of barium, which is a special test for sulphuric acid, an insoluble precipitate of sulphate of barytes falls, which is insoluble in acids, and is thus distinguished from the precipitate of sulphurous acid by chloride of barium.

If sulphuric acid and oxygen gases be mixed in a dry state, and let stand over mercury, they do not combine ; if a little water be added, sulphuric acid is formed.

One of the most important of all reagents is sulphuretted hydrogen, which, for chymical purposes, is frequently kept in solution in water.

It is conveniently prepared from sulphuret of iron by the action of diluted sulphuric or muriatic acid, which extricates the sulphuretted hydrogen gas. Its smell is exceedingly offensive, resembling that of putrefying eggs. If ignited, it will burn silently or with explosion, according as it has been mixed with atmospheric air or oxygen gas. It tarnishes silver, and other polished metals, and instantly blackens white paint ; it is from the exhalations of this gas in small quantities from burning coals, that the white paint of a room becomes discolored. If the water containing it be exposed to the atmosphere, the hydrogen will be evolved and sulphur precipitated ; and if sulphurous acid gas be mixed with sulphuretted hydrogen gas, the oxygen of the former will unite with the hydrogen of the latter and form water : the sulphur will be separated.

Sulphuretted hydrogen throws down most of the metallic salts from their solutions, either as a black or a dark brown precipitate.

If it be added to a solution of peroxide of iron, a milk-white precipitate of sulphur falls, and a protoxide of iron is left in solution.

Sulphuretted hydrogen is easily passed into liquid ammonia, the resulting compound is called hydro-sulphuret of ammonia. This is a valuable reagent to the chymist ; as a medicine it is used in diabetes (*dia* and *basia*, to pass through), and diseases of increased excitement.

Mr. Faraday has reduced this gas to the state of a liquid. His method was to put muriatic acid and sulphuret of iron into a bent tube, and he so contrived it that they did not come into contact till the tube was hermetically sealed. While the action of acid upon the sulphuret of iron was going on, the tube was surrounded by a freezing mixture of snow and salt. The united action of the pressure and the cold condensed into a liquid the sulphuretted hydrogen which was evolved : considerable pressure is required to keep it in a fluid state.

Guy-Lussac proposed for this gas the name hydro-sulphuric acid, which is generally adopted ; but if a chymical name should be descriptive of the elements of the substance, the name sulphuretted hydrogen is preferable.

HOWARD.

Two eminent men have pronounced eulogiums on John Howard. We quote them for the purpose of contrasting the styles of the writers, the first of whom is generally considered by the public as harsh and pedantic ; and of showing the unity of impression made by the character of Howard upon two such powerful though widely-differing minds ; and after such a concurrence of testimony need only narrate the leading facts of his life.

Speaking of the want of leading principles, order, and connexion, in Howard's publications, Jeremy Bentham says : " My venerable friend was much better employed than in arranging words and sentences. Instead of doing what so many could do if they would, what he did for the service of mankind was what scarce any man could have done, and no man would do but himself. In the scale of moral desert the labors of the legislator and the writer are as far below his as



Portrait of John Howard.

earth is below heaven. His was the truly Christian choice; the lot in which is to be found the least of that which selfish nature covets, and the most of what it shrinks from. His kingdom was of a better world: he died a martyr, after living an apostle."

Burke's eulogium is much better known: "He has visited all Europe—not to survey the sumptuousness of palaces, or the stateliness of temples; not to make accurate measurements of the remains of ancient grandeur, nor to form a scale of the curiosity of modern art; not to collect medals, or collate manuscripts—but to dive into the depths of dungeons, to plunge into the infection of hospitals; to survey the mansions of sorrow and pain; to take the gauge and dimensions of misery, depression, and contempt; to remember the forgotten, and to attend to the neglected, to visit the forsaken, and to compare and collate the distresses of all men of all countries. His plan is original, and it is as full of genius as it is of humanity. It was a voyage of discovery; a circumnavigation of charity. Already the benefit of his labor is felt more or less in every country; I hope he will anticipate his final reward by seeing all its effects fully realized in his own. He will receive, not by retail, but in gross, the reward of those who visit the prisoner; and he has so forestalled and monopolized this branch of charity, that there will be, I trust, little room to merit by such acts of benevolence hereafter."

It is both amusing and annoying to remark how simple facts respecting a well-known individual may be stated in the most contradictory manner. In anecdotes of the life of Howard, which are set forth as "written by a gentleman whose acquaintance with that celebrated philanthropist gave him the most favorable opportunity of learning particulars not generally known," and published in 1790, shortly after his death, he is absurdly described as having been "born in the county of Bedford, and was descended from a distant branch of the Norfolk family." Dr. Aikin, in his "Life of Howard," says, "He was born, according to the best information I am able to obtain, about the year 1727. His father was an upholsterer

in Long Lane, Smithfield, who, having acquired a handsome fortune, retired from business, and had a house first at Enfield, and afterward at Hackney. It was, I believe, at the former of these places that Mr. Howard was born." The "Encyclopædia Britannica" says that "he was the son of a reputable tradesman at St. Paul's Churchyard, and was born at Hackney in the year 1726." It is of less importance to us to know the precise date and place of his birth, than to know when he existed and what he did for his fellow-men.

Mr. Howard's grave and almost austere disposition was not likely to manifest itself in youth in any of those displays which lead us to infer the man from the boy. His father died when he was young, leaving his fortune between him and a daughter, his only children. But in his will he ordered that his son should not receive his share of the fortune till he was twenty-five years of age. "It was probably in consequence of the father's direction that he was bound apprentice to a wholesale grocer in the city." His education was very defective. Dr. Aikin, who was intimately acquainted with Howard, says, "I feel myself obliged, from my own knowledge, to assert that he was never able to speak or write his native language with grammatical correctness, and that his acquaintance with other languages (the French, perhaps, excepted), was slight and superficial. In estimating the powers of his mind, it rather adds to the account that he had this additional difficulty to combat in his pursuit of the great objects of his later years."

On coming of age he bought up his indentures (having still some time to serve as an apprentice), and went to the continent, travelling in France and Italy. After his return to London, being in delicate health, he took lodgings in the suburban village of Stoke Newington. His landlady, a widow lady, treated him with great kindness and attention; he offered her marriage, as a substantial testimony of his gratitude. She was twice his age, and being a sensible, prudent woman, was so far aware of the inconsistency, as to point out the impropriety of a young man like him, in comfortable circumstances, offering marriage to a woman of her age.

Howard, during all his life, never paid much attention to mere appearances. He persisted in his offer, lived happily with her for three years at Stoke Newington, and after her death ever spoke of her with respect and affection.

He was created a Fellow of the Royal Society on May 13, 1756. "This honor," says Dr. Aikin, "was not, I presume, conferred upon him in consequence of any extraordinary proficiency in science which he had manifested, but rather in conformity to the laudible practice of that society of attaching gentlemen of fortune and leisure to the interests of knowledge, by incorporating them into their body. Mr. Howard was not unmindful of the obligation he lay under to contribute something to the common stock of information. Three short papers of his are published in the 'Transactions.'"

After the death of his wife, he set out on another tour, intending first to view the ruins of Lisbon, the disastrous effects of the earthquake. On his voyage occurred the event which first directed his mind to the great objects of his life. He tells it himself, in a note to his work on "Prisons." Speaking of the French, he says: "How they treated prisoners-of-war, I know by experience. In 1756, a Lisbon packet (the Hanover), in which I went passenger, in order to make the tour of Portugal, was taken by a French privateer. Before we reached Brest I suffered the extremity of thirst, not having for above forty hours one drop of water, nor hardly one morsel of food. In the castle at Brest I lay six nights upon straw; and observing how cruelly my countrymen were used there, and at Morlaix, whither I was carried next, during the two months I was at Carhaix upon parole I corresponded with the English prisoners at Brest, Morlaix, and Dinnan; at the last of those towns were several of our ship's crew, and my servant. I had sufficient evidence of their being treated with such barbarity that many hundreds had perished; and that thirty-six were buried in a hole at Dinnan in one day. When I came to England, still on parole, I made known to the commissioners of sick and wounded seamen the sundry particulars, which gained their attention and thanks. Re-

monstrance was made to the French court; our sailors had redress, and those that were in the three prisons mentioned above were brought home in the first cartel-ships. A lady from Ireland, who had married in France, had bequeathed in trust to the magistrates of St. Malo's sundry charities; one of which was a *penny* a day to every English prisoner of war in Dinnan. This was duly paid, and saved the lives of many brave and useful men. Perhaps what I suffered on this occasion increased my sympathy with the unhappy people whose case is the subject of this book."

In 1758 Mr. Howard married a second time. This match was much more suitable to his age and station than the first. The lady was the daughter of an eminent lawyer, Mr. Serjeant Leeds. After his marriage he purchased Watcombe, in the New Forest, Hampshire. His way of life here was that of a quiet country gentleman, reserved to his equals, but kind and benevolent to his inferiors and the poor. From Watcombe he went to an estate at Cardington, near Bedford, where he pursued much the same kind of life. He established schools, aided charities, and employed himself generally in doing good. But possibly his name might never have been known beyond the sphere of his immediate influence, had he not been made sheriff of Bedford. Before this event he lost his second wife, who died in 1765, shortly after the birth of her only child. This child, a boy, was in after-life a cause of great anxiety and grief. Acting on principle, he brought him up in strict subordination. When the youth grew up to manhood he became insane; and his insanity, which had been gradually manifesting itself, was attributed by many persons to Mr. Howard's cold and harsh treatment. "I have authority to say," observes Dr. Aikin, "that Mr. Howard was at length sensible that he had in some measure mistaken the mode of forming his son to that character he wished him to acquire; though with respect to his mental derangement, I know that he imputed no blame to himself on that head." It caused him, however, much parental sorrow.

"The distress of prisoners," says Mr. Howard in his work on the state of the

prisons of England and Wales, "of which there are few who have not some imperfect idea, came more immediately under my notice when I was sheriff of the county of Bedford in 1773; and the circumstance which excited me to activity in their behalf, was the seeing some who by the verdict of the juries were declared not guilty; some on whom the grand jury did not find such an appearance of guilt as subjected them to trial; and some whose prosecutors did not appear against them— after having been confined for months, dragged back to jail, and locked up again till they should pay sundry fees to the jailer, the clerk of the assize, &c.

"In order to redress this hardship, I applied to the justices of the county for a salary to, the jailer in lieu of his fees. The bench were properly affected with the grievance, and willing to grant the relief desired; but they wanted a precedent for charging the county with the expense. I therefore rode into several neighboring counties in search of one; but I soon learned that the same injustice was practised in them; and looking into the prisons I beheld scenes of calamity which I daily grew more and more anxious to alleviate. In order, therefore, to gain a more perfect knowledge of the particulars and extent of it by various and accurate observation, I visited most of the county jails in England.

"Seeing in two or three of them some poor creatures whose aspect was singularly deplorable, and asking the cause of it, the answer was, 'They are lately brought from the *bridewells*.' This started a fresh subject of inquiry. I resolved to inspect the bridewells, and for this purpose travelled again into the counties where I had been, and indeed into all the rest, examining houses of correction, city and town jails. I beheld in many of them, as well as in the county jails, a complication of distress; but my attention was principally fixed by the *jail-fever* and the *small-pox*, which I saw prevailing to the destruction of multitudes, not only of felons in their dungeons, but of debtors also.

"Upon this subject I was examined in the house of commons in March, 1774, when I had the honor of their thanks. Soon after that, Mr. Popham, member for

Taunton, repeated the humane attempt which had miscarried a few years before, and brought in a bill for the relief of prisoners who should be acquitted, respecting their fees, and another bill for preserving the health of prisoners and preventing the jail distemper. They both passed: these two acts I had printed in a different character, and sent them to the keeper of every county jail in England."

The book contains an account of the state of the prisons and hospitals both of Great Britain, and of France, Switzerland, Germany, Holland, and Flanders. An appendix to the work was afterward published, which was afterward incorporated in a new edition of "The State of the Prisons."

On the passing of the act in 1779 for establishing penitentiary houses, Mr. Howard, Dr. Fothergill, and Mr. Whately, the treasurer of the Foundling hospital, were appointed supervisors for the purpose of superintending the erection of the buildings.

From 1781 to 1789, Mr. Howard was almost continually travelling, during which he was exposed to danger, and once was ill of the plague. In the latter year appeared a quarto volume, "An account of the principal lazarettos in Europe; with various papers relative to the plague: together with further observations on some foreign prisons and hospitals; and additional remarks on the present state of those in Great Britain and Ireland." The titlepage has a motto, "Oh, let the sorrowful sighing of the prisoners come before Thee." The volume has a number of plates, views of lazarettos at Marseilles, Genoa, Leghorn, Naples, Venice, the Greek hospital at Smyrna, &c.

"I take the liberty of suggesting," he says in this book, "that if I should be spared to finish another foreign journey which I have in view, I propose then to publish an appendix to this work, which I here mention, as some gentlemen may choose to bind them up together." He set off on this journey in the summer of 1789, but was not "spared to finish" it. After passing through Prussia, Courland, and Livonia, to St. Petersburg, he went to Moscow, and thence to Cherson on the Black sea. Here he was treated with re-

spect and attention, for his reputation had become European. Being earnestly desired to visit a young lady who was ill of an infectious fever, he complied, caught the infection, and died on the 20th of January, 1790. He was buried, at his own request, at the villa of M. Dauphiné, a French gentleman, about eight miles from Cherson. Dr. Aikin expresses a doubt as to the death of Mr. Howard having been caused by having received infection; but it was Mr. Howard's own conviction.

THE TROGONS.

THE trogons constitute a family of birds, the members of which are peculiar to the southern regions of America, and of India, and its adjacent islands, Ceylon, Java, Sumatra, &c., one species only having as yet been discovered in Africa. Among the most conspicuous of the feathered tribes for beauty and brilliancy of plumage, the trogons stand confessedly pre-eminent. The metallic golden green of some species is of dazzling effulgence; in others less gorgeous: the delicate pencillings of the plumage; the contrasted hues of deep scarlet, black, green, and brown, produce a rich and beautiful effect. Nor are their shape and contour unworthy of their dress; were they far less elegantly arrayed they would still be pleasing birds.

It is difficult to convey the idea of a bird, or indeed of any natural object, by description solely; the annexed cut, however, will render the details connected with the family features of the present group easily intelligible.

The trogons are *zygodactyle*, that is, they have their toes in pairs, two before and two behind, like parrots and woodpeckers; the *tarsi* are short and feeble, the beak is stout, and the gape wide; the general contour of the body is full and round, and the head large; the plumage is dense, soft, and deep; the wings are short but pointed, the quill-feathers being rigid; the tail is long, ample, and graduated, its outer feathers decreasing in length;

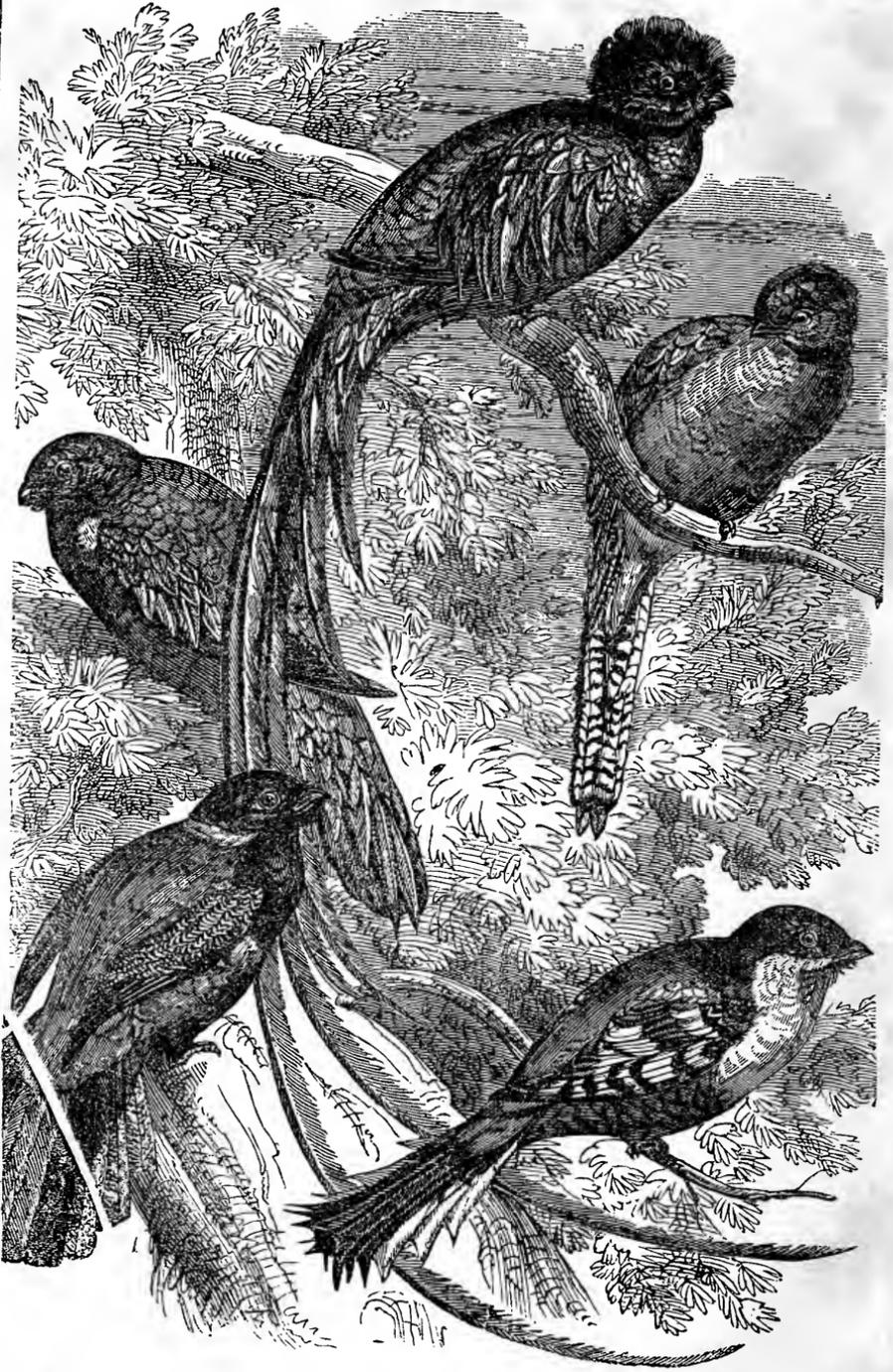
in some species, and especially in that brilliant bird the resplendent trogon (*trogon resplendens*, Gould), the tail-coverts are greatly elongated, so as to form a beautiful pendent plumage of loose wavy feathers.

Of solitary habits, the trogons (or *corouci*) frequent the most secluded portions of dense forests, remote from the abodes of man. For hours together they sit motionless on some branch, uttering occasionally a plaintive melancholy cry, especially while the female is brooding on her eggs. Indifferent during the day to every object, listless or slumbering on their perch, they take no notice of the presence of an intruder, and may indeed be often so closely approached as to be knocked down by a stick; the bright glare of the sun obscures their sight, and they wait for evening, the dusk of twilight being their season of activity.

Fruits, insects, and their larvæ, constitute their food. Formed, most of them at least, for rapid but not protracted flight, they watch from their perch the insects flitting by, and dart after them with surprising velocity, returning after their short chase to the same point of observation. Some, however, are almost exclusively frugiverous, we allude more especially to those whose flowing plumes impede the freedom of their flight; such seek for fruits and berries.

Like the parrots and woodpeckers, the trogons breed in the hollows of decayed trees, the eggs being deposited on a bed of wood-dust, the work of insects; they are three or four in number, and white. The young, when first hatched, are totally destitute of feathers, which do not begin to make their appearance for two or three days; and their head and beak appear to be disproportionately large. They are said to rear two broods in the year.

Azara, speaking of the Surucua trogon, a native of Paraguay and the Brazils, informs us that it is seen only in the largest woods, and that it "generally remains on the upper portions of the trees, without descending to the lower branches or to the earth; it sits a long time motionless, watching for insects which may pass within its reach, and which it seizes with adroitness; it is not gregarious, but dwells



Trogon.

either in solitude or in pairs; its flight, which is rapid and performed in vertical undulations, is not prolonged."

The American trogons have their beak of moderate size, with serrated (or saw-like) edges, and furnished at its base with bristles; the upper surface (of the males at least) is of a rich metallic green, the under parts being more or less universally scarlet or rich yellow. The outer tail-feathers in the majority of the species are more or less barred with black and white.

In the Indian trogons the beak is larger and stouter, with smooth edges, having a tooth near the tip of the upper mandible. The eyes are encircled by a large bare space of richly-colored skin; the upper surface is brown, the lower more or less scarlet, and the outer tail-feathers exhibit no tendency toward a barred style of marking, excepting in one species, Diard's trogon, in which the three outer tail-feathers are finely powdered with black.

The African species (*trogon narina*, Levaill.) closely approximates to its American relatives; but its three outer tail-feathers are unbarred. This species inhabits the dense forests of Caffraria; during the day it sits motionless on a low dead branch, and it is only in the morning and evening that it displays activity. Locusts and other insects are its principal food.

Of all the trogons none are so magnificent as *trogon splendens*, lately introduced to the knowledge of the scientific world as a distinct species, by Mr. Gould, and admirably figured in his splendid "Monograph" of the family *trogonidæ*. This bird is to be found only in the dense and gloomy forests of the southern states of Mexico. Little known to Europeans, except within the last few years, the brilliant plumes which fall over the tail (and which, as is the whole of the upper surface of the body of this bird, are of the richest metallic golden green) were made use of by the ancient Mexicans, as ornaments on their head-dresses; and gorgeous must a head-dress be, composed of such feathers—soft, flowing, of dazzling lustre, and three feet in length. In later times they have occasionally been transmitted as curiosities to Europe.

INTEMPERANCE.

INTEMPERANCE, as it operates upon individuals, consists in the degree or extent of a certain act, and not in the act itself. All persons allow that intemperance is a destructive and loathsome vice, and we are expressly told in the Scriptures that no drunkard can enter the kingdom of God; yet at the same time it is maintained by religious persons of every denomination, and to them we trust it is so, that drinking a small quantity of intoxicating liquid is perfectly right. We will suppose, then, that drinking a hundred thousand drops of this liquid is a sin of the deadliest character, since it excludes from the blessedness of heaven, and that drinking ten thousand drops is not only right in itself, but an act which may with propriety be associated with many of our observances of religious duty. I repeat, then, there must be between these two extremes a portion, a measure, nay, even a drop, at which propriety ceases, and impropriety begins; and however delicate may be the shades of difference toward this blending point, it is of the utmost importance to religious professors, and indeed to all who love their fellow-men, that they should be able to say exactly where the line is, and to show it to others, before they venture to set an example to the world by venturing upon a course which, if pursued too far, must inevitably end in ruin and death, and which can only be entered upon with perfect safety by ascertaining what has never yet been discovered, exactly where the point of danger is.

What, for instance, should we think of the wisdom of that man, who should go blindfold up an elevated plain, knowing that from its summit, a slippery and uncertain point, whose locality he had no means of determining, his course would tend downward with accelerated speed, and that thousands and tens of thousands had perished by arriving at this point sooner than they had anticipated. What should we think if his object in choosing to venture on this path was not any actual necessity, but a mere momentary gratification, to feel the coolness of the turf beneath his feet, or the scent of sweet flow-

ers by the way? We should scarcely point out such a man as an example of the influence of common sense upon his conduct, much less should we wish to follow in his steps; for though the point of danger might be distant to him, it might, from its irregular and uneven nature, be very near to us.

Yet we see every day, and sometimes oftener than the day, well-educated, enlightened, benevolent, and even religious persons, sit down to the cheering glass of social entertainment, and while they take that, and perhaps another, and it may be a third, they talk of subjects refined, sublime, and take sweet counsel together, and feel themselves spiritually as well as corporeally refreshed. They retire from the table to look out upon the moving world around. They behold the poor outcast from society, the victim of intemperance, and their delicacy is wounded by the sight, and they shrink with horror from his degradation and his shame. Yet that man's crisis of danger occurred perhaps only a very little earlier than theirs. He began the same course in precisely the same way. He had no more intention, and no more fear, of passing the summit of the hill, than they now have; but owing to his bodily conformation of which he was not aware until he made the experiment, he over-stepped the line of safety before he was aware, and perished on the side of misery and guilt.

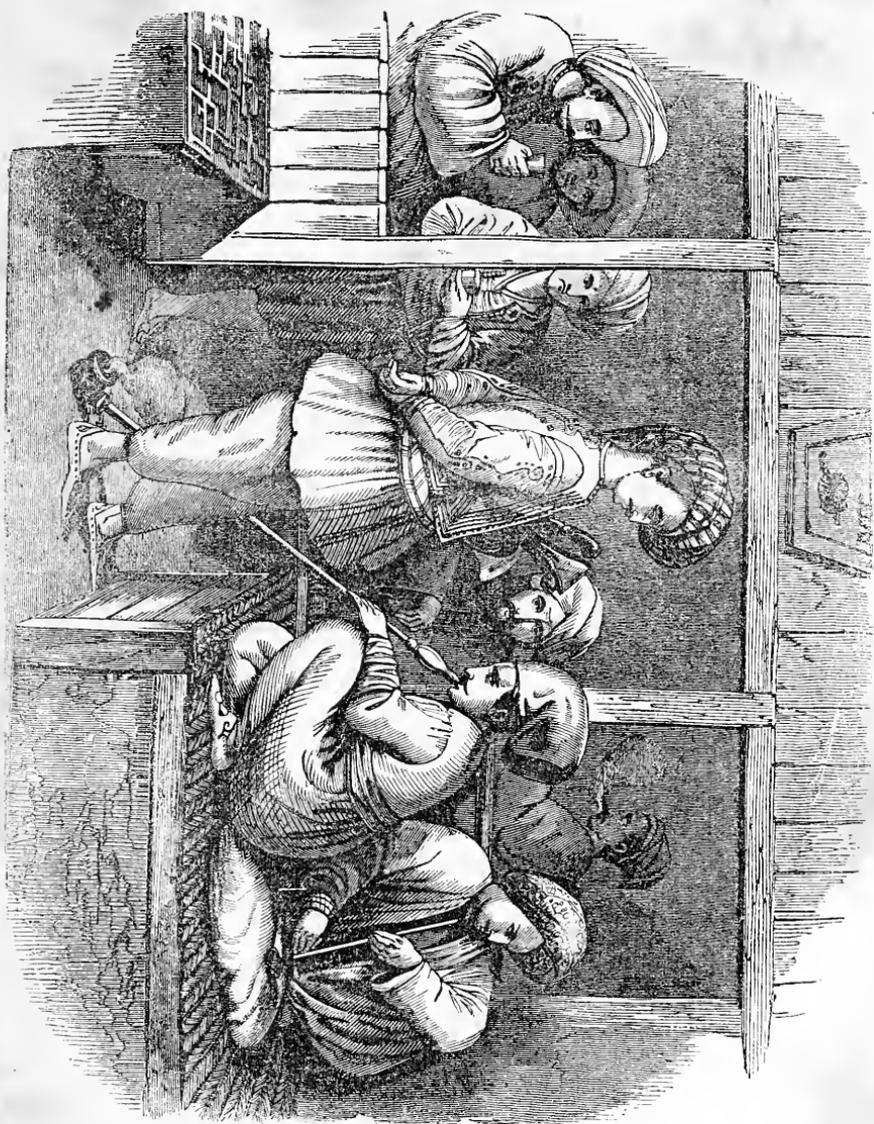
TURKISH COFFEE-HOUSES.

THE use of coffee was introduced into Syria about the middle of the sixteenth century, or perhaps some years earlier than at Constantinople. The Turks probably received the custom of smoking through water from Persia; that of smoking in the ordinary way they certainly had from Europe; and it is a curious circumstance in the history of human luxury, that a practice so disagreeable at first, and accompanied with so little positive sensual pleasure, should afterward have spread

with such rapidity among a people not much disposed to adopt foreign customs.

The coffee-houses (of Aleppo) naturally attract the notice of a stranger, more than any of the objects he meets with in rambling over the city. They are found in all quarters of the town, and some of them are spacious and handsome. They are gaudily painted, and furnished with matted platforms and benches; those of the better sort have a fountain in the middle, with a gallery for musicians. A row of large windows discovers to a passenger all that is going on within; and the company, being supplied with small, low, wicker stools, often choose, in the summer, to sit before the door in the open air. These coffee-houses are not frequented by persons of the first rank, but occasionally by all others, so that they are seldom empty, and at certain hours are full of company. To a spectator not used to the eastern garb and manners, such a motley assembly, variously grouped and placed in picturesque attitudes, compose a no less amusing than interesting scene.

The recitation of eastern fables and tales partakes somewhat of a dramatic performance. It is not merely a simple narrative; the story is animated by the manner and action of the speaker. A variety of other story-books, besides the Arabian Nights' Entertainments, furnish materials for the story-teller, who, by combining the incidents of different tales, and varying the catastrophe of such as he has related before, gives them an air of novelty even to persons who at first imagine they are listening to tales with which they are acquainted. He recites walking to and fro in the middle of the coffee-room, stopping only now and then, when the expression requires some emphatical attitude. He is commonly heard with great attention, and not unfrequently, in the midst of some interesting adventure, when the expectation of the audience is raised to the highest pitch, he breaks off abruptly and makes his escape from the room, leaving both his heroine and his audience in the utmost embarrassment. Those who happen to be near the door endeavor to detain him, insisting on the story being finished before he departs, but he always makes his retreat good; and



Interior of a Café at Constantinople..

the auditors, suspending their curiosity, are induced to return at the same hour next day to hear the sequel. He no sooner has made his exit than the company, in separate parties, fall to disputing about the characters of the drama, or the event of the unfinished adventure. The controversy by degrees becomes serious, and opposite opinions are maintained with no less warmth than if the fate of the city depended on the decision.

The coffee-houses of Constantinople, though still very numerous and much frequented, are no longer the important places they were. Toward the evening, the coffee-houses, which are excessively numerous, though chiefly of mean appearance and dimensions, are much thronged by Turks, Armenians, Greeks, and Jews, all smoking and indulging in tiny cups of coffee, which is generally drank by the poorer classes, not only without milk but without sugar.

"I was much surprised," says Mr. McFarlane, "to see the great scarcity of coffee-houses, which abound in Smyrna and in all the Turkish towns I had visited, and was struck with a disproportionate frequency of barbers' shops. It was explained when, on expressing a wish to rest awhile, my experienced Davide led me into one of those open chambers, which, in appearance, was solely devoted to shaving, but which concealed, behind a wooden screen that looked like the end of the room, a spacious recess hung round with *chibooks* (common pipes), *narghilés* (water-pipes), and tiny coffee-cups. The small charcoal fire for the preparation of the fragrant berry burned in the usual corner, and there were the usual benches and stools. In short, it was a *bonâ fide* coffee-house, screened by a barber's shop, and a group of Osmanlis shuffled in immediately after us, not to be shaved, but to smoke their pipes and drink their cups of coffee.

On the suppression of the janissaries, the sultan issued an order for the general suppression of the innumerable coffee-houses, the headquarters of those turbulent reprobates, and the usual resort of the idle, the vicious, and the disaffected of the capital.

THE TOMB OF WASHINGTON.

IN the broad space between the river and the house, and at the brow of the hill, are several buildings, pleasant summer-houses, and an observatory; and just below these, are the remains of the tomb in which were placed the bodies of General Washington and his wife at their death. Pursuing his directions in the will, his executors erected another tomb, at a considerable distance from the first, on nearly the same level, but further south, or lower, with reference to the river. Thither, then, our party repaired. On approaching the place, the eye is struck with a white marble monument, surrounded by an iron railing. The column denotes the resting-place of a grandniece of General Washington, who was born in Virginia, and died at the residence of her husband, on the banks of the Mississippi. She died young, in the midst of life and loveliness, before sorrow could reach her, before the errors or misfortunes of children could wrinkle the fair brow, or evil days come, or the years draw nigh in which she should say, "I have no pleasure in them." The tomb of Washington is a large brick structure, projecting from the side of a hill, with ornamented front, and two iron railing doors, one six or eight inches within the other. Through these the visitors look in upon what may be called the vestibule of the grave, a distance of about twelve feet from the railing door, to a close iron door that leads to the inner chamber of the tomb. In this vestibule, which is, of course, entirely light, the ground or floor is covered with small white pebbles, and upon these rest two marble sarcophagi. The one on the right of the tomb, as we look in, is an elegant piece of sculpture, bearing simply the name of WASHINGTON, and presented as an offering to the memory of the great man. It contains his sacred remains. The sarcophagus on the left, is that of MARTHA WASHINGTON, the wife of our country's father.

We paused as we reached the grate, and stood uncovered and in silence for a time to allow the feelings which the place had called up a salutary action; to realise that we were at the loved home of Wash-

ington, that we stood amid scenes in which he had been the quiet but ruling actor ; that all around us had been marked by his taste, had been almost sanctified by his ownership ; that we stood there, for the first time, gazing on

“ The place where he stood,
The spot where he lay.”

It was a quiet resting-place ; grandeur was marked upon the scene. The lofty oaks and native poplars, and the bold declivity, told of the last home of the great : and the simple legend above the unadorned tomb, and the spot seemed to suit the *goodness* that made the glory of the characters of those who had been laid in this sacred retreat. In a corner of a marble entablature, over the inner door, a swallow had made her nest. She that builds her eyry in inaccessible eminences, or claims immunity beneath the eaves of sacred edifices, had set up her nest, and treasured her young, in the sanctified tomb, which the human foot approaches in noiseless respect, and where the human voice is hushed into half audible sounds. The tomb of Washington, in its deepest recesses, had nothing to offend the keen sense and delicate perception of that purity-loving bird, which approves by its mansioning, that the breath of heaven smells woefully in all that sacred retreat.

Something of disappointment will come over the imaginative, who place themselves at the tomb of Washington, and await high promptings to *description*, or inspiration for pages of lofty thought. You may stand amid the ruins of Tadmor, and think upon the long vista, to the time when the wisdom of Solomon illustrated the government of Israel, and his liberality meted out the space on which were raised the gigantic columns that now form part of the desert's dust : and there will come a sense of some mighty presence, that shall awaken thought, brighten fancy, and inspire description. The imperishable pyramids send back the mind to distant times, and awaken inquiries as to their origin. Poets now derive new impulses for song, new motive and incitement to build the lofty rhyme, from the decaying statues of Greece, and the half-obliterated inscriptions which they drag

from the sand-drifts of time, in the perishing glories of the farther east. In the presence of the effigies of the warrior, or the monuments of the poet, there comes a distinct sense of the most glorious achievements of the former, and the highest efforts of the latter, which seems to invest the contemplative with a spirit not of imitation, but of conception, clear, distinct and definable ; and few thus stand without a wish to give utterance to their feelings ; to feelings so tumultuous, as to demand utterance, and to supply terms.

But it is not thus at the grave of Washington. There is no single achievement to be remembered with distinctness, and, consequently, to create a special and separate sensation. There is no one virtue that demands admiration, and thus inspires to description. Washington was not a man that ever gathered distinction by any fortuitous result, or acquired fame by any action consequent upon a sudden exhibition of courage, or unusual impulse of patriotism.

Leaning against the gratings of the tomb of Washington, there is experienced a sensation of awe which subdues, not inspires ; which creates a melancholy train of thought, that ascends without awakening fancy ; that seems to lift the spirit into a contemplation of that which, as it would be irreverent in attempting its description, inspires no feeling or desire to describe. Starting a moment from the profound reverery into which we had been thrown, we cast our eyes upon our companions in the pilgrimage. They had not essayed to read the inscription above the gratings, nor that over the inmost door. It could not be seen that they were satisfying curiosity by any inspection, but they appeared to be all looking steadily upon the blank wall, and closed iron door, in front of them, as if gazing through those impediments upon the mouldering deposites which they hid. It was evident, however, that they, too, were yielding to the influences of the time and place, and allowing their spirits to be touched by the invisible yet pervading spirit, that holds communion with hearts rightly touched in such a scene ; which soothes, elevates, chastens, and then dismisses, with a burthen of endeared sensations that enjoins to silence,

to deep and solemn musings, which allows no imparting of the incommunicable sense, but permits the heart, at times, to call up to its own enjoyments, all the hidden treasures of that hour, whenever it can, by special sanctification of its motives, welcomely invoke to the solemn inspiration, the spirits that people that consecrated place.

We turned from the tomb, satisfied with the visit, though much remained unexplored. There was now no curiosity to be gratified, and each moved downward toward the shore in that fixed solemnity of silence that expressed a fear lest some new object, or some inopportune remark, should disturb the quiet, rich flow of feeling to which all were submitted. An opening among the trees, just as we were making a sudden descent, showed to us again the tomb. Each paused, and looked in silence for a moment, and then left the place, some of us for ever, yet all feeling how many thousands such might die and be swept away like the leaves of autumn, or the untimely blossoms of spring, and society neither mourn nor feel a loss; while the *world*, the whole civilized, and half the savage world, inquires for WASHINGTON, as for one who lived a life of lofty example, of minute excellence, whose character, viewed at a distance, presented all the grand proportions of patriotic perfection, or inspected closely, exhibits that entire excellence of every part, which is necessary to the completion of a perfect whole.

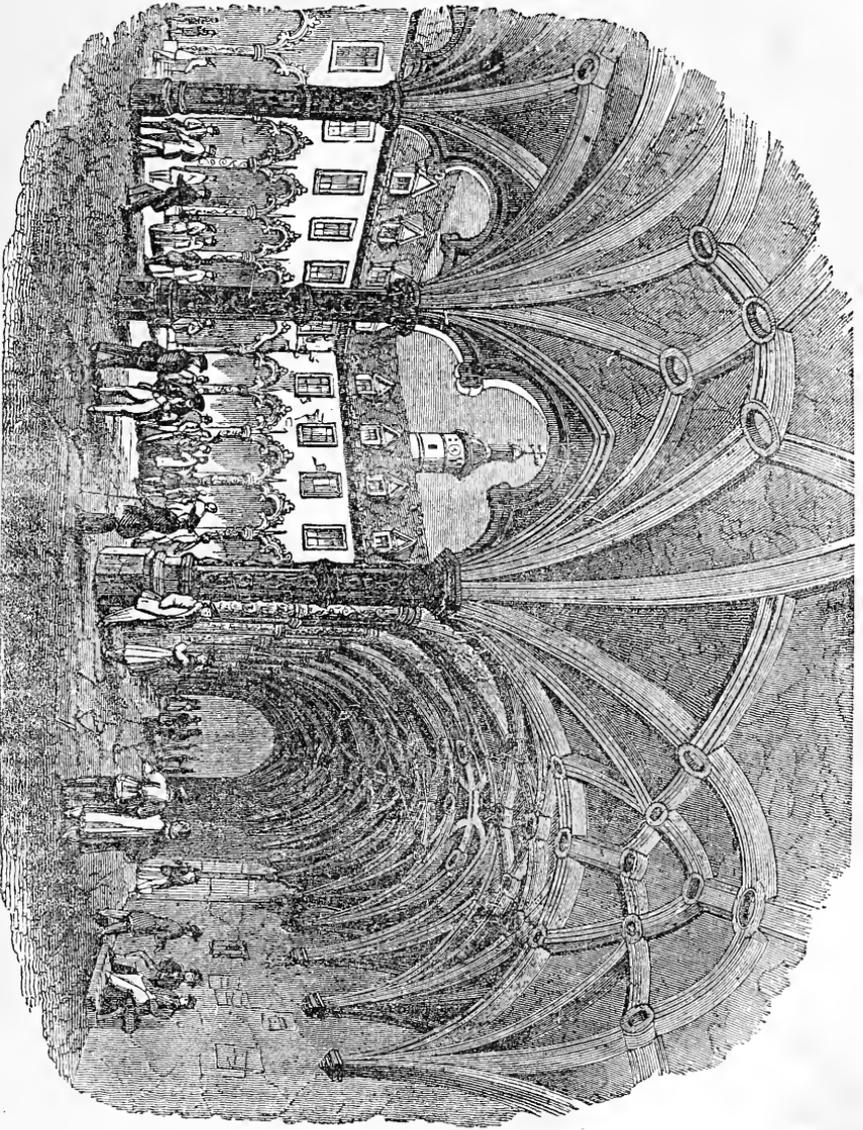
COMMERCE.

ONE of the most fruitful sources of interest to which an historian, at once accurate in details and philosophical in his general views, could direct his attention, would be the vicissitudes of commerce, and the causes which have successively rendered first one place and then another the chief marts of the trade and industry of nations. Such a subject, instead of being far removed from the common direction of human sympathies, is closely allied with them. To trace the early

dawning of national industry among any people, to estimate the benefits which it more or less diffuses, the sordid habits of existence out of which it raises them, and the comforts and wealth which are supplied in its advancing course—and then to picture an ensuing period of decline, of the decay of individual fortunes, and of the fall and final extinction of national greatness, until the places which once resounded with the voices of busy and active men are visited only in long-after ages by the curious traveller who explores their scattered ruins in search of relics of their former splendor; these successive changes of human interests suggest to the imagination considerations which are strongly affecting. But there is this consolation in reflecting upon the apparent fickleness of commerce, that it has generally been the folly and blindness of men which have driven her from place to place, though they choose to fix the blame upon some inherent cause from which it would be useless to expect stability. Those fluctuations which are to be attributed to natural causes—to some newly-discovered path to the richest producing countries—though they may have occasioned local effects of a trying nature, have always been the means of developing and extending more widely the advantages of commercial intercourse. As men become more enlightened in their general views we may expect fewer instances of commercial vicissitude; and the principal causes which have most powerfully contributed in past times to bring about changes in the direction of trade must at all events exercise a smaller degree of influence than they have hitherto done.

In the fourteenth and part of the fifteenth centuries the Netherlands was the principal seat of European commerce. Bruges had long been the emporium of trade and the great depot for the productions of the north and south of Europe. The spectacle of industry and its attendant wealth and splendor which presented itself to the traders who frequented Bruges from every quarter of Europe, furnished a useful lesson on the advantages which the arts of useful life were capable of conferring, and might have the effect of diverting neighboring sovereigns, who wasted their

The Exchange, Antwerp.



resources in war, to more gainful and peaceful courses. Sluys was the seaport of Bruges, from which, by a fine canal about nine miles in length, vessels were enabled to unload in the heart of the city. In 1482, in consequence of some dispute between the bourgeois of Bruges and the archduke Maximilian, the port of Sluys was blocked up and the sources of the wealth of Bruges were seriously injured. The great trade of which it had been the centre was transferred to Antwerp, which had long been only inferior to itself in commercial importance, and which possessed greater natural advantages. It was 45 miles from the mouth of a fine tide-river which also commanded a considerable extent of back country, and was convenient to navigators arriving either from the north or south of Europe. Before the commerce of Venice had become of importance, Antwerp had traded in the productions of the East with the ports of the Baltic and Russia, where they had been brought overland by the Black sea. After the Crusades, these productions found their way to the west through the Mediterranean, and this circumstance gave the commerce of Venice its temporary supremacy. When the passage to India by the cape of Good Hope was discovered, Venetian commerce necessarily declined. But under all these vicissitudes the trade of Antwerp continued to flourish. The wisdom of its commercial regulations attracted traders of every country, who, during the great fairs which lasted several weeks, sold their goods free from customs' duty. The Portuguese, who commanded the market for the productions of India, found Antwerp the best place for the disposal of their rich cargoes, and it became the grand central depot for the natural and manufactured commodities of the East, at which the merchants of Germany and northern Europe, and those of France and England, were accustomed to make their wholesale purchases, and to bring in exchange the produce and manufactures of their respective countries, which were bought by the Portuguese, Spaniards, Italians, and merchants of the south of Europe. The trade of England with Spain was all carried on through this medium, all Spanish exports being sent in

the first instance to the Flemish mart. The English were the largest purchasers of mercery, haberdashery, and groceries, of any nation. The competition of buyers and sellers had the most beneficial influence upon the interests of industry by breaking down the spirit of monopoly. Cheapness was the consequence of free competition, and flourishing manufactories of velvet, satin, and damask, were established at Antwerp. Besides the influx of foreigners, the commerce with the interior was of great extent. The merchandise of Hainault, France, Burgundy, Cologne, and Cambray, was brought in carts over land. It is said that 2,500 vessels have laid before Antwerp at the same time. Various other statements are given for the purpose of showing the extent of its commerce, one of which is, that more business was transacted at Antwerp during one month, than at Venice within a period of two years, during the most active period of her commercial greatness. The population of Antwerp was about 200,000 in the sixteenth century.

The Exchange, a view of which is annexed, was built in the year 1531. The dealings of persons of different nations on so extensive a scale rendered such a place of resort necessary; and the interchange of goods naturally led to bills of exchange, which were negotiated with the greatest advantage to all parties, at Antwerp. Of so much value was capital when employed in so good a market, that complaints are made by some of our old writers, of the Venetian and other merchants buying wool, cloth, and tin, on credit in England, and then selling the goods in Flanders under prime cost; the interest which they received on putting out their money at usury before it became due, affording an ample rate of profit on both transactions. The Antwerp Exchange was the first structure of the kind in Europe, and formed the model of the exchanges of London and Amsterdam. It rests on pillars of blue marble, all of them carved, but each in a different style.

The commerce of Antwerp continued in a state of high prosperity until nearly the middle of the sixteenth century, when it received a blow which subsequent events did not permit it to recover. Charles V.

having declared war against Francis I., the Low Countries were laid under heavy and oppressive contributions, which led to frequent revolts; and many persons left the country who were among the most industrious of its citizens. Afterward the great contest took place against the power of Spain, in the course of which Antwerp was pillaged (in 1567), and the northern provinces of the Netherlands threw off the tyrannical yoke of that country; but the southern provinces could not accomplish this object. Under a despotism like that of Philip, commerce could not prosper, and the merchants of Antwerp carried their persevering and industrious spirit to a freer and more congenial spot. Those who remained became beggars, and the country endured the most oppressive treatment from its masters for a series of years. In 1585, Antwerp was attacked and pillaged by the duke of Parma's troops, after having stood a siege. Commanding the mouth of the Scheldt, they blocked up its harbors, and now commerce being completely destroyed, Amsterdam began to rise on the ruins of the trade of Antwerp. By the treaty of Westphalia in 1648, it was stipulated by Spain and Holland that the navigation of the Scheldt should be closed, and under this deadly restriction the port of Antwerp continued until the occupation of the country by the French in 1794. It was Bonaparte's intention to have revived its commercial importance, and immense sums were expended in the construction of docks and other works; but after all, under French rule Antwerp became a military rather than a commercial depot. The population of the city, after the evacuation by the French, did not exceed 52,000 in 1816, but it now amounts with the suburbs, to above 73 000.

ON THE PRODUCTION OF SOUND UNDER WATER.

EXPERIMENTS of a remarkable kind, have at different times been made on the power of water to transmit sound, and on the comparison between it and the air as

a medium for sound. Under ordinary circumstances, we know but very little of the conveyance of sound under water; our sound-producing instruments and our auditory apparatus being equally exposed to the open air. It would perhaps excite surprise in many to be told that sound can not only be conveyed under water, but that it travels faster in that medium than in air; yet such is the case.

The "Philosophical Transactions" contain many accounts of experiments made with a view to determine the action of water in this respect. Mr. Anderson, about ninety years ago, tried in the first case how far persons under water could hear sounds produced in the air: and in the next place, whether persons above water could hear sounds produced *in* the water. He caused three people to dive at once into water, and remain for a few seconds about two feet below the surface; he then spoke to them as loud as he was able, and on their coming up they said they had heard him, but that his voice sounded very low. He then caused them to dive to a depth of twelve feet below the surface, and fired a gun immediately above the water; on coming up, they said they had heard it, but that the sound was exceedingly faint. The converse of many of these experiments was next tried. A diver contrived to "halloo" under water, and produced a sound which was heard faintly above.

The abbé Nollet descended to various depths beneath the water for the purpose of determining whether he could hear the sound of a bell rung above water; the sound was faint, but always audible to him. Franklin, on one occasion, plunged his head below water, and caused a person to strike two stones together beneath the surface; at more than half a mile distance he heard the blows distinctly.

In the year 1826, this subject was experimentally tested in a remarkable manner on the lake of Geneva, by M. Colladon. One point which he wished to determine was, the duration and quality of sound in water. He found that the sound of a bell struck under water, and heard at some distance, had no resemblance to that of a bell struck in the open air. Instead of a prolonged sound, there is heard under

water a short and sharp noise, which M. Colladon says he can compare to nothing better than to that of two knife-blades struck against each other; and on retiring from the bell, the sound always preserves this character, diminishing only in intensity.

M. Colladon provided a curious kind of apparatus for making these investigations. It consisted of a thin tin cylinder about eight or nine feet long, and eight inches in diameter, closed at one end and open at the other. This was plunged into the water, leaving the open end above the surface: and the ear, applied to this end, could hear any sonorous effects which might be the object of examination. With such a contrivance, applying his ear to the open end of the tube, while the closed end was immersed in the water of the lake of Geneva, he could hear the sound of a bell struck under water, when the bell was so far distant as two thousand, six thousand, and in one instance, fourteen thousand metres (about nine miles). This latter distance was across the whole breadth of the lake, from Rolle to Thonon. The spot was particularly well calculated for such an experiment, the water being very deep, without a trace of any current, and of the most transparent purity. The signals were made by the inflammation of gunpowder, which being performed by the same blow of the hammer by which the bell was struck, all loss of time was effectually avoided. The lapse of time, in those experiments whose object was to determine the velocity of sound in water, was reckoned by a quarter-second stop-watch, and was computed from the appearance of the flash to the arrival of the sound.

M. Colladon found that the power of hearing sounds produced in the water, when the head of the listener was out of the water, and no tube employed, depended greatly on whether he was nearly over the spot where the bell was placed. At a distance of two hundred metres he heard the bell very distinctly, while at four or five hundred metres distance he could not hear the slightest sound, even when the ear was almost close to the water. When, on the contrary, the head was immersed for a few seconds beneath the water, or

the hearing-tube was employed, the sound could be heard distinctly at from ten to twenty times this distance. The employment of the tube had a remarkable effect in bringing the sound to the ear of the experimenter. M. Colladon remarks:—"The agitation produced by the waves does not alter the duration nor the velocity of sound, when a tube is used for hearing. The last of the three experiments mentioned above (that is, two thousand, six thousand, and fourteen thousand metres) was made in stormy weather. The wind, which at first was weak, increased to such a degree, that several anchors were necessary to hold the vessel. Notwithstanding the noise of the waves, I could still distinguish pretty well the sound of each stroke, and the duration of its transmission was not altered."

To ascertain the effect of screens or obstacles on the intensity of the sound, M. Colladon chose two stations, at no great distance apart, and so situated that the straight line which joined them grazed the extremity of a thick wall which rose above the level of the water. He then caused a bell to be struck regularly, in the water, with strokes of equal intensity; and on listening to the sound with the tube alternately on either side of the line which grazed the extremity of the wall, he found that there was a marked difference in intensity, according as this extremity was or was not interposed between the bell and the tube—the screen sensibly diminishing the intensity of the sound.

Several years afterward, viz., in 1837, Professor Bonnycastle, of this country, performed some experiments, at the instance of the U. S. government, in furtherance of the inquiry into the transmission of sound in water. The government placed at his disposal the brig "Washington," in which he prosecuted his inquiries. He provided a small *petard* (a species of small cannon), about five inches long by two and a half in diameter, with adjustments suitable for discharging it under water. As a sound-receiver, he provided a tube of tinned iron, eight feet long by an inch and a quarter in diameter, terminated at one extremity by a trumpet-shaped mouth twenty inches in diameter. He also had a cylindrical tube, similar to

that employed by Colladon, closed at one end, and capable of being immersed to half its length in the water. He provided likewise a very delicate chronometer or time-measurer, capable of measuring fractional parts of a second of time. The ship's bell was removed from its place, and adjusted so as to be rung under water.

With these instruments Mr. Bonnycastle sought to determine how far distant a sound could be heard, when produced under water, and listened to with the aid of either of the two tubes. He found that the trumpet-shaped tube, being open at both ends, admitted water into its interior, which effectually interfered with the success of the experiments. With the cylindrical tube, he heard the sound of the bell at a distance of a quarter of a mile, but at the distance of a mile the sound was wholly inaudible, thus presenting a marked contrast to the results obtained by M. Colladon; a contrast due, probably to the existence of a current in the one case, but not in the other. He then modified the trumpet-shaped instrument, so that the mouth should be at right angles with the stem, and thus directed toward the bell; and he also covered the mouth with thin metallic plate. These alterations being made, he found that the trumpet-tube conveyed the sound much more distinctly than the cylindrical, the difference being more and more marked as the distance was increased. The results, however, were not on the whole so satisfactory as those of M. Colladon.

Mr. Bonnycastle then entered upon the experiments which were the main objects of his attention, and for which the government had thought fitting to assist him. These were, to determine whether the *depth of the sea* could be found by the echo of a sound from its sandy bottom. It is known that in the open air the interval which elapses between the production of a sound and the return of its echo depends exactly on the distance of the echoing surface, and these quantities have been determined with very great exactness: thus, if a sound is echoed from a wall, and returns to the sound-producing instrument exactly one second after it was produced, then the wall is known to be about five hundred and sixty-five feet distant.

It was an analogous mode of calculation which Mr. Bonnycastle sought to obtain in the sea. The ship was moored at a considerable distance from the land; the hearing-tube was placed vertically in the water; the petard was lowered; and the observers prepared themselves to listen for the echo. When the petard was fired, two distinct blows were heard, at an interval of about one third of a second apart; the two shocks were also heard at the ship, and at the same interval apart. If the one was the echo of the other, then the echoing surface must have been about one hundred and sixty fathoms distant; whereas, on sounding, the bottom was found at five hundred and fifty fathoms. On the following day the experiment was repeated very close to the shore, when the interval of one third of a second was still perceived between the shocks; this showed that the second could not have been an echo of the first from the bottom of the sea; and Mr. Bonnycastle considers that he has failed in his object, at least so far as present modes of experiment are concerned.

Still more recently, M. Colladon has stated that he has renewed his experiments, with a view to follow out the attempts made by Mr. Bonnycastle. In a letter to M. Arago, a year or two ago, he gives several new results which he had obtained by his apparatus, which led him strongly to think that a useful mode of maintaining correspondence by submarine transmission of sound may one day come into use. On one occasion, M. Colladon had placed at his disposal a bell belonging to one of the churches at Geneva, weighing five hundred kilogrammes (eleven hundred pounds). This bell was suspended to an apparatus placed on a vessel, by means of which it was easy to sink the bell in the water and draw it up again. It was sunk to the depth of three metres (about ten feet), in a place where the water was about fifteen metres deep; and to strike the bell he used a hammer weighing ten kilogrammes, fixed to a long iron handle, the upper part of which was above the water and was bent at right angles. With this apparatus he made many experiments, and found that he could hear the sound of the bell under water dis-

tinctly at a distance of thirty-five thousand metres (considerably above twenty miles). M. Colladon states that the noise of a chain moving under water is so distinctly perceptible, that it may be known when a vessel, three thousand or four thousand metres distant, raises her anchor; and he hints that this may be found advantageous in time of war.

Should the transmission of sound under water be hereafter applied to a useful purpose, it will be owing mainly to the circumstance that the intensity of sound dies away less rapidly in water than on land. The possibility of applying this method to the determination of the depth of the sea, seems to be a problem yet to be solved; for the experiments hitherto made have not afforded satisfactory results.

THE CUCKOO.

IN no season of the year need the observer of nature be at a loss for objects toward which his attention may be directed with pleasure and advantage. But spring is the busiest of all the seasons, and in the garden, the field, and the wood, a new creation has commenced on the ruins of the former year. It is pleasant to watch the indications of quickened life as the season advances, from the cold snowdrop which lifts its pale head ere the snow disappears, to the time when brighter and more blooming flowers succeed its delicate form. But it is not until the swallow has made its appearance, and the cuckoo has been heard, that we can persuade ourselves spring has really come.

The general habits and economy of the cuckoo are not so well known as could be wished, attention having been confined chiefly to its parasitic habits. The wings of the cuckoo are long, and the feet remarkably short. Its flight is rapid, and it is not easy to get a sight of this bird. The effect of peculiarities of conformation on its manners and life is not easily to be ascertained, owing to its shyness. Mr. Swainson says: "The English cuckoo no doubt searches for its food among foliage, but its nature is so shy that we

have never been fortunate enough to witness its mode of feeding." Montague states that it feeds principally on caterpillars. Mr. Swainson is of opinion that the form of the nostrils will be found to be connected with the parasitic habits of the cuckoo. This singular characteristic has rendered the bird an object of much curiosity, and has puzzled naturalists from the time of Aristotle to the present day.

The frigate-pelican and several of the eagle tribe plunder other birds of their food, but the cuckoo places its offspring entirely under the protection of foster-parents, leaving it to them to provide its food and to nourish it until it can shift for itself. Though this is not a pleasing trait in the character of the cuckoo, the young bird is far from being ill-provided for in the place which it has usurped; but, turning out the nestlings from the home which really belongs to them, they soon perish, while the intruder claims the services of the defrauded and bereaved parent-birds, and thrives rapidly under their unceasing exertions to supply it with food. The cuckoo always deposits its egg in the nest of a bird which feeds upon insects. The nests of the hedge-sparrow, the reed-sparrow, the titlark, the wagtail, the yellow-hammer, and others, have been selected; and instances are mentioned of the nests of the linnet and white-throat having been the places of deposite; but the greatest preference is shown to that of the hedge-sparrow. It seems doubtful whether or not the cuckoo ever builds a nest of its own, but the general belief is that it does not; and whether the cuckoo deposits the egg from her body while actually sitting upon the nest is equally a matter of doubt.

"I examined," says Dr. Jenner, "the nest of a hedge-sparrow, which then contained a cuckoo's and three hedge-sparrow's eggs. On inspecting it the day following, I found the bird had hatched, but that the nest now contained only a young cuckoo and one hedge-sparrow. The nest was placed so near the extremity of a hedge that I could distinctly see what was going forward in it; and to my astonishment, I now saw the young cuckoo, though so newly hatched, in the act of turning out the young hedge-sparrow.



Cuckoo in Hedge-Sparrow's Nest.

The mode of accomplishing this was very curious. The little animal, with the assistance of its rump and wings, contrived to get the bird on its back, and making a lodgment for the burthen by elevating its elbows, clambered backward with it up the side of the nest till it reached the top, where, resting for a moment, it threw off its load with a jerk, and quite disengaged it from the nest. It remained in this situation a short time, feeling about with the extremities of its wings, as if to be convinced whether the business was properly executed, and then dropped into the nest again. With these, the extremities of its wings, I have often seen it examine, as it were, an egg and nestling before it began its operations; and the nice sensibility which these birds appeared to possess seemed sufficiently to compensate the want of sight, which as yet it was destitute of. I afterward put in an egg, and this by a similar process was conveyed to the edge of the nest and thrown out. . . . It is wonderful to see the extraordinary exertions of the young cuckoo when it is two or three days old, if a bird be put into the nest with it that is too weighty for it to lift out. In this state it seems ever restless and uneasy. But this disposition for turning out its companions begins to decline from the time it is two or three, till it is about twelve days old, when, as far as I have hitherto seen, it ceases."

The causes which impel the cuckoo to deposite its eggs in the nest of another bird, and the instinctive feeling to eject its companions which is experienced by the intruder the moment it is hatched, are curious subjects for investigation. Dr. Jenner attributes the peculiar habit of the cuckoo to the short residence which it makes in the countries where it is destined to propagate its species. "The cuckoo's first appearance here is about the middle of April, commonly on the 17th. Its egg is not ready for incubation till some weeks after its arrival, seldom before the middle of May. A fortnight is taken up by the sitting-bird in hatching the egg. The young bird generally continues in the nest three weeks before it flies, and the foster-parents feed it more than five weeks after this period; so that if a cuckoo should be

ready with an egg much sooner than the time pointed out, not a single nestling, even one of the earliest, would be fit to provide for itself before its parents would be instinctively directed to seek a new residence, and thus be compelled to abandon its young one, for old cuckoos take their final leave of this country the first week in July." Dr. Jenner observes that "the same instinctive impulse which directs the cuckoo to deposite her eggs in the nests of other birds, directs her young one to throw out the eggs and young of the owner of the nest. The scheme of nature would be incomplete without it; for it would be extremely difficult, if not impossible, for the little birds destined to find succor for the cuckoo to find it also for their own young ones after a certain period, nor would there be room for the whole to inhabit the nest." The same intelligent observer says: "I have frequently seen the young cuckoo of such a size that the hedge-sparrow has perched on its back or half-expanded wing in order to gain sufficient elevation to put the food into its mouth." There is a peculiarity in the back of the young cuckoo when first hatched, which seems to be intended to aid it in dislodging the other inmates of the nest. The scapulæ downward are broad, and in the middle there is a hollow in which the egg or nestling is placed when the young cuckoo is about to eject it. This depression is filled up when the bird is about twelve days old, by which time the disposition has ceased which promoted it to make itself the possessor of the nest.

CIRCASSIA AND THE CIRCASSIANS.

THE Circassian nation is composed of various tribes, whose boundaries it is impossible to define accurately, as they are not at all regarded by the natives, by whom they are frequently altered. Though contests and even wars for fertile and well-cultivated districts are of common occurrence, no attempts are ever made to dispute mountainous or unproductive lands with their inhabitants. The tribes them-



Military Costume of the Circassians.

selves can hardly be classed into distinct people, as they are undergoing a perpetual change from the admission of new settlers and prisoners-of-war, while the native inhabitants, from various causes, seek new abodes in other districts.

The district inhabited by the Circassians consists of mountain-regions and an elevated plateau. The former, which includes the whole southern part, comprises the principal chain and the offsets of the Caucasus. The whole northern division, which is enclosed on the east by a bend of the Kuban, is composed of plains and the last declivities of the Caucasus.

The principal branches of the Caucasus cover the greater part of the surface. A very large portion too is occupied by thick forests of the palm, cypress, plantain, maple, fir, alder, poplar, and other trees, which clothe the declivities and mountain-valleys, and the plains and banks of the rivers. These forests, from the size and durability of the trees, and their contiguity to the harbors of the Black sea, constitute the chief riches of the country, and would yield immense profit under the management of a civilized people.

The district between the mountains consists, for the most part, of strata of sand and clay, interspersed with strips of stony ground quite unfit for cultivation. The northern and eastern parts of the country abound in fruitful fields, which are composed of pure mould, occasionally mixed with sand and clay, and watered by numerous streams and rivers. Here nature amply rewards the toil of the laborer; but unhappily the greater portion of these fields lie uncultivated, or serve as pastures for the numerous herds of cattle kept by the natives.

The principal Caucasian chain, which forms the southwestern boundary, and many of its northern offsets, contain rich veins of metal. But the natives, notwithstanding their desire to possess such metals as are necessary for the manufacture of their arms, are unable, from their ignorance of science, to work any mines except such as require but little trouble. In this way they obtain silver, lead, copper, and iron; the latter is found in a pure state in the form of coarse grains at the foot of the Nogokossog mountain, near

the sources of the Schagdascha. Some mountain-streams contain salt, but in very small quantities; saltpetre is obtained from a plant which resembles the *Chenopodium rubrum*; and near the source of the Schiache a variegated marble is found.

The prevailing religion is the Sunnite Mohammedan; some few are Shiites, and a still smaller number are worshippers of the sun, but we meet with frequent traces of the previous existence of Christianity and heathenism; the former especially stands out in strongly-defined traits, notwithstanding the gloomy fanaticism of the Mohammedan creed, and popular ignorance and prejudice. It is singular that the Circassians, upon a close examination, observe many Christian festivals in honor of the Redeemer and the Virgin Mary. They have spring fasts nearly of the same duration as ours, on the termination of which they commemorate the day of the appearance of God, when the women are permitted to pray with the men. On this occasion all the people assemble: they make mutual presents of variegated eggs, and shoot at a mark, which is always a colored egg; the person who hits it receives from the owner a similar egg. Customs like these prove that the Circassians retain a recollection of Lent and Easter; they call Wednesday and Friday the great and little fasts, and Sunday God's day, when all work is laid aside. Their veneration for the symbol of the cross is also remarkable; whatever the farmer leaves exposed in the field is inviolably sacred if he erects a cross above it; and notwithstanding the predaceous habits of the people, no one ventures to touch property placed under this protection. Among families who have not wholly embraced Islamism, it is usual to fix a small board against the wall, holding a piece of wax and a napkin. On festivals they make the wax into a taper, to which they set light, and, taking off their caps, kneel down before it. These remarks apply more especially to the tribes living on the shores of the Black sea and in the plains near the Kuban.

It is not known at what period or by whom Christianity was introduced into the Caucasus; tradition ascribes it to some crusaders who had fled from Palestine.

MARCH OF MIND.

No age has illustrated so strongly as the present the empire of mind over matter, and the ability of man to rise, with the resources of his own intellect, above the obstacles with which destiny and nature have surrounded him. The progress of human knowledge has accomplished within a century, revolutions in the character and condition of the human race, so extensive and sublime as to raise in every observant mind, feelings of mingled exultation and astonishment. The improvements of science have been so great in their extent as almost to justify the doctrine of human perfectibility, and so useful in their character, as to diffuse health, plenty, and content, in the place of ignorance, guilt and famine, while ten thousand improvements in the different branches of industry, have subdued the elements, annihilated space, supplied the defects and improved the advantages of nature, and, in a word, almost realized the marvels of fairy-land. Nor has this march of mind as it has been generally termed, brought with it blessings to the affluent alone. While it has adorned the palace, it has elevated, improved, and blessed the cottage. The face of poverty has been smoothed, and where ignorance and want were wont to raise their unheeded laments, we now see the smile of health and joy, and hear the cheerful song of well-rewarded labor.

Of the discoveries which have thus ameliorated the aspect of our race, none perhaps are nobler in their character, or happier in their results, than those which facilitate the dissemination of knowledge. There was a time when books were a luxury in which the rich could alone indulge, while the other part of society labored in the depths of ignorance, superstition, and suffering. Even in the Augustan age of English literature, this was to a great degree the case: and the genius of Bacon and Newton, the elegance of Addison and Pope, were not spread, "a general feast for all that live," but confined to those whom fortune had made learned. The present age has witnessed a complete revolution in literature. The improvement which has been made in

every branch of book manufacture, has very greatly diminished their price, while it has extended their demand. The reading community *then* was the learned and the refined; *now* it is the whole race. The light of knowledge which was so long concentrated upon rank and wealth, now shines upon the whole community, starting the dormant energies of numberless minds, and diffusing light and life, mental and moral health, and joy, to the whole universe. Under the influence of this new spirit of intelligence, thrones have tottered and fallen; superstition has fled; oppression has shrunk beneath her own lash; and man has arisen in his majesty, disenthralled and regenerated.

No good is perfectly unminged with evil. The present facilities for the multiplication of books are attended with one consequence, which is, without doubt, detrimental to the character of our literature. In a former era, the bookseller before he adventured the hazardous task of publication, became assured that the work contained that which made it valuable. If vapid or trifling, if inaccurate or plagiaristic, the erudite community of readers would have turned from it with contempt; and while the unsold edition graced his shelves, the bookseller was not likely to repeat the offence.

Sed tempora mutantur. All books, good, bad, or indifferent, are now profitable. The reading community, though infinitely more extensive, is not half so fastidious as of yore; and a nauseating novel, a clumsy historical abridgment, or a superficial, but familiar compendium, are more profitable than would be a second "Locke on the Understanding," or "Homer by Pope." The diffusion of literature over a wider surface seems to have made it shallower. The immense editions which now circulate with such celerity through the community, whether historical romance, or romantic history, affected verse or flimsy philosophy, are not unfrequently as feeble as they are familiar, and fitter for the nursery than the library. The obvious tendency of this indiscriminate encouragement is to depress originality and merit. Genius has but little inducement to spread his wing, when the butterfly pinions of a namby

pamby bardling, or the droning wings of a wretched compiler, can outsoar him, and seize and bear off the prize. These disadvantages, however, do not equal the benefits derived from the present popular character of our literature. It may drive noble minds to drivel in the degraded field of unprofitable fiction, and gather the childish flowers of a sickly romance—it may draw down the standard of our literature in the attempt to raise the standard of popular intelligence to an equal elevation; still we can not desire the return of a literary aristocracy. The noble river, which, uninterrupted by the hand of industry, flows majestically and powerfully on, can not but excite our admiration and extort our praise; yet we must own, that when its waters are forced from their narrow channel into numberless rills, and constrained, by the unwearied hand of labor, to irrigate and refreshen the land, we find in the fresh and verdant countenance of the landscape, and in the golden abundance of the harvest, sufficient to reconcile us to its dwindled greatness and diminished beauty.

CIVILITY.

THE well-being of society would be greatly promoted if the nature and use of this Christian virtue were more generally known. We take this to be, in personal intercourse, the observance of the command, Do to others as you would that others should do to you. The most rapid glance at any community shows this—that some of its members are brought into contact, in matters of business, necessarily; others meet incidentally, who have no particular connexion; others meet for social purposes, in various forms; and that there is a large proportion who know of each other very little beyond the fact that they are of the same country, and perhaps not even that. There must be a *best rule* of deportment for all these classes; and no one will deny, that if this rule were defined, and faithfully applied, there would be much more of everyday comfort and complacency in the world than there is well known to be. If we

rightly understand the meaning of civility, it is the manifestation of kind feelings, and of a desire to do all things, which are to be done under the influence of such feelings, in a becoming and agreeable manner.

If every person understood the true foundation of society, the common origin of all its members, their natural and necessary sympathies, their community of interests, their necessary action upon and with each other, it might be supposed that all who are reasonable would be civil. They would be so because they would promote their own good, because they would be doing what is proper to do to promote the good of others; and because they would know that in so doing they would conform to the design of their creation. We do not include under the term *civility*, the great duties of justice, acts of munificence, important personal services. These arise out of some special relation which an individual bears to one or more other individuals. It seems to be limited to the manner in which the common or accidental intercourse of the members of society in general should be carried on. This matter may be better understood by some examples. Thus, if one comes into the presence of another as a beggar, servant, laborer, mechanic, trader, merchant, farmer, lawyer, physician, clergyman, or public officer, or if it be a female or child of either sex, there may be very various modes of receiving these different persons—yet certainly, by every one of the laws which we are endeavoring to illustrate, these several persons are entitled to civility. Even the beggar—perhaps one should rather say the beggar in particular—if not deformed by voluntary transgression, should be received with civility; that is, gentleness, kindness, decorum, are to be observed relatively to each one. Why? Because no man can afford to be deemed insensible to the cause of reasonable humanity; nor a stranger to the decencies of life; nor ignorant of what is due from him, nor to him, in any of his proper relations. We are sometimes called on by duty to do things disagreeable to ourself, and exceedingly so to others. But there is no good sense in performing such duty morosely, and with inhumanity.

THE SECRET OF HAPPINESS.

Go search the ponderous tomes of human learning—explore the work of Confucius—examine the precepts of Seneca, and all the writings of Socrates. Collect all the excellences of the ancient and modern moralists, and point to a sentence equal to the simple prayer of our Savior, "FATHER, FORGIVE THEM!" Reviled and insulted—suffering the grossest indignities—crowned with thorns, and led away to die, no annihilating curse breaks from his lips. Sweet and placid as the aspirings of a mother for her nursling, ascends the prayer of mercy for his enemies, "*Father, forgive them!*" O, it was worthy of its origin, proving incontestably that his mission was from Heaven!

Acquaintances, have you ever quarrelled? Friends, have you ever differed? If He, who was pure and perfect, forgave his bitterest enemies, do you well to cherish anger? Brothers, to you the precept is imperative; you should forgive, not seven times, but "seventy times seven."

Husbands and wives, you have no right to expect perfection in each other. To err is human. Illness will sometimes make you petulant, and disappointment ruffle the smoothest temper. Guard, then, with unremitting vigilance, your passions; controlled, they are the genial warmth that cheers us along the way of life—ungoverned, they are consuming fires. Let your strife be one of respectful attention and conciliatory conduct. Cultivate with care the kind and gentle affections. Plant not, but eradicate, the thorn in your partner's path. Above all, let no feelings of revenge ever find harbor in your breast. A kind word—an obliging action—even if it be a trifling one, has a power superior to the harp of David, in calming the billows of the soul.

Revenge is as incompatible with happiness as religion. Let him whose soul is dark with malice, and studious of revenge, walk through the fields, clad with verdure and adorned with flowers; to his eye there is no beauty—the flowers to him exhale no fragrance. Like his soul, nature is robed in the deepest sable. The smile of beauty and cheerfulness lights not up his bosom with joy, but

furies rage there, and render him as miserable as he wishes the object of his hate.

But let him lay his hand upon his breast and say, "Revenge, I cast thee from me; Father, forgive me as I forgive others," and nature assumes a new and delightful garniture. Then, indeed, are the meads verdant, and the flowers fragrant—then is the music of the grove delightful to his ear, and the smile of virtue lovely to his soul.

THE PASS OF THE GEMMI, AND THE BATHS OF LEUK.

ONE of the principal passes in that great chain of the Alps, which, branching off to the northeast from Mont Blanc, is separated from the main chain by the valley of the Rhone till it unites with it again near the St. Gothard, is the pass over the Gemmi. This mountain is so called from the Latin word Gemini, or twins, an appellation very applicable to its peculiar appearance at the summit, which consists of two precisely similar peaks. The view thence to the south extends over the valley of the Rhone into Piedmont, its principal feature being Monte Rosa, a mountain second only to Mont Blanc among the mountains of Europe. To the west rise the peaks of Strübel and Razli, whence descend two enormous glaciers which pour their torrents into the lake of Daube, which is at the very summit of the Gemmi pass. This lake is about a mile and a half in length, and half that width; and is frozen during eight months of the year; but its most remarkable characteristic is, that though fed by several considerable streams from the annual melting of the snow and ice, it has no visible outlet. The probability is, that there exists some subterranean channel which conveys the water into the Dala, which afterward joins the Rhone. This lake is situated about 7,400 feet above the level of the sea.

The Gemmi is chiefly celebrated for the wonderful road which leads across it from Kanderstag in the canton of Berne, to the baths of Leuk (or Louèche) in the



The Pass of the Gemmi, and the Baths of Lenk.

Haut Valais. The southern side of the mountain, as is the case throughout the Alps, is the steepest and most inaccessible, and in this direction presents a perpendicular precipice of nearly 3,000 feet. A road, practicable for pedestrians and mules, was in 1741 constructed by some Tyrolese workmen; it is cut throughout in the solid rock, and is continued in a perpetual zigzag from the top to the bottom. From the side of Leuk the traveller, on preparing for the ascent, can perceive no indication whatever of the road, and sees nothing but a perpendicular wall of rock, to all appearance quite impassable. Though only practicable for mules, this road is incontestably a superior work to most of the passes where carriages can be used; and although cut out of the bare face of the rock, there is not the slightest danger to be apprehended; for a rough, but not the less useful, parapet of large stones; nearly breast-high, prevents the possibility of an accident. From the baths of Leuk to the summit of the Gemmi pass, is a distance of about two hours' walk, and thence to the village of Kanderstag about three and a half more.

The baths of Leuk are much celebrated in Switzerland for their efficacy in cutaneous diseases, and the water, when taken internally, is said to be very effective in curing disorders of the stomach. There are upward of a dozen sources, the principal of which is consecrated (the Valais being a catholic canton) to St. Lawrence, whose image is placed immediately over the source, whence the hot water flows in two channels, one to supply the baths, the other for the use of the villagers, who are to be seen kneeling before the stream washing linen. The water is clear, without any strong flavor, but possessing a slight smell of sulphur. The temperature is about 41° of Réaumur. Almost everything here is constructed of fir, with which the sides of the mountains are clothed; and at the height of nearly 5,000 feet above the sea, in an almost inaccessible valley, where not even corn can grow, and which has more than once suffered from avalanches, but few luxuries can be introduced. A person commencing a course of bathing usually begins with half an hour a day, but gradually increases the

dose till he arrives at eight hours, and then leaves off in the same proportion.

ON THE IMPROVEMENT OF THE MEMORY.

It is well known that impressions and images dwell upon the sight for a short time, after the removal of the object which awakened them. Thus, a spark whirled round, or carried forward with rapidity, appears to be a circle or line of light; and the spokes of a wheel, which is in rapid motion, appear to be multiplied and almost in contact. It is also necessary that the presence of an object to the eye should not be absolutely momentary, for then it will not produce any impression at all; as a bullet from a gun; a piece of money thrown from one hand to the other by a conjurer.

The operations in the mind are altogether analogous. Our thoughts dwell there when once they have been awakened; and sometimes they haunt us, if strongly impressed, in spite of our wishes and endeavor to get rid of them; in the same way as Newton is related to have seen the sun for two or three days together, even with his eyes closed, after having gazed for too long a time and too intently at that luminary. It is probable, by means of this dwelling of images upon the sight, and thoughts upon the mind, that the mind is enabled to compare one idea with another, and to connect them together—without which there could be no useful knowledge or acquirement—and the eye to comprehend the whole of a landscape; since the principal attention seems capable of being directed only to one very limited spot at a time.

In respect, also, of time being requisite, and some duration of the idea on the apprehension to create an impression upon the mind at all, the analogy between the operations of sight and apprehension is likewise complete. In spite of the proverbial opinion and expression, "as quick as thought;" by which no time at all is generally intended; in spite of the different facility and quickness of different

minds ; and although ideas awakened and drawn from the memory are infinitely more rapid than first impressions, yet even the alphabet can not be rehearsed in the mind, nor figures counted in the memory, without time to do it in. Much more does a recital or description conveying a new set of ideas and imagery require time to produce an effect and impression ; and the more so still, in proportion as they are more unusual and complicated. Multiplicity also, and variety, and quick succession, tend most materially to prevent this effect, both in the external sight, and in the mental apprehension.

Whenever the first impression or thought is once effaced, and has vanished from the mind, it is thenceforth stored up in the memory, and can only be revived by recollection and association. Here all analogy between the powers of the mind and the operation of the external senses entirely ceases. The memory may possibly recall and impress again the image upon the sense ; but the sense itself has no power of recalling or retaining the impression.

The rule of practice to be derived from the foregoing reflections, with the view of rendering the impressions of objects strong and vivid, is simple and obvious.

The mind should, as much as possible, acquire the power, and be brought into the habit of observing one or a very few things only at a time ; and of dwelling for a moment at least upon each subject of attention individually and abstractedly. It should avoid, if possible the having a great multiplicity of objects, or parts of the same object, presented to it at once ; and when this is unavoidable, it should be in the habit of resolutely abstracting itself, and fixing its chief attention upon the most important and leading features.

The mind should not indulge itself in rapid and repeated transitions to objects of a dissimilar character, before the objects which are at present under review have been sufficiently observed and imprinted. Each transition should, if possible, be deliberate and gradual, and be made as much as can be, to subjects of the same kind, and which are connected, each of them, in some degree, at least, with those which have immediately pre-

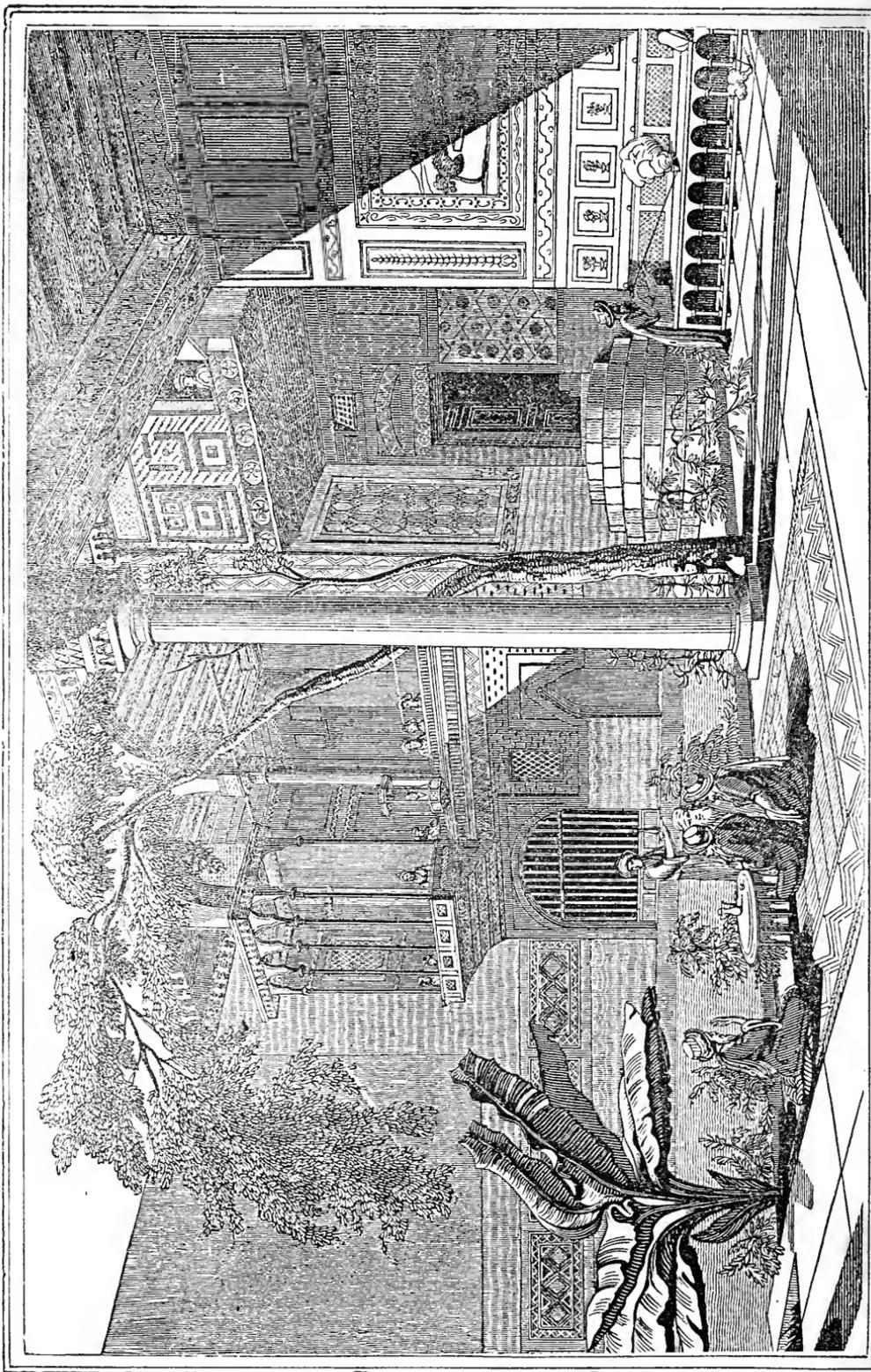
ceded them. Thus the necessity for dwelling for any great length of time upon each individual topic is partly taken away, since each new object is, as it were, but a continuation of the one to which the mind is already attentive ; and the succession of ideas is also in that case useful, in facilitating recollection by means of the operation, instead of each idea becoming an obstruction to the rest, by extinguishing and effacing them.

It is thus, by general order and arrangement of objects and occupation, joined with a habit of concentration and individuality of observation, that strongly impressed and vivid ideas, without too great expense of time, and labor of attention, and multiplicity of ideas without indistinctness and confusion, can be most adequately attained.

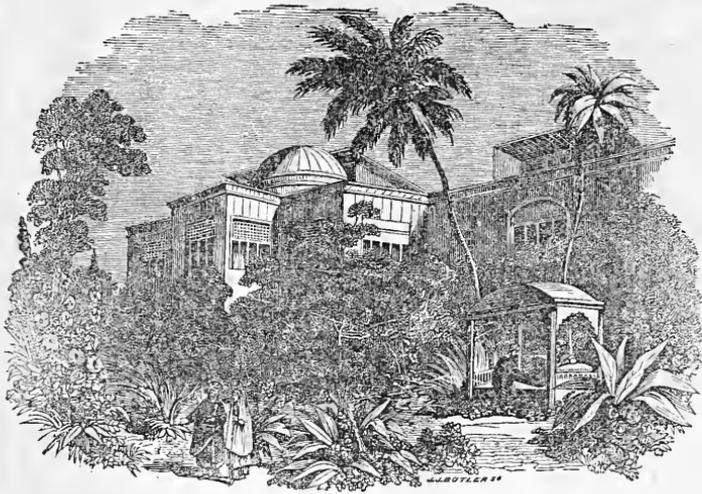
Nothing can be more contradictory to this rule, or be more injurious to the minds of those who are searchers after accurate and substantial knowledge, than the practice, which is prevalent, of reading all the ephemeral publications of the day, and dismissing them, in continual succession, from the memory and attention. These are, for the most part, filled with a variety of dissimilar and opposite topics, often lightly and superficially treated, intended only to be read for the purposes of present conversation and amusement ; which serves also little other end or purpose, than that of chasing away from the memory each preceding topic, and of relieving the mind from every possible burthen of thought and reflection.

INTERESTING FACTS.—Out of every thousand men, twenty die annually. The number of inhabitants of a city or country is renewed every thirty years. The number of old men who die in cold weather, is to those who die in warm weather seven to four. The men able to bear arms form the fourth of the inhabitants of a country. The proportion between the deaths of women and men, is one hundred to one hundred and eight. The probable duration of female life is sixty, but after that period the calculation is more favorable to them than men. One half of those who are born, die before they attain the age of seventeen.





Open Court and House at Grand Cairo.



Modern Egyptian house of the first class, viewed from the garden.

HOUSES IN TURKEY AND EGYPT.

THE private dwellings in Turkey, and in Egypt, generally present no external appearance of beauty or splendor, however great may be the wealth or exalted the rank of their occupants. Even at Constantinople, with the exception of the seraglio (or palace of the sultan), the summer palace on the Bosphorus, and two or three mansions occupied by sultanas or princesses of the imperial family, there is scarcely a house at all striking from its extent, elevation, or architecture. By a precept of their religion all displays of this sort are confined to the mosques or temples, their hospitals, colleges, and other works of public utility. In the strict letter of the law, indeed, no dwelling-houses whatever ought to exceed a certain low elevation, and all ought to be built entirely of wood. The Koran also prescribes extreme simplicity, and the absence of carving, gilding, and every kind of ostentatious ornament, in the interior of houses. But this and sundry other clauses of their sumptuary laws are commonly infringed by the wealthier Moham-medans.

The outside of a house in Turkey and Egypt seldom offers anything to the passing eye except dead walls, with here and there a gazebo (or window latticed in the

fashion of female convents in catholic countries), and, in the front of the house, a large folding-door with a shah-nishin, or balcony, completely covered with trellis-work, and rendered almost impervious to sight. The houses are never numbered—there are no name-plates on the doors, no inscriptions or armorial bearings on the walls. The walls are generally built up to the height of the first story with stone or bricks—the rest of the construction, which seldom exceeds one story above the ground-floor, is made of wood. We are speaking here of the better kind of houses, for the common abodes are built almost entirely of lath and plaster and light timber. The use of such materials may account for the destructive fires so common in Turkey. These fires frequently owe their origin to the discontents of the people, who have long adopted this irrational mode of showing their political feelings. Many of them, however, are accidental, and are easily to be understood, by remembering that the Turks use no fireplaces as we do, but warm themselves in winter by placing shallow dishes of burning charcoal under a sort of table called a tandor, which is made of wood and covered by a stuffed cotton cloth or coverlet, and consequently, like the flooring, matting, and nearly all the materials of their apartments, very combustible.

Now not only is this brasier or pan liable to be upset, but, though negligence, pieces of ignited charcoal, used by the Turks who, when within doors, are almost always smoking) to light their pipes, are often let fall upon the floor, and at times prove sufficient to set fire to the house. But, whether arising from accident or design, these conflagrations are invariably dreadful, should a strong wind blow when they happen. Several times within the last half century nearly the whole of Constantinople, with the exception of the mosques and the few strong stone buildings, has been reduced to ashes.

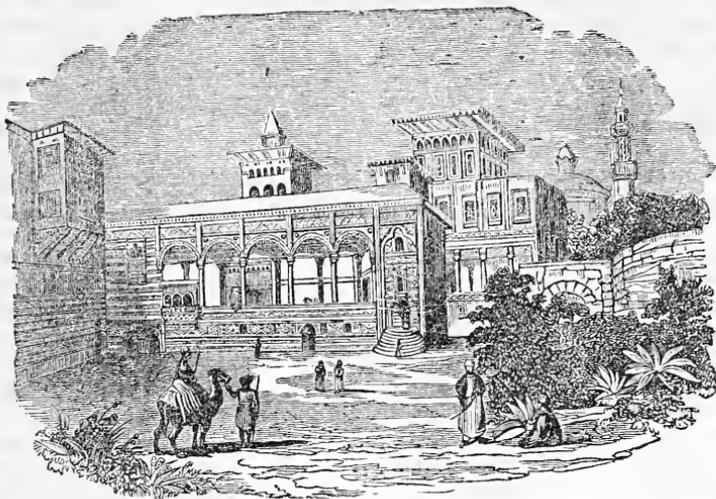
On entering within the gates of a Turkish or an Egyptian gentleman's house, the scene certainly improves, and often, by its lightness, airiness, and gayety, the interior forms a striking contrast with the dull, sombre exterior. The architectural decorations, the articles of luxury and ornament that would offend the scruples of the people and the jealous eye of government, if exposed *without*, are often found collected and united with no unsparring hand *within*.

An open court, often in spite of the law, paved with beautiful marble slabs, and always, when the weather is fine, partially covered with matting of pretty variegated patterns, of which the best is made in Syria and Egypt—shelving terraces, and parterres of flowers round parts of this court, and gayly-painted alcoves, galleries, pillars, and the hanging, roofs of the apartments, flanking the court in other parts, furnish very pleasing features to the picture; and if, as is very commonly the case, a marble fountain shoots up its little columns, and the water plashes in a marble basin in the centre of the yard, and a few tall trees partially shade both the house and the open space, the locality is truly refreshing and delightful. In the country mansions of the rich Mussulmans, the enclosed court or square is often very large, and is adorned with a variety of small detached kiosks or summer-houses, flower-beds, shrubberies, and with several fountains of pure sparkling water. But water, so essential to comfort in a warm climate, and indispensable to the observances of the Mohammedan religion, which prescribes frequent ablu-

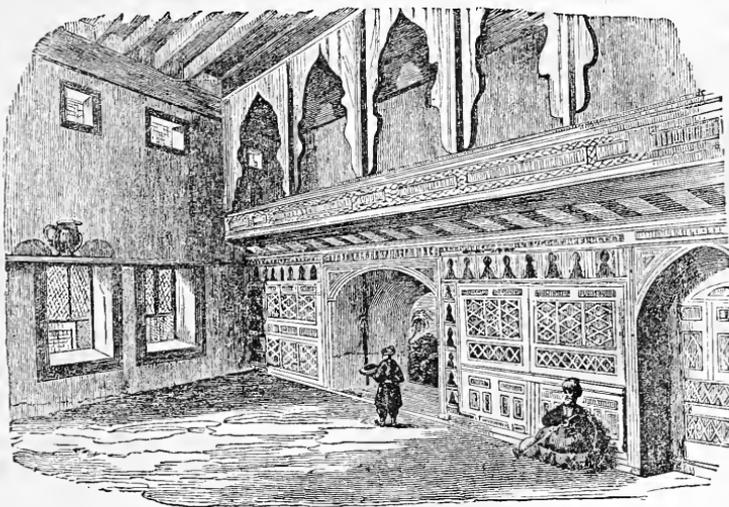
tions, is liberally supplied even in the houses of the poor, or is close at hand in most parts of Turkey. The civil code of the country contains many curious laws on this head. It proclaims, as a sin against God and man, the refusing to supply one's neighbor with water—it gives a liberal right of property in land to those who dig a well, discover a spring of water, or make either a subterranean conduit or an aqueduct; and, at the same time, the religious code allots honors little short of sainthood to such as prove benefactors to mankind in this sense.

The ground-floor of gentlemen's houses is generally given up entirely to the kitchen, offices, and the servants and dependants. A broad open staircase, built invariably of wood, leads to the *diwan-khané*, which is a broad corridor or saloon, open in front and commanding the court, and access to all the men's rooms of the upper apartment. In most instances this corridor runs the length, and sometimes round three sides, of the house, though it is not always of the same level; but, in many cases, rises or sinks, the communication along the whole line or lines being kept up by means of stairs, which occasionally give a capricious but rather picturesque effect. At the angles and elevated points, this open corridor is generally ornamented with projecting kiosks, in which the domestics in immediate attendance, or persons waiting to have audience of the master of the mansion, lounge and smoke their pipes. These kiosks are prettily painted; the prevailing colors are blue, green, yellow, and red;—the designs are in the style we call arabesque. Their front panels, as well as parts of the interior walls of the house, are sometimes adorned with paintings of landscape, fruits, and flowers, but representations of the human form are very rarely tolerated.

The upper or grand apartment is strictly divided into two, the line of demarcation between which is sacred. One of these divisions, called the *salemlik*, is occupied by the master of the house, his sons, &c., and is open to all male servants and visitors; the other, called the *harem*, which word signifies a "holy place," is devoted to the women, and entrance into it is interdicted to all men. In some of



Exterior of a Modern Turkish House of the first class.



Interior of a Modern Turkish House of the first class.

the large mansions there is a sort of neutral ground between the two: this is called mabeinn (literally "between two"); but none save the father of the family enjoys access even here. The rooms of reception in the salemlik that open upon the great corridor, are frequently spacious, seldom very lofty, and always exceedingly plain and devoid of ornament, except in the ceiling, the sofas, and the carpets, or mats, on the floor. The walls are painted of a plain, light, uniform color; over the door there is a framed inscription, in large black letters, or in letters of gold, taken from the Koran; the name of God or Mohammed in Arabic, and the toughra or monogram of the reigning sultan, done in black, red, or gold letters, are sometimes found in two or three places on the superficies of the walls. There is no tapestry, no fanciful paper; and paintings and engravings never impart the beauty and interest we are accustomed to in this country. A divan, or a continuous sofa, low and very broad, runs round three sides of the room, and this is the only stationary piece of furniture. There are no chairs, no footstools, no detached ottomans, no table, no bookcases, no looking-glasses;—in short, there is not one of those numerous articles of convenience, luxury, or ornament, that are met with in most respectable English houses. His broad easy sofa is almost everything to the in-door Turk; he sits on it, cross-legged, during the day, smoking his chibouk, receiving his visitors, or despatching his business. If he has to write, he requires neither table, desk, nor portfolio: he merely places his sheet of paper on his knees, and so scrawls with his strong reed pen. He takes his coffee and sherbet on the sofa, and when he has to dine or sup, a pewter tray, supported on a small low stool, is brought into the room and set upon the floor; he then descends from the sofa, crosses his legs under him, sits down on the carpet or mat, and so despatches his meal, after which, stool, tray, and everything connected with them, are removed. At night he does not retire, as we do, to a separate bed-chamber, nor does he even make use of anything exclusively a bed; his servants or slaves shake up the cushions, lay down a coverlet or a pelisse or two,

and the sofa becomes his bed. These sofas, we must mention, are frequently covered with fine woollen cloth, and tastefully fringed. The favorite color for this cloth is blue: carpeting is sometimes substituted for cloth. Above the sofa, and within reach of a person sitting cross-legged upon it, there is here and there a little shelf to hold such things as may be most frequently needed. A great Turk, however, rarely gives himself the trouble of raising his arm, but when he wants anything he summons a slave, not by ringing a bell, but by clapping the palms of his hands together. To enjoy the advantages of air and shade, all the windows, which reach from the roof nearly to the level of the sofa, are furnished with broad wooden blinds, painted green, and which can be wholly or partially closed. The curtains to the windows, when they have any (which is not often the case), are of very common printed cotton. The apartments are almost invariably well ventilated, and, in this respect, the architects of more than one Christian country might advantageously study the plans of Mohammedan houses. In Constantinople, where the cold is frequently severe during two or three of the winter months, the windows of the good houses are furnished with glass of rather a common quality, and chiefly procured from Trieste; but in many parts of Asia Minor and Egypt, where, from the uniform mildness of the climate, such a protection is not required, a pane of glass is rarely seen. At the great town of Magnesia, at the foot of Mount Sipylus, the Turks once carried on a good manufacture of stained glass, with which they ornamented their houses and kiosks, but they have long lost this, like so many other branches of industry an art in which they, at one time, undeniably excelled.

The ceilings of the rooms, which we have mentioned as among the most ornamental portions of a Mussulman apartment, are frequently exceedingly beautiful. Indeed, in many houses, it seems as if all art and ornament were reserved to be lavished on the ceiling. It is formed of curiously tessellated wood-work, at times representing a mosaic in wood, dotted here and there with golden stars;



An Egyptian Pasha seated on his Divan.

at times painted in the arabesque style with green, blue, and gold, and in the most varied and complicated designs; and at other times painted in stripes of white, red, yellow, blue, and green, and ornamented with bouquets of flowers. We have mentioned only a few of the varieties. An English traveller who was detained by circumstances at Aleppo, occupied himself for several weeks in making a drawing of the ceiling of a fine room he occupied, and even after so much time, so elaborate were the ornaments, and so beautiful the colors and the gilding, that he left the work incomplete, and in despair of rivalling the hues of the original. The most beautiful and rich of the colors they employ has precisely the tint of the lapis-lazuli.

It would be giving the Turks a chance of having attributed to them a merit they do not possess, were we not to mention that these works of art, as well as the building of their houses, kiosks, &c., are almost invariably performed by Armenians, and other Christian subjects of the porte.

The carpets on the floors of the rooms are of that good, strong kind well known under the name of "Turkey carpets," and therefore require no description. These carpets are chiefly manufactured in the country behind Smyrna, in Asia Minor, and at Salonica, and its neighborhood in Europe. They still form an important article of export both to Europe and the United States of America. Turks of very superior wealth or taste, however, generally use Persian carpets, which are finer and much more beautiful both in color and pattern. The Syrian or Egyptian matting, used at other times, is of a much finer quality than that we have mentioned as being laid down in the court. It is delicately worked, light and cool to the eye, and far superior to anything of the sort we possess. When carpets are used they do not often cover the whole of the room, but are merely ranged in slips near to the sofa; in this case the wooden floor, which in general is neatly put together in the *parquet* fashion, is kept clean and polished. The matting, on the contrary, almost always covers the entire floor: it is bound at the edges with colored cloth or gilt leather.

Though there are many pleasing features in the interior, the open court and the part of the house very faithfully represented in our engraving, will always be the most striking and agreeable to the traveller. By attentively examining the engraving, our readers will obtain a good notion of the domestic architecture of the Mussulmans.

It is worthy of remark that, throughout the dominions of the sultan, the Christian and other rayah subjects can neither build their houses so high as the Mohammedans nor paint them of the same color externally. The elevation of an Armenian, a Greek, or a Jewish dwelling, as compared with that of a Turk, must be only as ten to twelve, and it must be painted on the outside with black, or some very sombre color. The Turks may indulge in gayer hues, but even they can not build a house beyond a certain height without incurring heavy fines. All these and numerous other particulars that are constantly interfering with individual liberty and taste are strictly defined by laws, and the Mimar-Aghà, or intendant of buildings (a very lucrative post), to whom the execution of these laws is confided at Constantinople, is always looked upon as the most meddling, insupportable tyrant of the place. He exercises an absolute authority over all the architects and builders of the capital and its suburbs, whether in Europe or in Asia.

PATRONISERS.

PATRONISING is not an act confined to those endowed with superior means or rank; it is a disposition of human nature, distributed without any regard to extraneous circumstances. Sometimes it is found in persons of comparatively humble condition, and not in them exercised on their inferiors alone, but occasionally upon their superiors also. For example, a country gentleman will sometimes find that a steward or land-agent, whom he has newly engaged, proves to be a remarkably patronising person. Almost every one will ascertain, on recollection, that he has two

or three extremely condescending friends in grades considerably beneath his own; and all middle-aged and elderly persons, grave and reverend as they may be, must have their experiences of a patronising order of young men with beards as yet scarce conscious of a razor. I met with one a few years ago, who quite overcame me with the condescending compliments he paid to my writings. How often, too, do we see the patronising spirit exercised in cases where we are not parties! Perhaps of all persons in the world, none are so much objects of the patronising spirit as statesmen. They are decried by many, but they are also patted on the back by many. Well might Wordsworth, impressed with a sense of the universality of benevolence, exclaim that the poorest poor like to be the dispensers of some small blessings.

There is a particular class of patronisers in whom benevolence appears as so exclusively the guiding principle of their nature, that they are nothing unless condescending. They only can speak when doing so appears affable. If they can not look at a friend with the downward regard of grace and favor, they will not look at him at all. These persons get into such a habit of patronising, that, where rank and other circumstances make it utterly impossible, they feel disappointed, and conceive an antipathy in consequence. When a person of superior grade, or of brilliant and generally-acknowledged merits, is mentioned, you are sure to find them express an unfavorable opinion, or at least speak very distrustfully. You may think it unjust; but they can not help it. It is all from an exclusiveness of sympathy toward the humble and meek. And is not this quite right? What need have high people, who are so well off, to be kindly or even justly considered? And where great merits exist, and are generally acknowledged, what use is there for a particular person admitting them? It is only where there are humble circumstances and poor deservings, that there is any gallantry in showing kindness. The poor need all the justice possible, and it is right to give it them; but the rich being such favorites of fortune, it is no less proper that they should be detracted from

and depreciated, were it only to save them from being too much puffed up.

True to their instinct, this class of patronisers invariably desert their protégés when they cease to require encouragement. A man may have been a paragon of earthly excellences with them for twenty years, during which he was of mean estate, and one in whom the world at large saw no fine qualities; but let a large bequest suddenly enrich him, or let him by some brilliant act all at once become an object of general admiration, and the patronisers instantly dismiss him from favor. So, also, when any one is suddenly ruined in some blameless way, or sinks out of popular esteem, the patroniser is sure to become his friend, although he never before could endure him. So certain is this procedure, that you might play upon a patroniser's mind—bringing out all the expected effects—with as much precision as upon a musical instrument.

The spirit of this class of patronisers can be readily detected in our periodical criticism. Some reviewers think it right to speak as frankly of the merits of successful authors as of those whose fate has been opposite, and they will even make handsome acknowledgment of the deserts of men of fortune when they happen to produce anything really good. The patronisers take a very different course. They reserve all their cordiality for the poorer children of genius, and the persons who write amazingly well considering their circumstances. They are never without some particular protégé of this kind, whose productions they hold to be the wonder of the age, and whom they flourish in the faces of all other classes of the community, as if none of them could have brought forth such a miracle. Nor is the kindness of this conduct more to be admired than is the heroic constancy with which they will persist in praising one whom most of the world besides sets down as a clown or a pretender.

In following out his benevolent system, a patroniser is generally seen to be animated by a principle of extraordinary candor. There are many strangely shy or close people, who, when they see no particular occasion for expressing their opinion of persons or things introduced in

conversation, allow these persons or things to pass uncharacterized accordingly. But this the patroniser never does. Let any man, woman, or child, be spoken of in his presence, and he deems it a duty to stop the conversation instantly, that he may tell you what is his opinion of that person—the opinion being of course always favorable in proportion to the lowly estate or humility of merits of the individual alluded to. There may be no occasion whatever for the opinion, so far as others present are concerned; and they may feel it rather irksome to hear some one who takes no particularly illuminating or entertaining share in the conversation always coming out with: "Oh, yes, I think very well of that man;" or "I have no good opinion of that other;" or "The manners of that young lady please me very much;" or "That old woman looks to me a very haughty disagreeable person;" but the patroniser is not to be restrained by any such considerations. It may be of great importance that *my* opinion is presented, and a regard to candor makes it necessary that *I* should conceal nothing which *I* think. Therefore *I* must tell what *I* think of everything. The merit of this boldness is of course the greater, in proportion as the patroniser is a person of comparative unimportance in the company, or as the subject is presumably above his comprehension. When he happens to be one whose opinion nobody would think of setting any store by, or wishing to hear at all, even upon the most trivial subject, the magnanimity of the procedure is almost too much for common terms to praise. It becomes truly delightful, thus linked among a race where good breeding and tame common sense have nearly obliterated all the finer traits of human nature, to find one of the most unimportant persons present asserting the native right of all to pronounce fully and freely upon everything.

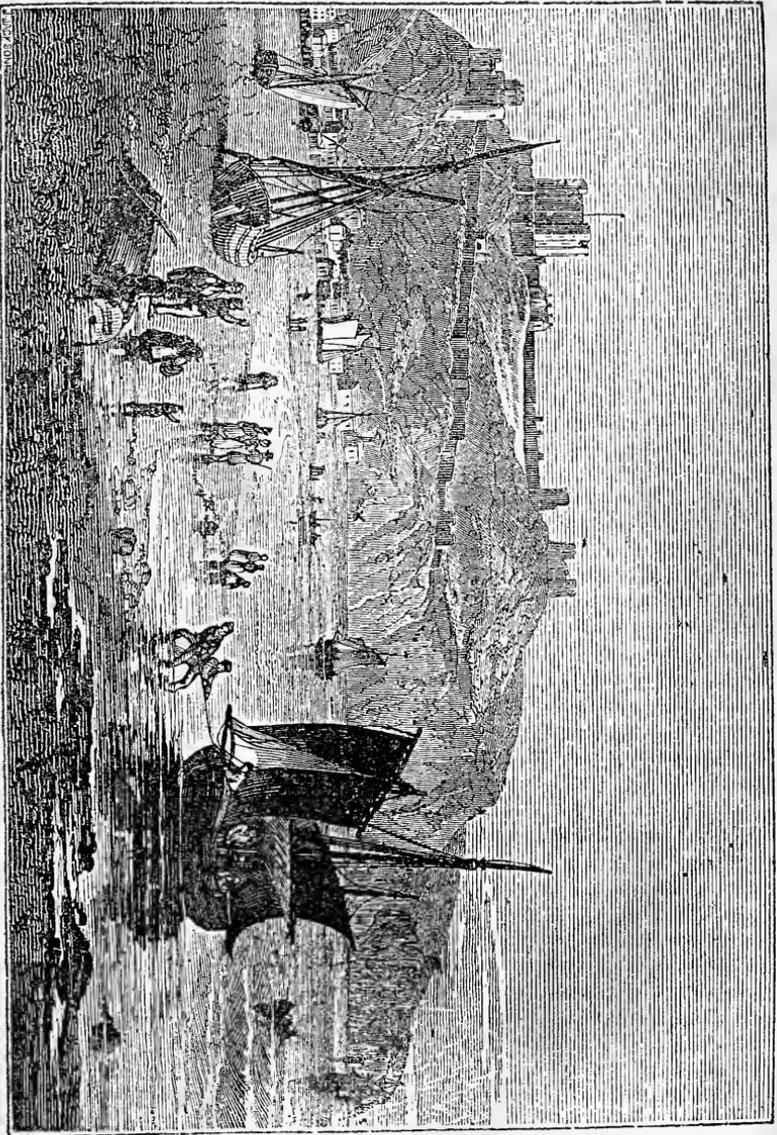
There is but one unfortunate circumstance connected with the patronising spirit and manner. It is apt to be felt by many persons as offensive. This of course arises entirely from the self-esteem of those parties—a feeling so absorbing on their part, that all consideration of the benevolence and candor which animate the pa-

tronisers is lost. Thus it ever is. The best sentiments of which our nature is capable, fail to receive appreciation from the corrupted and selfish: thus does our pride ever kick out against all that is designed for our benefit. Of course no true-spirited patroniser would allow himself to be affected by such marks of ingratitude on the part of his subjects. Placed by his own sensations on a pedestal so lofty, he can calmly look down and smile on the petulant recalcitrations of the poor emmets whom he desires to take under his protection.

DOVER CASTLE.

AT the southeastern corner of England, upon the summit of a chalk cliff from 350 to 400 feet in height, and at the distance of about twenty-one miles from the opposite coast of France, stands Dover Castle. The town of Dover has been built to the west of, and immediately below it. The antiquity of the castle very far exceeds that of the town; and all that the latter contains worthy of remark is of modern date. It is, however, generally known as the key to the Continent, and as possessing a very complete artificial harbor. The coasts of Sussex and Kent, as well as the opposite coast of France, are without natural harbors; but as a proof how far art has supplied this want, the harbors of Dover and Ramsgate, among others, may be referred to with just pride.

The fortifications of the castle are of different epochs, Roman, Saxon, Norman, and of later date. The watch-tower (an octagonal building), the parapet, the peculiar form of the ditch, all exhibit the hand of the Roman architect; and there is no doubt that the Romans had here one of their stationary posts, or walled encampments. The foundations of the watch-tower are laid in a bed of clay, which was a usual practice with the Roman masons; and it is built with a stalactical composition instead of stone, intermixed with courses of Roman tiles. The watch-tower and the ancient church are the only remaining buildings within the Roman fortress. What the precise origin of this



Dover Castle, from the Beach under Shakespeare's Cliff.

church was is not known, but it was consecrated to Christian worship by St. Augustine when he was in England in the sixth century.

The Saxons extended the groundwork of the Roman fortress, and erected a fortress differing materially from that of the Romans, as it consisted merely of perpendicular sides without parapets, surrounded by deep ditches. In the centre of the old Saxon works is the keep, which is, however, of Roman origin, the foundation having been laid in 1153. It is a massy square edifice, the side on the southwest being 103 feet; that on the northwest 108 feet; and the other two 123 feet each. The north turret of the keep is 95 feet above the ground, which is 373 feet above the level of the sea. The view from it, in a clear day, comprises the North Foreland, Ramsgate pier, the isle of Thanet, the valley of Dover, and the towns of Calais and Boulogne, with the intermediate French coast. The rest of the fortifications are, for the most part, of Roman origin, but present the altered and improved appearance which has been given them by a succession of repairs for a course of centuries.

During the French revolution it was considered important to secure and defend Dover Castle as a military station. Fifty thousand pounds were voted for this purpose; and miners and other laborers were employed to excavate the rock for purposes of defence, and to cast up additional mounds and ramparts. Extensive barracks were excavated in the solid rock, by which accommodations were provided for a garrison of three or four thousand men. The subterraneous rooms and passages are shown to visitors, upon an order of the military commandant being obtained. There is an armory in the keep; and many ancient curiosities are to be seen here, among which is Queen Elizabeth's pocket-pistol, a beautiful piece of brass ordnance presented to Elizabeth by the states of Holland, as a token of respect for the assistance she afforded them against Spain. It is twenty-four feet long, and bears a Dutch inscription, of which the following is a translation:—

"O'er hill and dale I throw my ball;
Breaker, my name, of mound and wall."

In Lyon's "History of Dover," may be found the detailed history of this castle, one remarkable event in which is, that on the 21st of August, 1625, it was surprised and wrested from the king's garrison by a merchant of Dover named Blake, with only ten of his townsmen, who kept possession of it for the parliament, and effectually resisted the king's troops. It is also worth notice, that on the 7th of January, 1785, Dr. Jefferies and M. Blanchard embarked in a balloon from the castle heights, and having crossed the channel in safety, descended in the forest of Guisnes, in France.

The lord-warden of the Cinque ports is constable of Dover Castle, and has the execution of the king's writs within the Cinque ports—a jurisdiction extending from Margate to Seaford, independently of the sheriffs of Kent and Sussex. The castle contains a prison used for debtors and smugglers; and the keeper has the feudal designation of Bodar, under the lord-warden. The courts of chancery, admiralty, &c., for the Cinque ports, are held by the lord-warden, in St. James's church, at the foot of the castle-hill. The office of lord-warden has been usually given to the first lord of the treasury, and is now held by the duke of Wellington in consequence of his having been such first lord when the office became vacant.

To the west of Dover, opposite the castle, is the celebrated Shakspeare cliff, described in the tragedy of King Lear. It is 350 feet high, and almost perpendicular. The late Sir Walter Scott, when at Dover a few years since on his road to Paris, said to a gentleman who was speaking to him of this cliff: "Shakspeare was a lowland man, and I am a highland man; it is therefore natural that he should make much more of this chalk cliff than I can do, who live among the black mountains of Scotland." The fact is that the cliff is remarkable for its form, but is by no means so awful or majestic as might be supposed, after reading King Lear.

The world is but one great family.
What then is this narrow selfishness in us,
but relationship remembered against relationship forgot?

ILLUSTRIOUS MECHANICS.

ADAM, the father of the race, was a gardener. He had, however, a strange propensity for tasting unwholesome fruit, which produced very injurious effects, both upon himself and his offspring.

Noah was a shipwright, and a husbandman; he navigated the whole earth in his ark, and got "seas over" in his vineyard.

Solomon was an architect, a poet, and a philosopher; his conduct, however, was not always by line and rule; he trod the circle of dissipation, was erratic in his imaginations, and violated his own maxims. His conscience and strength of mind, however, reclaimed him, and his repentance is the most beautiful of the works which he has left for the contemplation of his species.

The apostle Paul was a tent-maker, and labored with his hands at his vocation, while he endeavored to infuse into the minds of his fellow-men the important truths of revelation. While he screened them with earthly tabernacles from the weather, he held above their souls the ægis of divine perfection.

Matthew was a poor fisherman; he relinquished his humble calling for that of a missionary, and toiled assiduously to draw men from the fiery billows of perdition.

Quintus Cincinnatus was a ploughman, and was invoked to the government and dictatorship of Rome. His labors in the political field were as successful as those upon the soil.

Arsaces was a private mechanic, and was called to found the Parthian empire. He built a powerful nation, and erected for himself a mausoleum of fame which is indestructible.

Tamerlane, the conqueror of Asia, was also a mechanic; he rough-hewed Bajazet, and carved his way to fortune and glory.

Massanielo, a Neapolitan fisherman, was raised to the command of fifty thousand men, and gave up fish lines for bayonets, and river seines for scenes of carnage.

John, of Leyden, in Germany, was a tailor, and rose to the dignity of a king. He cut for himself a bad piece of work,

however, and afterward came to a miserable end. His goose did not fly well.

Zeno, the famous bishop of Constantia, who had the largest diocese in that country, was a weaver.—He directed his attention to the habits of both soul and body.

Stephen Tudiner, a hatter, in Upper Austria, was made general, and commanded sixty thousand of an army. He made hats for others, but preferred for himself a chapeau.

Walmer, a shoemaker, succeeded him in command, but was slain by Count Papenheim. He converted his awl into a sword, but "his last state was worse than the first."

Mr. Edmond, a baker, of Stirling in Scotland, showed such unparalleled bravery in the Swedish wars under that "thunderbolt of war," Gustavus Adolphus, that he was made a general. A maker of bread might be supposed to know how to rise.

Peter the Great, emperor of Russia, worked at ship-building. He taught the Russian bear how to manage a boat.

Charles II., of England, was a turner in ivory, nor could affairs of state divert him from his task at the lathe. He turned his mind, however, to other amusements, which taxed his health, and pared away his reputation.

Louis XIV., of France, was one of the best watchmakers of his reign. He forgot the burdens of power, in following the light footsteps of time, and escaped the flatterings of parasites, on the pinion of chronometers.

William the IV., of England, was a sailor, and rose from the forecandle to the throne; he managed the ship of state with nautical address, and beat her a considerable way up the harbor of reform.

Benjamin Franklin was a printer, philosopher, and statesman. He drew lightning from heaven, and left his name in large caps upon the annals of his country. His name is among the ***.

George Washington, Andrew Jackson, and William Henry Harrison, were farmers. From the pursuits of agriculture, they went forth to pursue the enemies of their country, and from the field of death gathered the "Golden Immortal."

Sir Richard Arkwright, who first conceived the idea of spinning cotton by

means of machinery, passed the earlier years of his life in pursuing the humble occupation of a barber. His genius proved brighter than his razors.

John Leslie, professor of natural philosophy in Edinburgh, was the son of a poor farmer in Largo, of Scotland. He was employed in the capacity of herdsman. His pencil was a stick, and the ground his slate. From being the companion of cattle, he became the peer of learned men.

James Ferguson was in earlier years a shepherd; watched the stars at night like his predecessors of Chaldea, and like them was led by his favoring planet to the contemplation of the goodness and munificence of the works of Deity.

William Gifford was bound out to a shoemaker, after having served a number of years in a small coaster as cabin-boy. Being too poor to purchase stationery, he used to hammer out smoothly as possible bits of leather, on which he traced problems with his awl. In later years, his critical awl pierced the souls of many luckless scribblers.

THE PASSENGER-PIGEON.

THIS remarkable bird inhabits a wide and extensive region of North America, spreading over the whole of Canada, and extending to the gulf of Mexico southward, while the Stony mountains appear to limit its westward range. In the United States it occasionally visits and breeds in almost every quarter.

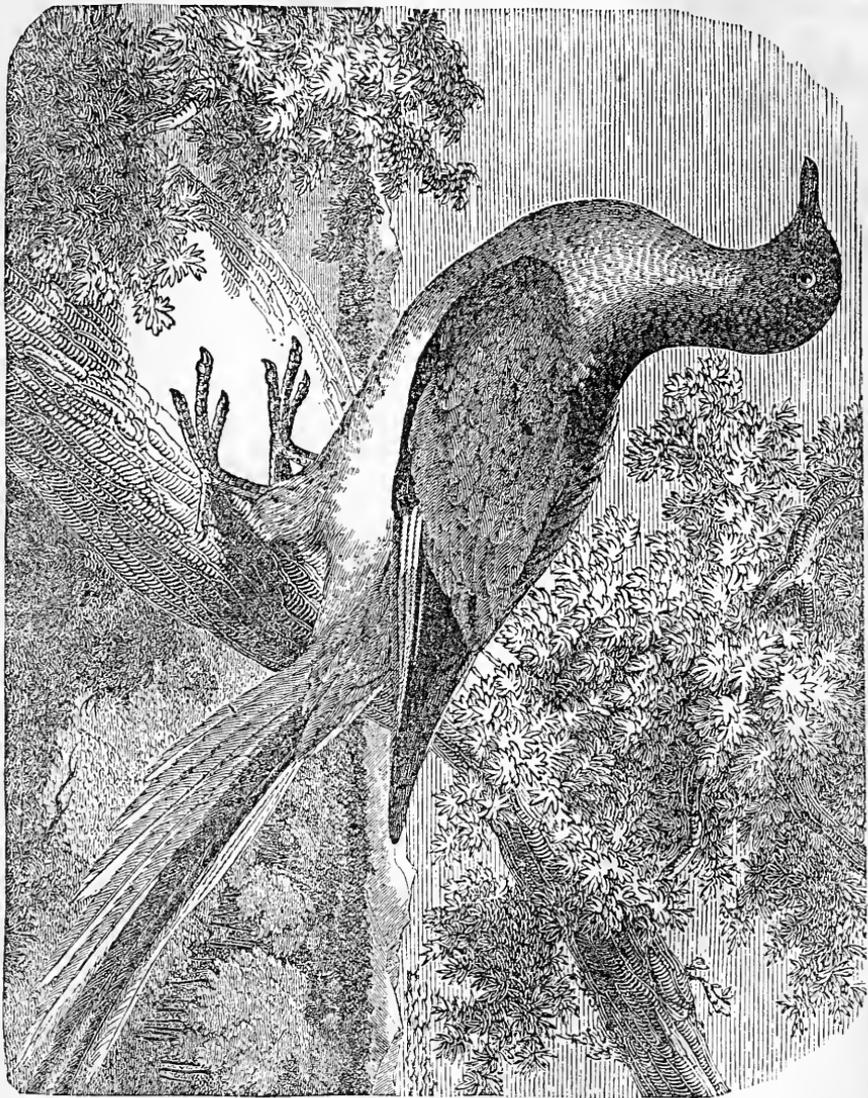
The passenger-pigeon is sixteen inches long and twenty-four in extent; and it is in this circumstance of size, and that of plumage, that we are chiefly to look for the distinguishing external difference between this and other species of the pigeon. A light slate color predominates in the head and upper part of the neck, and a darker slate in the back, and wings. The lower part of the neck and sides are of a resplendent gold, green, and purplish crimson, the latter most predominant. The tail is long, and all the feathers taper toward the point; the two middle ones are plain, deep black; the other five on

each side hoary white, lightest at the tips, and deepening into bluish near the basis. The bastard wing is black; the legs and feet are lake seamed with white. The female is about half an inch shorter than the male, and an inch less in extent;—she resembles the male generally in color, but less vivid and more tinged with brown.

The most remarkable characteristic of these birds is their associating together, both in their migrations and during the period of incubation, in such prodigious numbers as almost to surpass belief, and which has no parallel among any other feathered tribes on the face of the earth with which naturalists are acquainted.

These migrations appear to be undertaken rather in quest of food merely to avoid the cold of the climate. The passenger-pigeons are found lingering in the northern regions around Hudson's bay so late as December; and their appearance is casual and irregular. As the beech-nut constitutes the chief food of this wild pigeon, in seasons when it is particularly abundant, corresponding multitudes of pigeons may be confidently expected. It sometimes happens that when they have consumed the whole produce of the beech-trees in one extensive district, they discover another, at the distance of perhaps sixty or eighty miles, to which they regularly repair every morning, and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or, as it is usually called, the *roosting-place*. These roosting-places are always in the woods, and sometimes occupy a large extent of forest.

The breeding-place differs from the roosting-place in its greater extent. In the western countries these are generally in beech-woods, and often extend, in nearly a straight line, across the country for a very great way. One is mentioned in the state of Kentucky which stretched through the woods in nearly a north and south direction, was several miles in breadth, and said to be nearly forty in length. In this tract almost every tree was furnished with nests wherever the branches could accommodate them, a single tree frequently containing more than a hundred. At this place the pigeons made their first appearance about the 10th



Passenger-Pigeon.

of April, and left it altogether, with their young, before the 25th of May.

The nest of the wild pigeon is formed of a few dried, slender twigs, carelessly put together, and with so little concavity that the young, when only half grown, can be easily seen from below. All accounts agree in stating that each nest contains only one young squab; but it is asserted that the pigeon breeds three or four times in the course of the same season. The young are so exceedingly fat, that the Indians, and many of the whites, are accustomed to melt down the fat for domestic purposes as a substitute for butter and lard.

As soon as the young are fully grown, and before they leave their nests, numerous parties of the inhabitants of the neighboring country often come with wagons, axes, beds, cooking utensils, many of them accompanied by the greater part of their families, and encamp for several days in these immense nurseries. It is said that the noise in the wood is so great as to terrify the horses; and when a person speaks he finds it difficult to make himself heard without bawling in the ears of those whom he addresses. The ground is strewed with broken branches, eggs, and young squab pigeons which have been precipitated from above, and on which herds of hogs fatten themselves. Great numbers of hawks, buzzards, and sometimes the bald eagle himself, hover about and seize the old or the young from the nest amidst the rising multitudes, and with the most daring effrontery. From twenty feet upward to the tops of the trees the view through the woods presents a perpetual tumult of crowding and fluttering multitudes of pigeons. The noise of their wings is mingled with the frequent crash of falling timber; for the axe-men cut down those trees which seem to be the most crowded with nests, and contrive to fell them in such a manner that in the descent they may bring down several others. The falling of one large tree sometimes produces 200 squabs little inferior in size to the old ones, and almost one mass of fat.

From the account given of the flight of vast flocks of the passenger-pigeon, it would appear as if they were hardly ex-

ceeded in extent or number by those of the locusts in the east. Mr. Wilson mentions some of these flights that he himself saw. On one occasion he was on his way to Frankfort, in Kentucky, where, about one o'clock, he saw a flock of pigeons, more immense in its numbers than any he had ever before witnessed, which flew in a compact body of several strata deep, at a height beyond gun-shot, with great rapidity and steadiness. The breadth of this vast procession extended from right to left so far as the eye could reach, and seemed greatly crowded in all its parts. Curious to determine how long this appearance would continue, Mr. Wilson took out his watch to note the time, and sat down to observe them. He waited more than an hour; but perceiving that this prodigious procession seemed rather to increase than diminish in numbers and rapidity, and being anxious to reach his destination before night, he went on. When he reached Frankfort, about four hours after he first saw the flock, the living torrent over his head seemed as numerous and extensive as ever. On a subsequent occasion Mr. Wilson reverts to this flock, and makes the following curious calculation. If we suppose the column to have been one mile in breadth (and he believes it to have been much more), and that it moved at the rate of one mile in a minute; four hours, the time it continued passing, would make the whole length 240 miles. Again, supposing that each square yard of this moving body comprehended three pigeons, the square yards in the whole space multiplied by three, would give 2,230,272,000 pigeons!

In the Atlantic states, though they never appear in such unparalleled multitudes, they are sometimes very numerous, and great havoc is made among them with the gun, the clap-net, and various other implements of destruction. As soon as it is ascertained in a town that the pigeons are flying numerously in the neighborhood, the gunners rise *en masse*; the clap-nets are spread out in suitable situations, and some live pigeons being made to flutter on a stick as birds just alighted, numbers of the passing flock are induced to descend and feed on the corn, buckwheat, &c., which they find strewed about; and,

while thus engaged, the pulling of a cord covers them with the net—sometimes ten, twenty, or thirty dozen are taken at one sweep. Meantime the air is darkened with large bodies of them moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musketry is perpetual on all sides from morning till night. Wagon-loads of them are poured into the market, where they sell from fifty to twenty-five, and even twelve cents per dozen; and pigeons are universally found at breakfast, dinner, and supper, until the very name becomes sickening. When they have been kept alive and fed for some time on corn and buckwheat, their flesh acquires great superiority; but in their common state they are far inferior to the full-grown young ones or squabs.

TIGER-HUNTING IN INDIA.

“What! shall we seek the tiger in his den
And fright him there?—and make him tremble
there?”

If the sports of the field can in any instance be justified, it is most assuredly where the object of pursuit is an animal of such a fierce, yet cowardly character—of such unappeasable cruelty, such instinctive enmity to all living creatures, such insatiable thirst for blood, especially of the human race, as the Bengal tiger—an animal with which all friendship or conciliation is hopeless. The lion possesses a degree of generosity; when the longings of hunger are removed, he retires from the scene;—the tiger, on the contrary, though gorged with carnage, is not satisfied, but seizes and tears asunder fresh prey with equal rage and rapacity, the very next moment after devouring a former one. Hurried on by a blind fury, from an innate appetite for destruction, he wastes the country he inhabits. Young elephants often fall beneath his power and activity; whole troops of domestic animals are slaughtered by him within the limits of a few hours, and his indiscriminate cruelty often stimulates him to devour his own young, and even tear the mother

in pieces for endeavoring to protect them. Such an example of gratuitous ferocity, so inveterate an enemy to vitality in every form, would seem to deserve the unmitigated hatred of our species, and, in pursuing this wicked yet beautiful creature, certainly no efforts are spared by us to ensure his ruin.

Among the many difficulties in the system of the world which daily present themselves to our notice, few are more inexplicable than the danger to which human life is exposed from the existence of wild beasts, of whose counterbalancing uses we are almost left in ignorance; but, in the luxurious climate of the east, where the earth yields its increase with little labor—where the most luscious fruits, the finest wines, and the richest garments, are so readily obtained—where the incentives to luxury and indolence are so numerous and attractive, does it not seem a wise dispensation that stimulants to activity should also exist? What a total sensualist might not the Asiatic become, if his superabounding pleasures were unalloyed by difficulties or dangers! The tiger, then, and the whole family of human enemies that inhabit the forests and the jungles of the east, appear to have been planted there to awaken the energies, to rouse the vigilance, and to so temper the habits of the people as to dispose them to the performance of those higher duties that belong to rational beings. But, besides the necessity for active exertion which self-defence naturally imposes, it is still further incumbent to seek out the enemy of our race in his native home, and inflict upon him such chastisement as may alarm his tribe for their safety, should they venture too near the haunts of men. Self-preservation, the excitation of terror, and the infliction of vengeance, perhaps, are the origin of the noble sport of tiger-hunting in the east—a sport, as we have observed, far more noble than chasing the timid deer or the trembling hare, from the fierce and merciless propensities of its object. Field sports are often defended as contributing to the formation of manliness and generosity of character; and few would be disposed to question the evidences, if the sportsman confined his pleasures to the pursuit of the most venom-

ous and most vicious of animals. All, however, will acknowledge the exercise of courage, and the play of manly feelings, for which so bold an undertaking as the assault of the lion or tiger gives occasion, and, assent to its value in training our youth to the defence of their country, and the resistance of aggression, whenever they may be called on for these purposes.

The following describes the closing scene of a celebrated tiger-hunt in the immediate vicinity of Chinsura, in Bengal, about seventeen miles north from Calcutta, the narrative of which has been left us by one of the principal actors in the tragedy:—

“On the morning appointed for the hunt, about one o'clock, we sent forward the elephants, some of them private property, others hired for the day, with attendants and refreshments, and, in a few hours after, we all followed in our fly-palanquins and proceeded to an encampment prepared for us on the skirts of the jungle. Having rested and recruited a little, we mounted our elephants and advanced boldly toward the jungle, disturbing on our way game of all sorts—antelopes, hares, hog-deer, buffaloes, and wild swine; many of the latter being crushed to death under the feet of the elephants, who seemed resolved, equally with their riders, not to be interrupted nor diverted from the more noble game so immediately in prospect. On entering the jungle the presence of a tiger is generally made known by the conduct of the elephants; for they wind him at a considerable distance, upon which they set up a sort of trumpeting and snorting, become much agitated, and even sometimes communicate their fears to their companions who have not yet come upon the scent. Forming a cordon of considerable length, we entered the jungle, and as I passed on observed the lair of a tiger which had but recently been deserted: there lay a half-devoured buffalo, two human skulls, and a heap of bones, some blanched by the weather, others still red with clotted gore.

“Scarcely had we emerged from the long rank grass and reeds, in many places fifteen feet in height, when the cry of ‘Baug! baug!’ (Tiger, tiger) was raised, upon which we all wheeled into line

anew, and re-entered the jungle, resolved to ‘show boldness and aspiring confidence.’ The lair of the wild animals which had been marked, was now pointed out, when a discharge of small-arms being poured into it, *five** majestic full-grown tigers sprang out simultaneously from the spot, where they had sat in bloody congress, and separating, escaped in different directions. They ran but heavily, unwilling to separate, and all couched again at no great distance, and within the same jungle where they had been started, which enabled us to mark their lairs once more with certainty. Encouraged by our leader to

“ ‘—— imitate the action of the tiger,
Stiffer the sinews, summon up the blood,’

we hotly followed, and, forming into a crescent, having the marksmen, state elephants, and ladies of the party, in the centre, approached slowly and warily the spot where the first tiger couched. Observing the most complete state of rest and stillness until we were quite close upon him, he then suddenly broke silence, with tones that resembled the roaring of artillery, and sprang furiously at the nearest of the party. Astonished for an instant at the noise,† the elephants suddenly wheeled round and rapidly retreated some fifty yards, when, as suddenly recovering from their

* “This even the Indians consider an uncommon sight, for tigers almost always hunt in pairs. They select particular walks, generally the most solitary region of the forest, and assume the sole privilege of destruction in their chosen path. A spirited sportsman, an officer in the company’s service, who was quartered not far from Chinsura, having learned that a number of tigers had taken possession of a path in the forest that led to a fountain, and committed merciless havoc upon all flesh that attempted to pass that way, caused a bench to be safely fastened in a tree that hung over it; there he took his station many a moonlight night, and by his unerring aim avenged many a victim. On one occasion he also saw five noble tigers in the path together, a fact which the Indians could hardly be persuaded to believe.”

† “The extraordinary effect of the tiger’s tremendous roar is singularly illustrated by the stratagem he practises to catch monkeys. On the approach of the common enemy the monkeys give general warning by their confused chattering, upon which they immediately betake themselves to the highest and smallest twigs of the trees: the tiger seeing them out of his reach, and sensible of their fright, lies couchant at the foot of the tree, and commences roaring with all the powers of his lungs: as he roars, the trembling fit increases, until the monkeys at last losing their hold, tumble down, when they are picked up and feasted on.”

panic, they returned with resolution and coolness to the scene of action: the tiger had watched their advance, and, judging his distance, with a single bound reached the pad on the back of the first elephant and tore it away from under the riders. One of them fell instantly from the *howdah* from the effects of fright, but the tiger was so engaged by the huntsmen who now closed round him, that he reluctantly abandoned the prey and once more retired to his cover. Hither, however, he was now followed by the death-bearing bullets of our surest marksmen; and when we pushed in to ascertain the result, we beheld him in the struggles of death, shining with the brightness of the foam that he shook from his mouth, and stained with the life-blood that was gushing from his wounds.

“The resting-places of the four others had been marked by a tall pole with a turban on the end of it, and besieging each in succession under circumstances differing little in detail, equal success attended us. The oldest, the patriarch of this fine herd, and still more ferocious than his followers, withdrew at the commencement of the conflict to a more distant part of the jungle, and there concealed himself until all his family were slain:—having roused him from his lair, and made repeated attacks upon him, he resisted us with a courage that would have entitled a nature more humane than his to mercy. Every wound he received was returned by a fierce attack upon some one of the elephants, and his miraculous escapes excited the astonishment of the most experienced sportsmen among us. On one occasion he rushed unexpectedly from his cover, and springing at a large elephant, on which the ladies were seated, was almost within reach of their pad, when a general discharge of musketry again frustrated his deadly purpose, and compelled him to resume the shelter of his cover. In one of those impetuous sallies, however, he had offended an enemy that was implacable, and who, unknown to the hunters, brooded over the insult and deeply cherished its revenge: this was a great old elephant who carried some of the marksmen. Too roughly treated by the tiger, he kept the most

watchful look-out for his lair, and, at a moment when it was invisible to others, the old elephant was observed to fix his gaze attentively upon a particular spot in the thicket, then—regardless of his riders, two of whom were actually shaken off—to fall back with precipitation several yards, as if to acquire additional momentum, then suddenly rushing forward, to dash his huge head into the close-woven thicket.

“All now remained in silence and suspense, expecting the close of this tremendous tragedy; and when the great monster raised his head from the bush, his blood-stained tusks bore evidence of the ‘black vengeance,’ he had exacted. A moment more and the tiger crawled from his cover, and fell panting upon the bank that was beside him, with his body torn open by two terrific wounds. His presence, even in the agonies of death, was hateful to his great enemy, who again darted his sharp tusks into the bleeding body, while the marksmen put a period to the tiger’s pangs by firing the contents of their double-charged pieces into his head.

“This terrible sport being ended, we returned with its trophies to our tents, pitched in a crescent-form upon a verdant lawn, sloping down on one side to a running stream, and skirted on the others by luxuriant woods. The coolness procured by artificial means was now truly delightful: *tattees* of aromatic grass, continually watered, assisted in reducing the temperature to something like that of our spring-time in England: a cold dinner and iced wines contributed still further to the enjoyment of the occasion, and, during this truly oriental luxury—so strongly contrasted with the bold and manly character of our recent expedition—we were lulled by the mellow tones of French-horns arranged to slow movements, and airs descriptive of the most celebrated hunting scenes.

“While this spectacle was in progress, and the sultry hours of noontide rolling away, the peasantry began to gather at our tents, before which fire great tigers, the spoils of the day, lay extended, looking terrible even in death. Many expressed thankfulness, some gratitude, and

a few shed tears of joy at seeing so many of these monsters deprived of all power of future devastation. One aged woman dilated with animation upon the scene, at one time speaking with solemnity, then rising with the importance of her narration into enthusiasm, and ending at last with a burst of grief. A young woman with a child in her arms, who heard her story, seemed to sympathize both in her joy and sorrow, but the breasts of some Brahmins who stood near were impenetrable to tales of the most poignant sorrow. What a beautiful subject would the scene have offered to the pencil of an able painter;—what expression might be given to the countenance of the old woman—the widowed and childless, from the tiger's rage, as contrary and contending passions passed over it! What tenderness and timidity, to that of the young woman, who clasped her babe closer and closer to her fond bosom, as the horrid narrative approached that bloody deed that bereft a mother of her children! But no painter could portray the last passage, when the heart-broken widow, clasping her agonized hands together, loudly called upon the lifeless trunks that lay before her to restore her murdered children and husband.

“Another ceremony, less distressing than the widow's grief, must be related, before the victors enter their flying-palanquins to resume their peaceful moments. Anxiously gazing on the ‘tigers dead,’ the crowd awaited the signal from within for skinning and dissecting them. And this is a process of some importance, from the virtue and the value attributed to the different parts of the animal. The fat is a *panacea*—the tongue dried and pulverized, an infallible specific in nervous diseases—the whiskers are deemed a deadly poison, and secretly sought, like the *aqua tophana* of the Italians, for the purpose of destroying a rival or cutting off an enemy—every part, in fact, has some use ascribed to it. What stronger evidence can be given of the terror in which the natives live of these ferocious animals, than the miraculous qualities which their ignorance and superstition ascribe to their members, even after their vicious spirit has been dissipated for ever!”

CANTERBURY.

EVER since the arrival of St. Augustine, in 597, Canterbury has been the ecclesiastical capital of England. It was, however, before this period the chief town of the Saxon kingdom of Kent, which had been founded about the middle of the preceding century by Hengist. Ethelbert, the Kentish king, resided here when Augustine and his monks came over; and the missionaries naturally fixed their headquarters at the seat of the court. The city lost its secular pre-eminence on the consolidation of all England into one kingdom in the beginning of the ninth century; but the revolutions of twelve hundred years have left it still the metropolis of the national church.

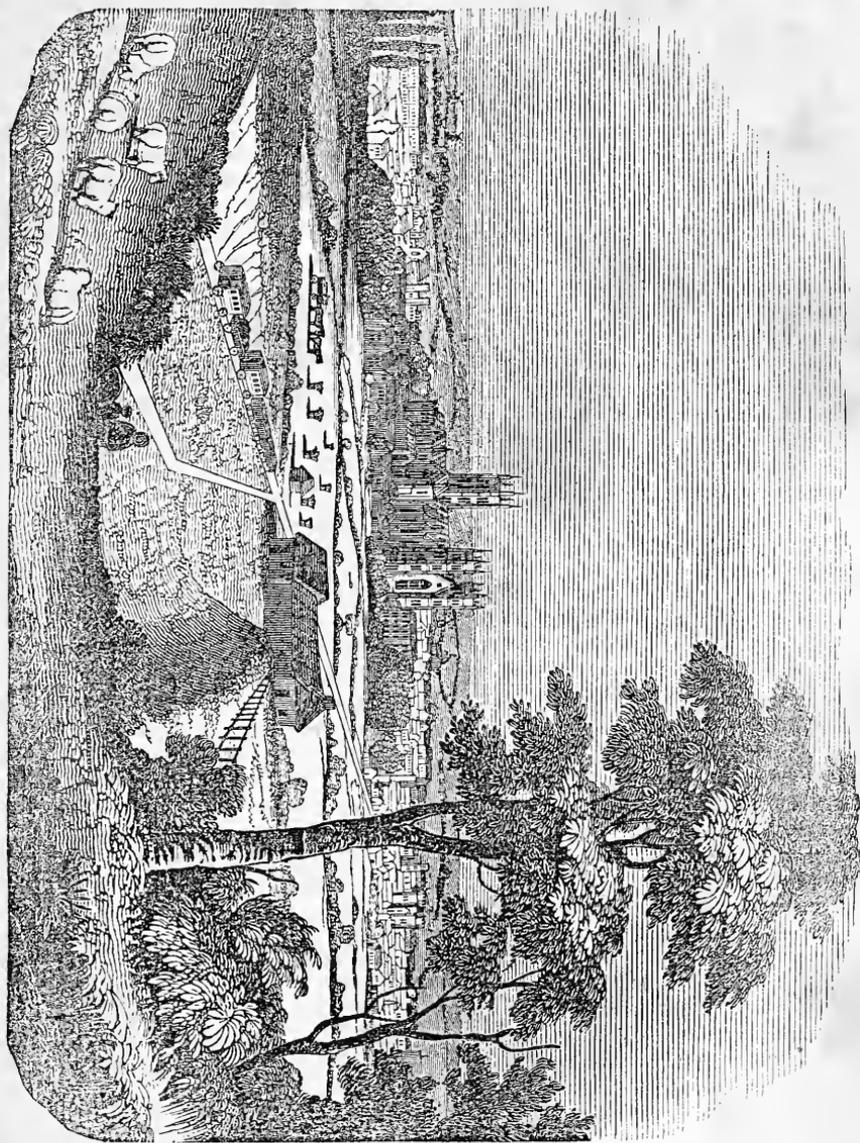
Like most other considerable English towns, Canterbury was anciently surrounded with walls, the remains of which still exist. There are numerous short and narrow lanes in all parts of the city, one of which, Mercery lane, on the north side of High street, is traditionally said to have been the usual resort of the numerous pilgrims, who, in ancient times, were wont to throng from all parts of the world to Canterbury, in order to pay their devotions at the various shrines in the cathedral, and especially at that of Thomas à Becket, for some ages the most popular saint in the Romish calendar. Thus Chaucer sings:—

“And specially from every shire's end
Of Engle-land to Canterbury they wend,
The holy blissful martyr for to seek
That them hath holpen when that they were sick.”

In this lane several of the adjacent tenements seem anciently to have formed only one house, or large inn. But the same appearances present themselves also in other parts of the city; and doubtless there were large inns elsewhere as well as in this short lane, which, if it had been entirely devoted to that purpose, certainly could not have nearly lodged the whole crowd of pious strangers, which in those days Canterbury usually contained.

Mercery lane, however, may probably have anciently been the favorite and most honorable place of resort for this description of visitors, as being the avenue leading to the cathedral and its holy precinct.

Eastern City, Viewed from the Railroad.



These venerable buildings occupy nearly the whole of the northeastern quarter of the city, forming a large enclosure, the entrance to which, called the Precinct gate, is at the termination of Mercery lane, although a more spacious approach to it has lately been formed by a new opening from the High street.

Some of the most interesting of the antiquities of Canterbury lie without the walls, especially the extensive ruins of St. Augustine's monastery, which are to the north of the Dover road, and the church of St. Martin beyond them. St. Martin's church, which is built of Roman brick, is supposed by some antiquaries to have been erected so early as the second century, and to have been one of the churches of the British Christians in the times of the Roman government. It is stated by Bede to have been standing when Augustine came over, and to have been the first church in which he and his monks performed the services of religion.

CAPABILITIES.

It has often been a question whether great men are the producers or the produced of great crises. We see a Cromwell live for forty years a quiet country-town life, till at length a national convulsion arising, he, being strongly interested in the views of one of the parties, dashes forward, and before passing fifty, has all but the crown of England upon his head. Again, we see a French sous-lieutenant of artillery plunging into his country's history at a time of similar confusion, and making himself the most formidable sovereign upon earth before he is thirty-five. If we were to limit our regard to such facts as these, we should be disposed at once to conclude, that a man of powerful character is nothing, unless an opportunity arise for his entering upon a grand career. But, on the other hand, we often see a powerful mind arise in times comparatively tranquil, and work great marvels, apparently by its own inherent energies. We see at times what seem to be occasions for the coming forward of great

men upon the stage, and yet they do not come. We then begin to think that perhaps a Cromwell, or a Bonaparte contributes to some great, though indefinable extent, in producing the events to which his appearance at first seemed subordinate. We suspect that the civil wars of England, and the French revolution, would not have taken the turn they did, but for the potent and overmastering influence of these individual actors. Thus we are prevented from coming to a decision on the point. And, in fact, this is a question which stands unsettled among thinking men until the present hour.

The question, as it appears to us, can never be definitely settled on one side or the other; for neither view is wholly true. But we believe that the truth preponderates in favor of the argument which considers men as requiring circumstances to evoke their mental powers. Strong, active, and original minds will ever tell to some degree upon their circumstances, be these as impossible as they may; but they can not tell to a great degree, unless at a time when the social elements are in some confusion. And this is simply because, let a single mind be ever so powerful, the fabric of society and its conventionalities is, in ordinary circumstances, stronger still, so that no one can do more than merely modify it in some slight degree, or prepare the way for future operations, whereby it may be affected. If the matter be narrowly examined, it will always be found that, where an occasion for the appearance of a great leader passed over without any one coming forward, the necessary stir of the social elements was wanting. The *vis inertiae* of the mass is what all single minds find fatal to them, when they attempt to do great things with their fellow-creatures. Hence a Luther, rising in the twelfth century, when the Romish church was at its highest pitch of power, would have only broken his head against its walls. As an obscure heretic his name would have been forgotten in a few years. Such minds as his must, in the course of nature, have arisen at various periods among the conventual brotherhoods; but they would never become distinguished for more than a somewhat latitudinarian way of dealing with

the authority of the prior, or perhaps an occasional fractiousness at the elections of sacristans. It is like the wind-sown seed, much of which comes to nothing because it lights in stony places, while only what chances to fall on good ground fructifies. And there is another thing to be considered. The most powerful minds are more or less dependant upon things external to them, in order to be roused into due activity. Such a mind droops like the banner by the flag-staff, till the wind of occasion unfurls it. It may pine, and chafe, and wear itself out in vain regrets and ennui, like the prisoned huntsman, or, in the desperation of forced idleness, or unworthy occupation, waste itself upon frivolities idler than idleness itself. But still it will be for the most part a lost mind, unless circumstances shall arise capable of raising it to its full force, and eliciting all its powers. Here a consideration occurs, calling for some collateral remark. We are apt, at a tranquil period, to pity the men who have to fight through civil broils such as those in which Spain has for some years been engaged. In reality, these men are happier than we think them. They have the pleasure of feeling their faculties continually at the full stretch. Victorious or defeated, hunting or heated, they are thoroughly engrossed in the passing day; not a moment for the torture of excessive ease. Providence is kind to the men who undertake dangerous enterprises. Even when death comes to them no matter how dreadful his shape—he is met in a paroxysm of mental activity, which entirely disarms him of his terrors.

It follows from these considerations, that there must, at all but extraordinary times, be a vast amount of latent capability in society. Gray's musings on the Cromwells and Miltons of the village are a truth, though extremely stated. Men of all conditions do grow and die in obscurity, who, in suitable circumstances, might have attained to the temple which shines afar. The hearts of Roman mothers beat on unnoted lifetime in dim parlors. Souls of fire miss their hour, and languish into ashes. Is not this conformable to what all men feel in their own case? Who is there that has not thought

over and over again, what else he could have done, what else he could have been? Vanity, indeed, may fool us here, and self-tenderness be too ready to look upon the mispending of years as anything but our own fault. Let us look, then, to each other. Does almost any one that we know appear to do or to be all that he might? How far from it! Regard for a moment the manner in which a vast proportion of those who, from independency of fortune and from education, are able to do most good in the world, spend their time, and say if there be not an immense proportion of the capability of mankind undeveloped. The fact is, the bond of union among men, is also the bond of restraint. We are committed not to alarm or distress each other by extraordinary displays of intellect or emotion. There are more hostages to fortune that we shall not do anything great, than those which having children constitutes. Many struggle for a while against the repressive influences, but at length yield to the powerful temptations to nonentity. The social despotism presents the fetes with which it seeks to solace and beguile its victims; and he who began to put on his armor for the righting of many wrongs, is soon content to smile with those who smile. Thus daily do generations ripe and rot, life unenjoyed, the great mission unperformed. Do angels ever weep? If they do, what a subject for their tears in the multitude of young souls who come in the first faith of nature to grapple at the good, the true, the beautiful, but are instantly thrown back, helpless and mute, into the limbo of commonplace. Oh conventionality, quiet may be thy fireside hours, smooth thy pillowed thoughts; but at what a sacrifice of the right and the generous, of the best that breathes and pants in our nature, is thy peace purchased!

Is not one great cause of the dissatisfaction which rests on the close of most lives just this sense of having all the time made no right or full use of the faculties bestowed upon us? The inner and the true man pent up, concealed from every eye, or only giving occasional glimpses of itself in whimsical tastes and oddities—uneasy movements of undeveloped tendency—we walk through a masque called

life, acting up to a character which we have adopted, or which has been imposed upon us, doing nothing from the heart, "goring" our best thoughts to make them lie still. Pitiably parade! The end comes, and finds us despairing over precious years lost beyond recovery, and which, if they were recovered, we would again lose. And, if such be a common case, can we wonder at the slow advance of public or national improvement? There must be a design with regard to highly-endowed natures, that they are to bear upon all around them with such intellectual and moral force as they possess, and thus be continually working on for the general good. This we might consider as a sort of pabulum requisite for the public health—something analogous to air or food with respect to the bodily system. But is this moral necessary of life diffused as it ought to be? Let the endless misdirections and repressions of human capability answer the question.

THE JACA-TREE.

THE bread-fruit tree, originally found in the southeastern parts of Asia, and the islands of the Pacific, though now introduced into the tropical parts of the western continent, and the West India islands, is one of the most interesting as well as singular productions of the vegetable kingdom. There are two species of it: the bread-fruit, properly so called (*Artocarpus incisa*), with the leaves deeply gashed, or divided at the sides, which grows chiefly in the islands;—and the jack-fruit, or Jaca-tree (*Artocarpus integrifolia*), which grows chiefly in the main land of Asia.

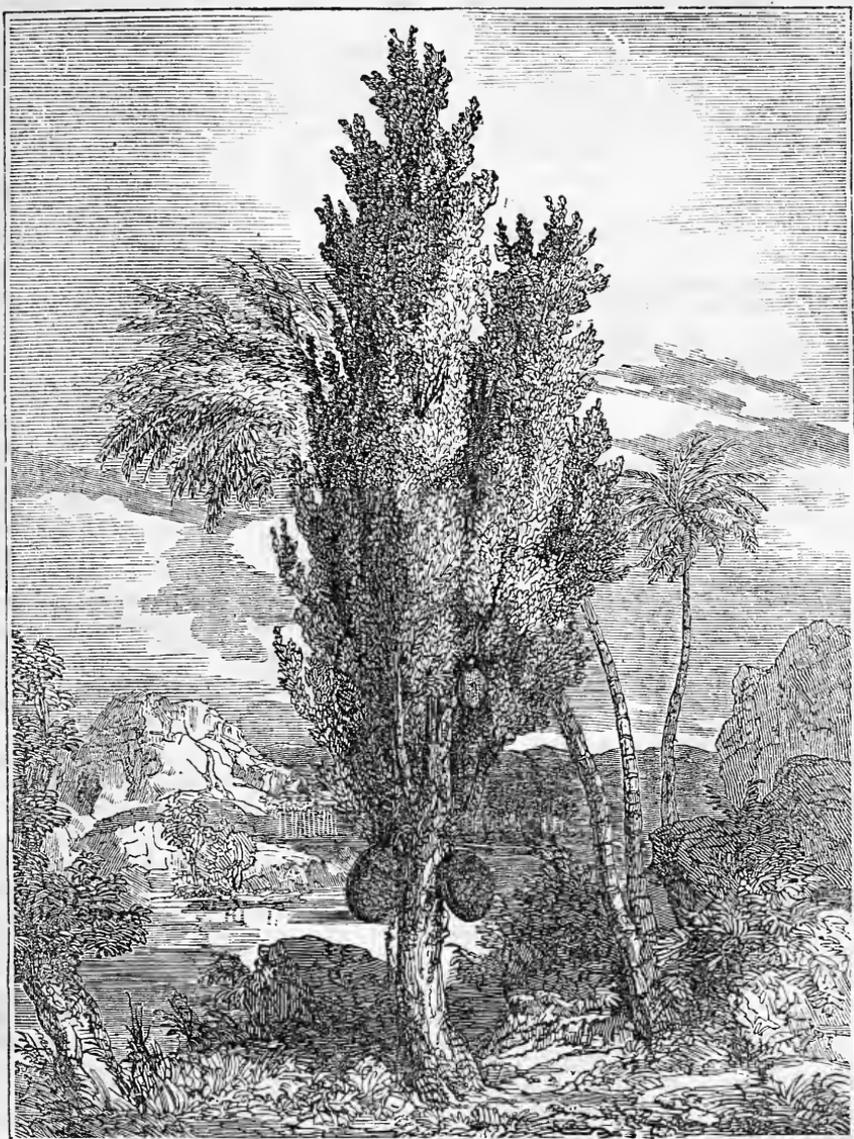
The bread-fruit is a beautiful as well as a useful tree: the trunk rises to the height of about forty feet, and, in a full-grown tree, is from a foot to fifteen inches in diameter; the bark is ash-colored, full of little chinks, and covered by small knobs; the inner bark is fibrous, and used in the manufacture of a sort of cloth; and the wood is smooth, soft, and of a yellow color. The branches come out in a horizontal manner, the lowest ones about ten

or twelve feet from the ground, and they become shorter and shorter as they are nearer the top. The leaves are divided into seven or nine lobes, about eighteen inches or two feet long, and are of a lively green. The tree bears male and female flowers—the males among the upper leaves, and the females at the extremities of the twigs. When full-grown, the fruit is about nine inches long, heart-shaped, of a greenish color, and marked with hexagonal warts, formed into facets. The pulp is white, partly farinaceous and partly fibrous; but, when quite ripe, it becomes yellow and juicy. The whole tree, when in a green state, abounds with a viscid milky juice, of so tenacious a nature as to be drawn out in threads.

The bread-fruit tree continues productive for about eight months in the year. Such is its abundance, that two or three trees will suffice for a man's yearly supply, a store being made into a sour paste, called *mahe* in the islands, which is eaten during the unproductive season. When the fruit is roasted until the outside is charred, the pulp has a consistency not unlike that of wheaten bread, and the taste is intermediate between that of bread and roasted chestnuts. It is said to be very nourishing, and is prepared in various ways.

The timber of the bread-fruit tree, though soft, is found useful in the construction of houses and boats; the male flower, dried, serves for tinder, and the juice answers for bird-lime and glue; the leaves for packing and for towels; and the inner bark, beaten together, makes one species of the South-sea cloth.

The Jaca or Jack, which is represented in our engraving, grows to the same, or even to a larger size, than the bread-fruit of the Society islands; but it is neither so palatable nor so nutritious. Though its specific name implies that it is entire-leaved, the leaves of it are sometimes found lobed, like those of the other. The fruit often weighs more than thirty pounds, and contains two hundred or three hundred seeds, each of them four times as large as an almond. December is the time when the fruit ripens; it is then eaten, though not much relished; and the seeds or nuts also are eaten, after being



The Jaca-Tree, (*Artocarpus integrifolia*.)

roasted. There are many varieties of the Jaca-tree, some of which can hardly be distinguished from the seedling variety of the true bread-fruit. The fruit, and also the part of the tree in which it is produced, vary with the age. When the tree is young the fruit grows from the twigs; in middle age it grows from the trunk; and when the tree gets old it grows from the roots.

THE ROMANCE OF INSECT LIFE.

WE take the following beautiful extract from an historical lecture by Judge Charlton of Georgia:—

“The earth teems with mysteries—the sky shines with them—they float in the air—they swim in the deep—they flash from the dark-robed clouds—they whisper in the gentle tones of the summer wind—they speak in trumpet tongues, in the voice of the tempest and the thunder. Cease thy longings for the ancient days, oh, dreamer! Close thy book and look about thee upon the volume of Nature. See there, before thee, is a tiny insect that thou canst scarce distinguish from the grains of sand that surround it—watch it—it moves on with an energy and an instinct that enables it to overcome or avoid all obstacles. See—it has seized some object larger than itself, and still it goes bravely on—nothing daunts it—nothing stops it—tread it under foot (if thou canst have the heart to attempt such a murder) and it will rise up again beneath the ocean of sand and turn once more to its labor. Dost thou know it? It is the ant, that lion-hearted ant, toiling amid the heat of summer; and though the season’s brightness and its warmth are bringing up and producing ten thousand enjoyments for the little traveller, he is busy gathering together his provender for the long winter time, when frost and snow and cold shall have locked up the granaries of nature.

“Thou wilt tell me, that I am mocking thee, that thou canst see this daily and hourly; and is this a mystery therefore? If thou hadst read in those ancient legends

before thee, of an insect so courageous, that it would attack an animal of ten thousand times its magnitude; of industry so indefatigable, that it would climb house-tops and mountains to pursue its course; of perseverance so unflagging, that though repulsed a thousand times, it would still return and overcome the obstacle that impeded it—thy eyes would have sparkled with interest and amazement; it is because it is constantly before thee—because it belongs to the present time—that thou lookest so disdainfully upon it. When did the knight errants of thy heart do half so much? When did their bosoms beat as high with valor and determination as this poor insect? ‘But it has no loves—no burning jealousies—no blood-stained victories?’ How knowest thou that? I warrant thee, even that tiny breast has grown gentler for some fond one that lived within its little world; that its blood has flowed quicker when some Adonis ant has flirted around the little coquette; that its path has been stained by the trophies of its mimic battles.

“But thou wilt say why dost thou lure me from my glowing page, to point me to this moving atom? Why not show me the majestic mysteries of nature? Why waste my time with a topic so insignificant? I answer because it is insignificant. I point thee there to one of the smallest of earth’s creatures, to ask thee if the atoms contain such wonders, how much more the noble and lofty works of Nature? Follow me, if thou wilt. Let us dive into the caverns of the earth, and mark the sculptured halls—the rocky avenues stretching miles and miles below the busy haunts of men. Let us plunge into the deep, and see the huge leviathan sporting amid the waters; or, the rainbow-hued dolphin, as she flings back bright rays of the glorious sun. Let us climb into the air, and behold the eagle with his untiring wing, and his unflinching eyes, the noble image of indomitable perseverance and of brilliant genius, soaring proudly and gazing fixedly toward heaven’s brightest luminary! Oh, dreamer! if the moments of thy life were multiplied by the sands of the desert, they would be all too short to unravel these mysteries that are around thee and above thee.”

PEAK CAVERN.

THERE is no other county in England which affords such a variety of scenery as Derbyshire, or which presents so striking a contrast in geographical features as that which its northern and southern portions exhibit. The southern part of Derbyshire is a pleasant, fertile district, not distinguished in its general aspect from the other midland counties; but the northern part abounds with hill and dale, and the scenery is often romantic and sublime.

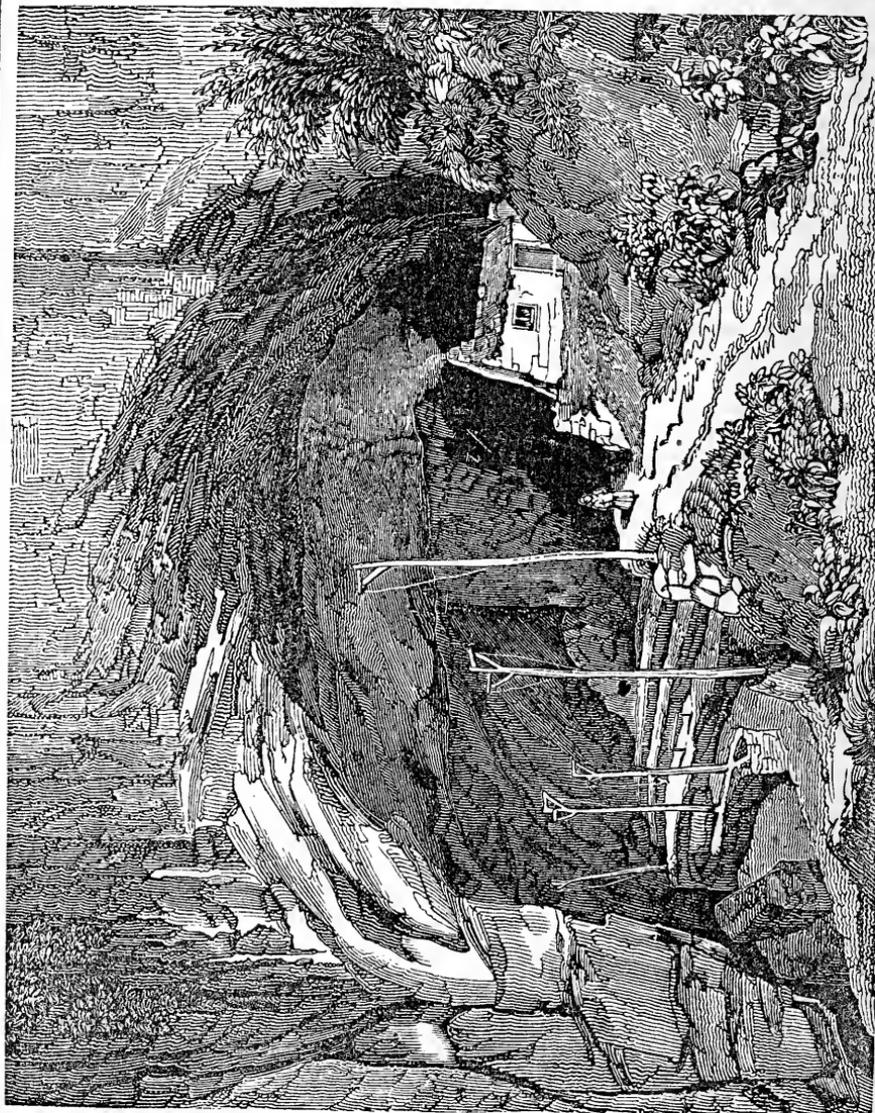
The country gradually rises for about fifteen miles to the northward, and afterward begins to assume that mountainous appearance which it continues to possess to the extremity. A chain of hills arises, which extends to the borders of Scotland. These hills are at first of small elevation; but, being in their progress piled on one another, they form very elevated ground in the tract called the High Peak. The mountains of the Peak, although inferior to those of Cumberland, constitute the loftiest and most considerable range in the midland regions of the kingdom. The highest points are Axe-edge, which is 2,100 feet above the level of Derby, and Kinder-scout, which is 1,000 feet higher than the level of Buxton. About 700 eminences, and 50 rocky caverns, dells, and valleys, have been enumerated in the region of the Peak. From the caverns which, with the other local peculiarities, have been so much celebrated under the title of the "Wonders of the Peak," we have selected the "Peak Cavern," frequently called "Devil's Cave," and, still more vulgarly, "Auld Horney," for particular description.

This cavern is situated about 100 yards from the village of Casleton, in a dale of the same name. This dale is about six miles in length, and, in some parts, two miles in breadth, and is calculated to lie 1,000 feet below the level of the surrounding country. It has been much celebrated for the beauty of its scenery; not, perhaps, that it is in this respect superior to many other of the picturesque valleys in Derbyshire, but the lovely contrast its luxuriance affords to the sterile, bleak, and desolate mountain-tracts previ-

ously traversed, disposes the mind to exaggerate its just claims to admiration.

The cavern itself is one of those magnificent and extraordinary works of Nature which at all times excite the admiration and wonder of the spectator. It would be difficult to imagine a scene more august than that which the entrance or vestibule of the cave presents. On each side the huge gray rocks rise almost perpendicularly to the height of nearly 300 feet, having on the left the rivulet which issues from the cavern, and foams along over crags and broken masses of limestone. The mouth of the cave is formed by a vast canopy of rock which assumes the form of a depressed arch nearly regular in its structure, and which extends in width 120 feet, in height 42, and above 90 in receding depth. This gloomy recess is inhabited by some poor people who subsist by making packthreads, and by selling candles and officiating as guides to travellers. The rude huts and twine-making machines, as exhibited in our engraving, produce a singular effect in combination with the natural features of the scene.

After penetrating about thirty yards into this recess, the roof becomes lower, and a gentle descent conducts by a detached rock to the immediate entrance of the interior hollow, which is closed by a door kept locked by the guides. At this point, the light of day, which had gradually softened into the obscurity of twilight, totally disappears, and torches are employed to illuminate the further progress through the darkness of the cavern. The passage then becomes low and confined, and the explorer is obliged to proceed twenty or thirty yards in a stooping posture, when he comes to another spacious opening, whence a path conducts to the margin of a small lake, locally called "First Water," which is about fourteen yards in length, but has not more than three or four feet of depth. There is a small boat, partly filled with straw, on which the visiter lies down, and is conveyed into the interior of the cavern under a massive arch of rock, which is about five yards through, and in one place descends to within eighteen or twenty inches of the water. Beyond the lake, a spa-



Entrance to the Peak Cavern.

acious vacuity, 220 feet in length, 200 feet broad, and, in some parts, 120 feet high, opens in the bosom of the rocks, but the absence of light precludes the spectator from seeing either the sides or roof of the great cavern. It is traversed by a path, consisting partly of steps cut in the sand, conducting from the first to the "second water." Through this travellers are generally carried on the backs of the guides. Near the termination of this passage, before arriving at the water, there is a projecting pile of rocks popularly called "Roger Rain's house," on account of the incessant fall of water from the crevices of the rocks. A little beyond this spot is the entrance of another hollow called the "chancel." At this point the rocks appear broken and dislocated, and the sides and prominent parts of the cavity are incrustated with large masses of stalactite. In the "chancel," the stranger is much surprised and impressed by hearing the death-like stillness of the place suddenly interrupted by a burst of vocal music from the upper regions of the cavern. The tones are wild and discordant, but heard in such a place, and under such circumstances, produce a powerful impression. At the conclusion of the performance, the singers display their torches, and eight or ten women and children—the inhabitants of the huts at the entrance—appear, ranged in a hollow of the rock, about fifty or sixty feet from the ground, to which they gain access by clambering up a steep ascent. From the "chancel" the path leads onward to the "devil's cellar," and thence a gradual but somewhat rapid descent of about 150 feet conducts to a spot called the "half-way house." Farther on, the way proceeds, between three natural arches, pretty regularly formed, to another vast cavity which is denominated "Great Tom of Lincoln," from its resemblance to the form of a bell. A very pleasing effect is produced when this place is illuminated by a strong light. The arrangement of the rocks, the spiracles in the roof, and the flowing stream, unite to form a scene of no common interest. The distance from this spot to the termination of the entire hollow is not considerable. The vault gradually descends, the passage contracts, and at last nearly closes, leav-

ing only sufficient room for the passage of the water, which appears to have a communication with the distant mines of the Peak Forest.

The entire length of this wonderful excavation is about 750 yards, and its depth 207 yards. It is wholly formed of limestone strata, which abound in marine exuvia, and occasionally exhibit an intermixture of chert. Some communications, with other fissures, open from different parts of the cavern, but none of them are comparable to it in extent or appearance. In general, the access to the cavern is easy; but in very wet weather it can not be explored, as it is then nearly filled with water, which rises to a considerable height even at the entrance. In the inner part of the cavern a singular effect is produced by the explosion of a small quantity of gunpowder, when inserted in a crevice of the rock. The report seems to roll along the roof and sides like a heavy and continuous peal of overwhelming thunder.

INFLUENCE OF THE IMAGINATION.

THE influence of imagination upon the physical powers is well known. It has often been known to cause disease, and sometimes to furnish the most effective remedy. The story of the experiment tried upon the Scotch teamster by the students of the Aberdeen University, is doubtless familiar to our readers. By a preconcerted arrangement one met him at some distance from the city, and with an appearance of anxiety inquired after his health. Jamie replied that he was never better in his life. "I am glad to hear it," said the student, "I thought you looked very pale, your eyes are sunken, as if you were quite ill."—"Well," replied the poor fellow, "I don't know but I do feel a queer sort of pain about my head." Proceeding further he fell in with another student, who exclaimed, "Why, Jamie! what is the matter? Have you been sick?"—"No," replied the Scotchman, feeling really alarmed, "but I am afraid I shall be. My head aches terribly, and I feel a sad weight here,"—laying his

hand on his chest. "My good fellow," added the student, "I would advise you to take care of yourself; you look as if you were not long for this world." The victim of the experiment groaned and went on his way, and by the time he met the third student he was really ill, and in answer to the urgent inquiries after his health, he stated that he was very ill, indeed, and begged him to help him into his wagon, and assist him into the city, as he wished to have a doctor, and send for his family, for he felt he was not long for this world!

We have witnessed many cases, in different parts of the world, of yellow fever, that terrible disease, and we never knew a case where, whatever might be the violence of the attack, the patient did not recover, provided his spirits were buoyant, and he looked confidently forward to such a result. And on the other hand, we have seldom, or never known a person to overcome the disease, if his fortitude left him at the earliest symptoms of the fever, and he predicted, as is too often the case, that he should die. Physicians are well acquainted with the influence which fear, and other passions of the mind, exercise over the corporeal functions; and *hope* is with some, a more powerful curative remedy, than the nostrums which are enumerated in the most voluminous pharmacopeia. Many instances might be quoted to show the intimate connexion between the mind and the body, and the exercise of that mysterious power which is known under the unmeaning term of *sympathy*, some of which are curious enough, and will doubtless be new to many of our readers.

Some years ago, the people employed in a manufactory at Preston, Lancashire, England, were much alarmed by an uncommon distemper breaking out suddenly among the women and girls employed in the spinning department, and spreading with great rapidity. A healthy young woman dropped down suddenly in a convulsive fit, and remained in that situation for nearly thirty-six hours, with only a few slight intervals of about ten minutes each. After this time the convulsions returned for several days in fits of a quarter of an hour, and four hours' continuance,

but with much longer intervals. Two days afterward, another person who had worked with this woman, was also affected in the same manner; upon the following day eight more; the next day six; and the next day four. The patients had little or no warning of the approach of the fits, but fell down speechless, and remained perfectly delirious, during their continuance, with the body bent backward, and so powerfully convulsed that five or six people were scarcely sufficient to prevent a young girl from biting or tearing herself, or dashing her head against the wall or floor. In a few days, the terrors of these people and all around them were increased to the highest pitch, by the spreading of the complaint and still more by the inefficacy of all the means tried for their recovery—and the dreadful idea that the disease was the plague or some similar infection introduced by the cotton.

A physician of the place being consulted, declared that the disease was entirely nervous; and upon careful investigation ascertained that the person first affected had been thrown into that situation by the wanton application of a living mouse to her cheek, an animal which excited in her a kind of horror, and that the rest, who were chiefly young women, had been afflicted, merely by a kind of *sympathetic* epidemic. The application of electricity, of soothing medicines, but above all the separation of the patients, and the quelling of their apprehensions by assurances of a speedy recovery, soon put a stop to the progress of the disorder, and effected a cure; insomuch that in a few weeks they all went to work again, and had no return of the complaint.

The celebrated Dr. Darwin, in speaking of this species of disease, calls it an *irritative imitation*, of which we are almost unconscious, and to which we are drawn mechanically. The act of *yawning* is propagated from one person through a whole company. The acts of *squinting* and *stammering* are propagated by associations with those who have these habits. Baglivi mentions a young man, who looking at a person in an *epileptic fit*, was himself taken with one. Dr. Whytt says, that in the royal infirmary hysteric fits spread from one woman among the rest.

Dr. Børhaave says that at Harlæm, a person under an impression of terror, fell into a convulsive disease, which returned in regular paroxysms. One of the bystanders was seized with similar fits, returning in regular paroxysms. A third and fourth were taken in the same way. In short, almost all the girls and boys in the charity-house were taken with these convulsions. When one was seized, the rest followed in convulsions. All other remedies having failed, the doctor informed them that there was no other cure, but *burning them in the arm to the bone*, as soon as they were taken; and hot irons were accordingly prepared. He was thus enabled by this stronger mental impression, to resist the influence of the morbid propensity. The fits ceased.

It is also recorded that a similar disease spread in a certain neighborhood in the island of Anglesea. The disorder began with pain in the head, preceded by violent twitchings in the upper extremities, causing the shoulders almost to meet by the exertion. A cure was effected here and the spread of the disease stopped, by *prohibiting all intercourse with those affected*. "I warned them," says Dr. Haygarth, "that if this caution was not observed, the epidemic might spread through the whole land."

This is the same Dr. Haygarth, who produced very important changes in the bodily functions of several individuals who were, as he supposed, brought under the agency of Perkins' tractors, in reality *merely acted upon by pieces of rotten wood, or rusty iron*; under this supposition, however, several chronic maladies, which had refused to yield to medicine, were materially mitigated, and at least temporarily cured!

It is also related that, in 1774, in the parish of Unst, a shocking distemper prevailed among young women. It began with a palpitation of the heart, then swooning fits followed, and they would be motionless for upward of an hour. When any violent passion seized them, or on a sudden surprise, they would fall down, toss their arms about and twist their bodies into very odd shapes, crying out most dismally. They were commonly seized at church, and when one was seized others

would follow. On a sacramental occasion, fifty or sixty were carried out into the 'church-yard, where they struggled and screamed for five or ten minutes, and then rose up without any recollection of what had happened to them. A cure was effected by the rudeness of a church officer, who, provoked at the increase of his labors in taking care of those who were under this species of illness, threw one into a ditch of water. The fear of being served in the same manner prevented any other swoonings!

From this principle of imitation, crimes of a certain character are sometimes rife at one period, and we hear in one year accounts of *mobs* and *riots* in different parts of the country—in another year of *murders*—in another of *incendiaries*, &c. At some periods *suicides* seems to prevail and become an epidemic. Indeed, we read that in the early stage of the Roman commonwealth, this strange propensity of self-destruction prevailed among the women to such an extent as to excite the greatest alarm, and after various modes had been in vain adopted to prevent the unnatural crime, it was ordered that the body of every person who had committed suicide, should be entirely stripped of its clothing, and exposed naked in the public squares. This plan proved effectual. The modesty of the Roman women was so great, that it overcame their strange propensity to commit suicide. It was upon this principle that a law was formerly enacted in England that a suicide should be buried naked in a crossroad, and a stake driven through the body. This law, which was regarded as barbarous and brutal, was inoperative, for the inquests generally returned verdicts of *insanity*, and the provision was carried into effect only when the criminals were paupers, or altogether friendless and unknown. We believe that this law is now repealed.

From this desire to *imitate*, this sympathetic feeling, often arises the intrepidity of armies in battle; and here we may look for the cause of the *panic fear*, which at another time will prevail and freeze the energies of a mighty host. Here also we may find the key to many of the strange and mysterious doings in the days of *witchcraft*, which sadly perplexed many able

and learned philosophers and divines, which were ascribed to the agency of the devil; and in this principle of imitation, of imagination, of credulity, we may look for the solution of many of the wonders which are ascribed to the powers of animal magnetism, and which are related on the authority of credible witnesses.

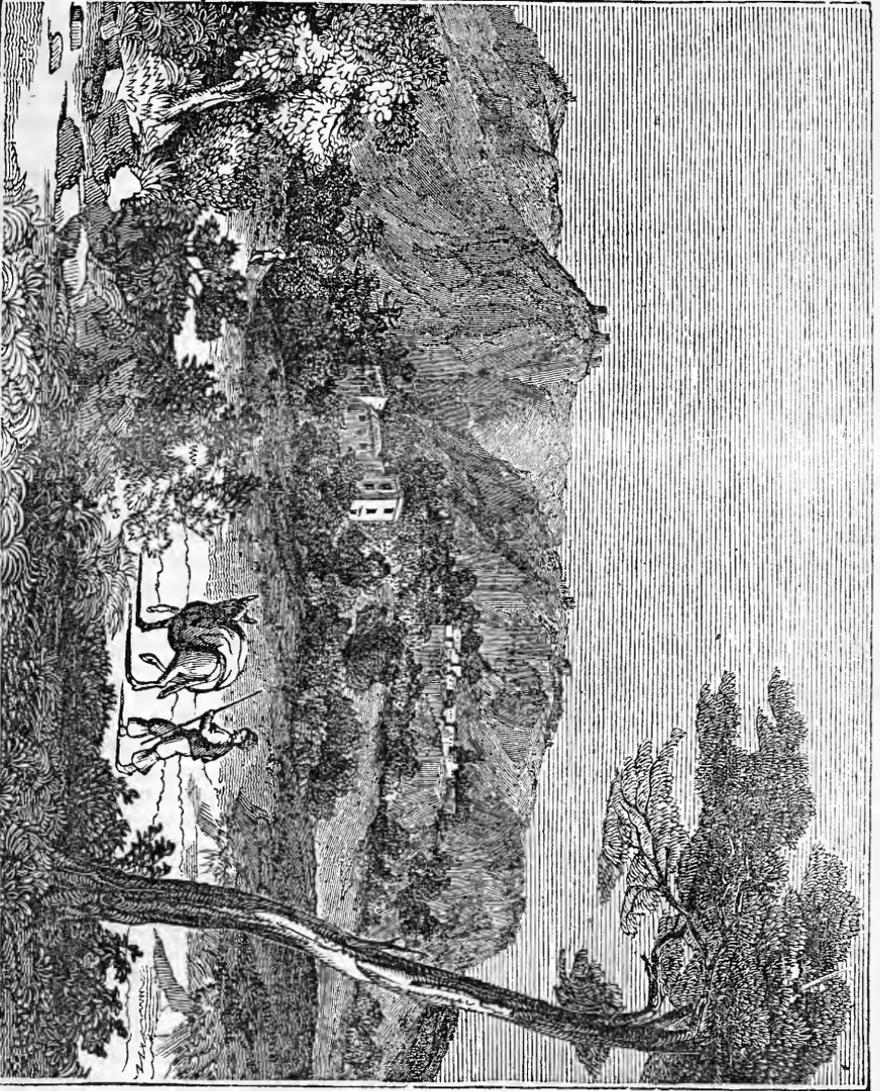
THE REPUBLIC OF SAN MARINO.

THIS little republic is the only one left of the many republics into which Italy was once divided, and is the smallest independent state of Europe. A rude, craggy mountain, about eleven English miles to the south of Rimini, and a few hillocks scattered around the mountain's base, comprise the whole of this republican territory, which is nowhere six miles across. The entire population does not much exceed 7,000 souls. The bold rock on which San Marino stands, its rugged outline, dotted here and there by a church, a convent, or a tower, formed the most striking feature in the landscape.

The origin of this poor little republic, which had survived so many mighty ones that have fallen around her, and still looks with freedom from her rocky seat over her prostrate and enslaved neighbor, Venice, is exceedingly curious and interesting. Toward the end of the third century of the Christian era, Rimini—then called by its Latin name, Ariminum—having completely fallen to ruins, the reigning Roman emperor, Diocletian, undertook to restore the city, which is advantageously situated on the shores of the Adriatic sea. To this end, he invited from the opposite coast of the Adriatic, which was his native place, a number of artists and workmen. There came to Ariminum a great number of architects, chisel-men, or, let us say, stone-cutters, and bricklayers, and with them an infinity of Slavonian workmen. Among these Slavonian masons and builders, there was one Marino, a man of a good character, who soon distinguished himself as a fervent friend of the Christian church as then established in Italy. After Diocletian had been the

benefactor of Rimini, which, under the hands of Marino and his companions, soon rose from its ruins, that emperor became the scourge of all Italy, by instituting an abominable religious persecution. In ecclesiastical history this is called "The tenth persecution of the Christian church." It was commenced by Diocletian, A. D. 303, and proved one of the most sanguinary of the attempts made to conquer men's conscience and belief by force. In Rimini alone, according to an old historian, "rivers of catholic blood flowed, not to earth, but to heaven!" Driven to desperation, the catholic population at last rose against the emperor's pro-consul and their other rulers. A serious conflict, in which Marino took part with the bishop of Forli, Forlimpopoli, and other churchmen, ensued, and seems to have terminated disadvantageously for the persecutors. After this Marino withdrew to the rugged, but safe recesses of Monte Titano, as the mountain which is now the territory of the republic was then called. In that solitude he gave himself more and more up to devotion; and the rigid penances to which, in accordance with the notions of that early age, he subjected himself, soon obtained for him the reputation of sanctity, and attracted numbers to the place of his retreat. Many of his countrymen, who had come with him from Dalmatia to Rimini, had brought their wives and children with them, and it seems probable that these formed the original nucleus of the little independent state. At the same time, however, persecution and war would drive some of the native Italians of the plain to the safety of that mountain.

A few years after his first retreat, when something like peace was restored to the church, Marino descended from his rock, and attended an ecclesiastical conciliabulum held at Rimini. By this time the stone-mason was a dignitary of the catholic hierarchy, for he was styled Diaconus, or Deacon. When he died, full of years and holiness, his ashes were buried on the mountain-top, and miracles were said to be wrought at his tomb. In later years he was canonized by the pope, and the name of Monte Titano was changed into his name—San Marino. The sanctity thus attached to the spot, and the feelings



San Marino.

of religion, have perhaps contributed as much in certain ages to the preservation of the republic from the hostile attack of its neighbors as its smallness, poverty, and inoffensiveness.

When Bonaparte with the army of the French republic appeared as the conqueror of Italy, in the neighborhood of San Marino, he sent a congratulatory deputation to the sister republic, which expressed the reverence felt by her young sister, France, for so ancient and free a commonwealth, and offered the state four pieces of artillery and an increase of territory. This was on the 11th of February, 1797. The cannon were gratefully accepted, but the other tempting offer was wisely declined.

At the end of the last, and at the beginning of the present century, when political malcontents were numerous and rigidly pursued by hostile governments, San Marino was often the asylum of men of opposite parties at the same time; and the government only preserved peace by strictly prohibiting all political discussion among the refugees. The fear of incurring expulsion from the territory, and consequent seizure by their enemies, seems to have been sufficient to restrain the partisanship of the most violent, for the regulation was strictly observed. Among the most distinguished of these guests was the Chevalier Delfico, a subject of the king of Naples, and an author of some eminence. He lived many years on the mountain, acquired the rights of citizenship, and ever afterward styled himself in the title-pages of the books he published and in other documents—Delfico, Cittadino di San Marino.

The constitution of the republic is rather aristocratical than otherwise. Although an approach to universal suffrage is nominally admitted, and although it is prescribed in their original charters that the sovereign power is lodged wholly and solely in the Arengo, or great council, in which every family shall be represented by one of its members, all authority has gradually fallen into the council, called "of sixty," but which in reality consists of only forty citizens. Again, half of the council of sixty were, by law, to be elected out of the plebeian order, and the other half, and no more, chosen from among the nobility.

Now, however, the council is wholly composed of the *richest* citizens, whose relative antiquity of descent or aristocracy of blood we could not ascertain.

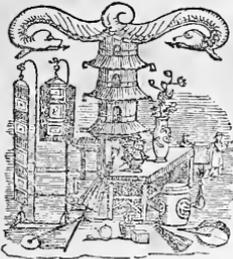
The Arengo, or popular body, has sometimes been called together of late years in cases of extraordinary emergency. This is done merely by the ringing of a great bell, whose tones can very well be heard all over the republic. An old law enacts that every member who does not attend the summons be fined a sum about equal to an English penny, and that this fine be paid "sine aliquâ diminutione aut gratiâ."

The miscalled council of sixty nominate ten of their members, out of whom two are chosen by lot, and named capitanei reggenti. One of these capitanei has jurisdiction over the city, and the other over the country. Their power only lasts six months, and they can not be re-elected to these supreme posts until after an interval of three years. Joined with them there is a commissary to judge all civil and criminal matters; he *ought* to be a foreigner—the native of some other Italian state—a doctor of laws, and a man of well-established integrity of character. This officer is chosen for three years, and maintained at the public expense.

All the citizens capable of bearing arms are regularly drilled and trained. The territory of the republic, rugged as it is, yields a quantity of good wine and fruit, and the pasturage is abundant and fine. There are no springs or fountains on the mountain, but rain and snow-water are plentifully preserved in cisterns and tanks cut in the rock. The wine-cellars, similarly excavated, are deliciously cool and excellent. The wines of the hill are particularly lauded by an old historian of the republic, who says: "The wines are so mild, pure, agreeable, and good, that they have no need to envy the clarets of France." The largest of the churches, which contains his ashes, is dedicated to San Marino, but has nothing remarkable about it except a statue of the saint over the high altar, which holds in his hand the figure of a mountain crowned with three towers. The mountain and the towers are the appropriate arms of the commonwealth.

BOOKS

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