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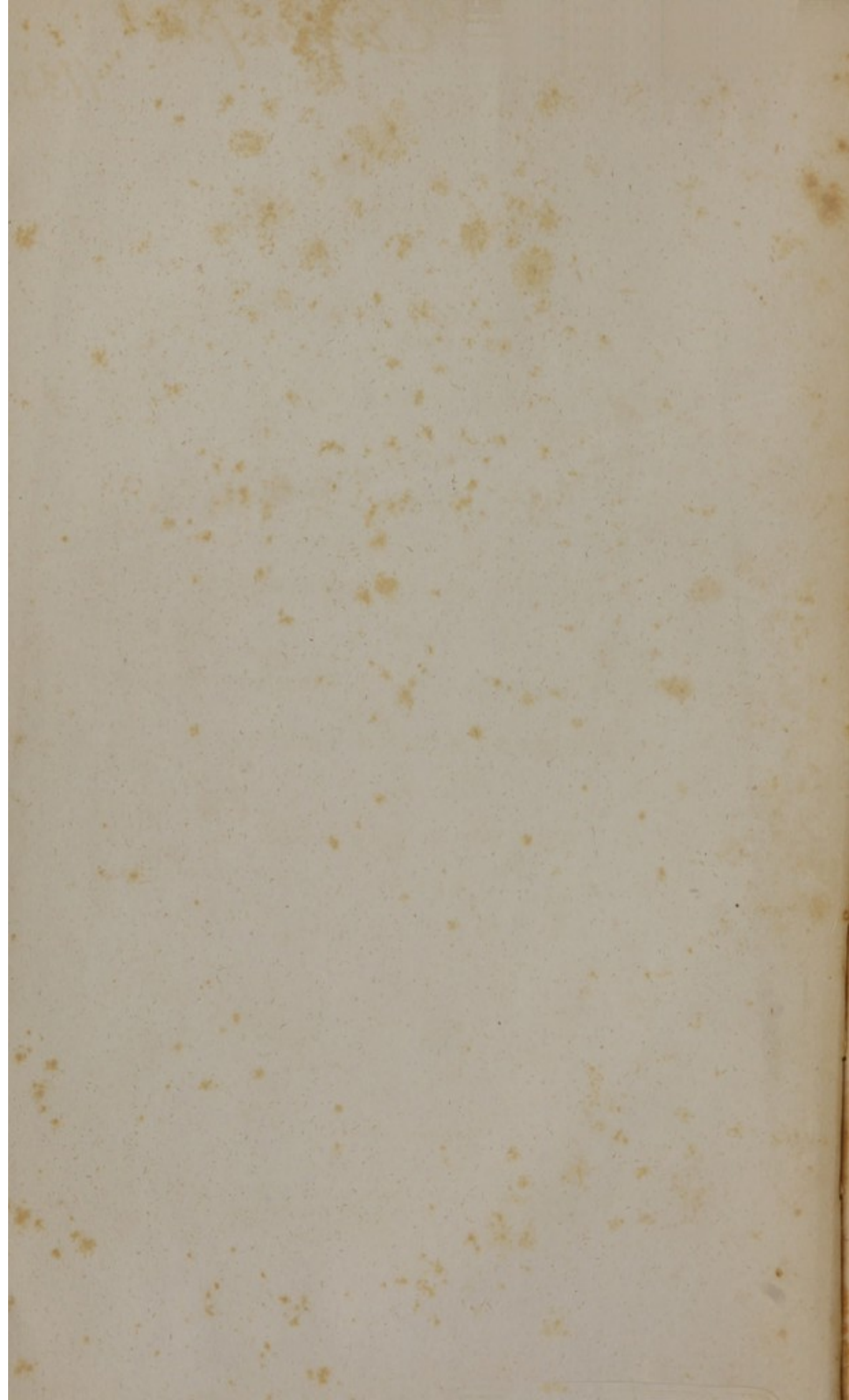
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A
POPULAR DICTIONARY
OF
ARTS, SCIENCES, LITERATURE, HISTORY, POLITICS AND
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BROUGHT DOWN TO THE PRESENT TIME;
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A COPIOUS COLLECTION OF ORIGINAL ARTICLES
IN
AMERICAN BIOGRAPHY;
ON
THE BASIS OF THE SEVENTH EDITION OF THE GERMAN
CONVERSATIONS-LEXICON.

EDITED BY
FRANCIS LIEBER,

ASSISTED BY
E. WIGGLESWORTH.

Vol. IV.

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CAREY AND LEA.
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1830.

EASTERN DISTRICT OF PENNSYLVANIA, to wit:

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"Encyclopædia Americana. A Popular Dictionary of Arts, Sciences, Literature, History, Politics and Biography, brought down to the present Time; including a copious Collection of Original Articles in American Biography; on the Basis of the seventh Edition of the German Conversations-Lexicon. Edited by Francis Lieber, assisted by E. Wigglesworth."

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D. CALDWELL,

Clerk of the Eastern District of Pennsylvania.

Med. Hist.

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ENCYCLOPÆDIA AMERICANA.

CRANTARA (Gaelic, *crean tarigh*); the cross of shame, because, says sir Walter Scott, in his note on the passage of the Lady of the Lake (canto 3), in which he has made such a fine use of it, disobedience to what the symbol implied, inferred infamy. The Highlanders of Scotland appear to have borrowed it from the ancient Scandinavians, of the use of it among whom, for rousing the people to arms, Olaus Magnus gives a particular account. As late as the insurrection in 1745, the *crantara*, or fiery cross, was circulated in Scotland, and, on one occasion, it passed through the district of Breadalbane, a tract of 32 miles, in three hours. After Charles Edward had marched into England, two of the king's frigates threatened the coast with a descent. The *crantara* was sent through the district of Appine by Alexander Stuart of Invernahyle (who related the circumstance to sir Walter Scott), and, in a few hours, a sufficient force was collected to render the attempt of the English hopeless.

CRAPE; a light, transparent stuff, like gauze, made of raw silk, gummed and twisted on the mill, woven without crossing, and much used in mourning. Crape is either craped (i. e., crisped) or smooth. The silk destined for the first is more twisted than that for the second, it being the greater or less degree of twisting, especially of the warp, which produces the crisping given to it, when taken out of the loom, steeped in clear water, and rubbed with a piece of wax for the purpose. Crape is all dyed raw. This stuff came originally from Bologna; but, till of late years, Lyons is said to have had the chief manufacture of it. It is now manufactured in various parts of Great Britain. The

crape brought from China is of a more substantial fabric.

CRAPELET; father and son; two printers. The father, Charles, born at Bourmont, Nov. 13, 1762, established his printing-office in 1789, and died Oct. 19, 1809. He might be called the *French Baskerville*. Like this printer, he endeavored to unite the greatest simplicity with elegance, to deliver the art of printing from the heterogeneous ornaments with which it was so overloaded, particularly in France, and from which even Didot could not entirely free himself; but he surpassed his model in the form of his types and the regularity of his work. His editions are no less correct than neat and beautiful. He has also been successful in printing on parchment, and has shown his skill by producing an impression in gold (13 copies of Audebert's *Oiseaux dorés*, Paris, 1802, 2 vols., folio).—A. G. Crapelet has extended his father's business, and has even excelled him in elegance. His *Lafontaine* (1814), *Montesquieu* (1816), *Rousseau and Voltaire* (both 1819), are monuments of his taste; and the large vellum-paper copies are truly splendid works. The words "*De l'imprimerie de Crapelet*" are a great recommendation. Renouard has had all the editions published at his expense printed by Crapelet, who, in 1800, employed 22 presses.

CRASSUS. Two Romans of this name are here to be mentioned. 1. Lucius Licinius Crassus, who was made consul A. U. C. 658 (B. C. 96), and passed for the greatest orator of his time. He was distinguished for talent, presence of mind and integrity. 2. M. Licinius Crassus, surnamed *Dives* (the rich), so called, like many of his family, on account of his vast

riches. He possessed a fortune equal to \$5,000,000. He once gave an entertainment to the whole people, in which 10,000 tables were set, and, besides this, distributed corn enough to last each family three months. In the years of Rome 683 and 698, he was a colleague of Pompey, in the consulship, and, in 688, censor. As he was one of the most influential men in Rome, and very ambitious, his friendship was sought by Cæsar, who formed, with him and Pompey, the famous triumvirate. He perished, with a great part of his army, in an expedition against the Parthians, undertaken from motives of avarice and ambition, B. C. 53.

CRATER. (See *Volcano*.)

CRAVAT; an unhealthy, uncomfortable, unbecoming article of European and American dress. The ancients were unacquainted with this ridiculous and injurious style of bundling up the neck. They left unconfined that important region of the body, through which so many vessels pass, and in which are situated so many organs, which will endure no constraint with impunity. In some cases, indeed, they defended themselves from the cold by a woollen, cotton or silk band, called, in Latin, *focale*, from *fauces*, throat. But no one could venture to use this contrivance publicly, unless he was sick; in which case he might cover his head, and the upper part of the shoulders, and even wear breeches (q. v.), without disgrace. "*Palliolum, sicut fascias et focalia,*" says Quintilian, "*sola excusare potest valetudo.*" It was allowable, indeed, to cover the neck with the *toga* in bad weather, or to hold the hand over it, for the preservation or restoration of the natural temperature. The Poles never wear any thing round the neck, notwithstanding the severity of their winters. The same custom prevails among the Orientals, by whom a white, round neck is compared to the beauty of an ivory tower. The bare neck gradually became unfashionable in Europe. It was at first surrounded, but not constrained, by a starched band of fine linen, on the upper edge of the shirt, falling back naturally upon the bust, where it was fastened by a small cord. This was the origin of all the different species of collars since used—the innocent parent of those thick, hot folds, in which the neck was destined to be afterwards muffled. Ruffs, stiffened or plaited, single or in many rows,—an inconvenient, indeed, but not a dangerous ornament,—had their turn, and lasted as long as short hair was in fashion. They were abandoned, when Louis XIII allow-

ed his hair to grow: then standing collars, embroidered and pinked, the plaited colarettes, the neck-band, plain or laced and pointed, encompassed the neck chin-deep; and, when Louis XIV adopted those enormous periwigs, which hardly left the throat visible, all these splendid envelopes gave way to ribands, tied in brilliant bows. Next came the epoch of the dangerous subjection of the neck to constriction and compression, from which it had hitherto been exempt. In 1660, a foreign regiment arrived in France, composed of Croats, in whose singular costume one thing was generally admired and imitated. It was a bandage about the neck, consisting of common stuff for the soldiers, and of muslin or silk for the officers. The ends were disposed in a bow, or garnished with a tuft or a tassel, and hung not ungracefully over the breast. This new article of dress was at first called a *croate*, and afterwards, by corruption, a *cravat*. The military and the rich, at that time, wore very fine cravats, with the border embroidered, or edged with broad lace. Those of the soldiers consisted of a scrap of cloth, of cotton, or, at the best, of black, plaited taffeta, bound round the neck by two small cords. Afterwards, the place of these cords was supplied by clasps or a buckle, and then cravats took the name of *stocks*. Under Louis XVI, the stocks yielded to the cravats *à la chancelière*. The last flourished but for a moment: the revolution came, and with it disappeared cravats, and even tight breeches. Soon after this epoch (1796), the cravat recovered its popularity, and increased to an incredible degree of extravagance. Some persons enveloped the neck with whole pieces of muslin; others, with a padded cushion, on which were wrapped numerous folds. In this way, the neck was puffed out so as to be larger than the head, with which it was imperceptibly confounded. The shirt-collar arose above the ears, and the upper edge of the cravat buried up the chin and the mouth nose-deep; so that the visage, bristling on either side with a grove of bushy whiskers, and its upper regions ensconced to the eyes by the hair flattened down over the brows, absolutely showed nothing except the nose, projecting in all its plenitude. The exquisites thus cravatted resembled any thing rather than men, and afforded excellent subjects for caricatures. If they wished to look any way except straight forward, they were obliged to turn the whole trunk, with which the neck and head formed but one piece. It was im-

possible to incline the head in any direction. Most fashions have been invented to hide an infirmity or a deformity: large cravats were probably first used to conceal some disagreeable scars, or some unlucky malformation. A singer or a public speaker cannot use his voice to advantage during the time when his cravat is tied too tight. The habit of wearing large cravats renders the neck very liable to be affected by exposure. By uncovering the neck imprudently when heated, severe and dangerous diseases have often been contracted. A young man or young lady, on leaving a party in a warm apartment, should be careful to protect the neck and breast from cold.

CRAVEN, Elizabeth, lady; margravine of Anspach, youngest daughter of the earl of Berkeley; born in 1750, and married in 1767, to William, last earl of Craven, by whom she had seven children. But, after a connexion of 14 years, in consequence of his ill-treatment, a separation was agreed upon in 1781. Lady Craven, after this, lived successively at the courts of Versailles, Madrid, Lisbon, Vienna, Berlin, Constantinople, Warsaw, St. Petersburg, Rome, Florence and Naples; then in Anspach, where she became acquainted with the margrave Christian Frederic Charles Alexander, a nephew of Frederic the Great. On this tour, in 1787, she was persuaded by the count Choiseul-Gouffier, French ambassador to Constantinople, to descend into the grotto of Antiparos, which no woman had ever before visited. After the death of lord Craven, at Lisbon, in 1791, the margrave married her, surrendered his estates to the king of Prussia for a yearly pension, and went, with his consort, to England, where he purchased an estate (Brandenburg), not far from Hammersmith, and died in 1806. From that time, lady Craven has lived partly in England, partly in Naples. The account of her travels through the Crimea to Constantinople, in a series of letters, was first published in 1789. A new enlarged edition appeared in 1814. Besides these, she has written poems, plays and romances; also her own memoirs (Memoirs of the Margravine of Anspach, formerly Lady Craven, &c., London, 1825). These are interesting on account of her intercourse with Catharine II, Joseph II, and other princes.

CRAWFISH (*astacus*, Fab.); a crustaceous genus, belonging to the family *decapoda macroura* (ten legged, long tailed), characterized by having the anterior part of the elongated semi-cylindric superior shell

produced to form a rostrum or beak; the abdomen large, slightly attenuated posteriorly, composed of six joints, forming a tail quite as long, when extended, as the body, and terminating in five broad-fringed, swimming appendages, which fold laterally upon each other. In both sexes, the under part of the abdomen is generally provided with five pairs of false claws, each terminated by two plates or plaments. The exterior jaw-feet are mostly narrow, elongated, and do not entirely cover the other parts of the mouth. The gills are pyramidal, brush-shaped, or plume-like, separated from each other by tendinous slips, and situated beneath the sides of the great superior shell, over the external base of the feet. Of the latter, the second and third pairs are elongated, slender, and furnished at the last joint, which is movable, with small pincers; the fourth and fifth pairs have the last joints simply pointed or hooked. The sexual organs are placed, in both sexes, in the basal joint of the last pair of feet. The species belonging to this genus, as at present restricted, do not exceed six. Some of these kinds are peculiar to salt and others to fresh water. Of the former, the most celebrated is the lobster (*astacus gammarus*), so prominent among the luxuries of New York, and our other eastern maritime cities. In their modes of living, the crawfish generally resemble the aquatic crabs (see *Crab*), feeding on putrefying animal matter, spending their time on the sandy or rocky bottom of deep waters, and only approaching the shallows when impelled by the necessity of undergoing their change of shell, or when under the sexual influence. The common lobster is the largest species, and grows to a size which may well appear wonderful to persons accustomed to see none but small ones. They are brought to the New York market more than two feet in length, and weighing 20 pounds and upwards. Such individuals, however, are not preferred for the table, as their size is a good indication of their age, and their period of life is stated to extend to 20 years and more. The smaller, or half-sized lobsters, are considered the best. The quite small, or young ones, which are commonly sold in New Haven (Connecticut), as too small for the New York market, are, in our opinion, far superior to either.—The fresh-water crawfish, of which one species (*astacus bartonii*) is very common in most of the fresh-water streams and brooks from Pennsylvania southward, affords us the best opportunity for observing their habits. We

find them inhabiting excavations of considerable depth along the borders, or a short distance within the current of the stream, at the bottom of which they lie hid. In the spring of the year, by cautiously approaching, and remaining quietly on the margin of such a stream, we may see the crawfish industriously bringing from the lower part of their caves the dirt accumulated there; and this enables us to comprehend the manner in which they originally made their retreats. Upon the two great claws, folded towards each other, and thus forming, with the front of the body, a sort of shelf, the dirt is carefully brought to the surface, and thrown down just where the current will sweep it away. As the substances thus brought up are very light, it requires a very gentle movement of the animal to avoid spilling, or rather washing off his lading; and he therefore rises in the gentlest and most circumspect manner. We can testify to the patience with which this labor is continued, as, with the view of observing the operation, we have often quietly pushed in the earth from the edge of the water, which they as often have toiled on to remove. It is upon these fresh-water species that the observations have been made, relative to the re-production of limbs or claws violently broken off. But a short time elapses before a growth or vegetation occurs at the stump or broken part, and a new limb, similar to the original, though sometimes rather smaller, is soon formed. This facility of re-production is found to extend throughout the crustaceous class. Fresh-water crawfish are regarded by many as furnishing a delicate dish for the table, though their small size, and the trouble of collecting a sufficient number of them, are great obstacles to their being extensively employed in this way. They are preyed upon by various animals, especially by certain birds, whose long bills are adapted to picking them out from the bottom of their dens.

CRAYER, Gaspar, a Dutch painter, born in 1582, at Antwerp, was a pupil of Raphael Coxie, and became, by the study of nature, one of the greatest historical and portrait painters. At the Spanish court in Brussels, he painted the portrait of the cardinal Ferdinand, brother of the king, and received a pension. He established himself in Ghent, where he constantly executed works for the court. He labored with industry and perseverance till his 86th year. When Rubens saw his finest painting in the refectory of the abbey of Affligem, he cried out, "Crayer, Crayer,

nobody will ever surpass thee!" The city of Ghent alone had 21 altar-pieces by him. In Flanders and Brabant are many of his works, and some of his pictures are in the public collections at Vienna and Munich. His paintings are praised for fidelity to nature, excellent drawing, and a coloring approaching the manner of Vandyke. The latter was his friend, and took his likeness. Crayer died in 1669.

CRAYONS; a general name for all colored stones, earths, or other minerals and substances used in designing or painting in pastel, whether they have been beaten, and reduced to a paste, or are used in their primitive consistence, after being sawn or cut into long, narrow slips. The sticks of dry colors which go under this name, and which are cemented into a friable mass, by means of gum or size, and sometimes of clay, afford a very simple means of applying colors, being merely rubbed upon paper, after which the shades are blended or softened by means of a stump or small roll of leather or paper. The drawings require to be protected by a glass covering, to save them from being defaced, unless some means have been adopted to fix them, so that they may not be liable to be rubbed off. This may be done by brushing the back of the paper with a strong solution of isinglass, or by passing the drawing through a powerful press, in contact with a moist paper.

CREAM OF TARTAR (*potassæ supertartaras*; *cremor tartari*). This salt exists in grapes and in tamarinds. The dregs of wine also contain a considerable quantity of it. Cream of tartar contains a very considerable proportion of super-tartrate of potassa, about seven or eight hundredths of tartrate of lime, and a small quantity of silica, albumen, iron, &c. It is insoluble in alcohol, but may be dissolved in 15 parts of boiling and 60 of cold water. It may be rendered much more soluble by mixing with it a certain quantity of boracic acid or borate of soda, which renders the cream of tartar soluble in its own weight of cold water, and in the half only of this menstruum when boiling. This preparation is known by the name of *soluble cream of tartar*. Its aqueous solution is soon decomposed by the contact of the air. It is obtained by dissolving in boiling water the common tartar—a white or reddish crystalline matter, which forms on the internal sides of the vessels in which wine has been kept—mixing with it some clay, which precipitates the coloring matter, and then permitting the liquor to crystallize. The action of this substance

varies according to the dose in which it is administered. In small doses, it is absorbed, and acts as a temperant; and, in this quality, it is employed in jaundice, foulness of the stomach and intestines, &c. In larger doses, it principally spends its action on the mucous intestinal membrane, and induces alvine evacuations, especially when given in powder. Its taste being rather less unpleasant than that of some other neutral salts used in medicine, and its operation being of a very gentle nature, it is very frequently administered. In France, the soluble cream of tartar is generally preferred.

CREBILLON, Prosper Jolyot de, the elder, a writer of tragedy, who is compared, by his countrymen, even to Æschylus, born at Dijon, Feb. 15, 1674, early manifested talent at the school of the Jesuits in his native town, but, at the same time, a boisterous and heedless temper. Being designed for the profession of law, he was placed with an attorney named Prieur at Paris; but they were both lovers of the theatre, so that the youth made little progress in his studies. The attorney perceived, too, that his pupil was disqualified for the profession by his passionate temperament, but showed penetration and judgment in his criticisms on dramatic performances: he therefore advised him, though he had, as yet, written nothing but some trifling songs and scraps of verse, to apply himself to dramatic composition. Crébillon did so; but his first piece, *La Mort des Enfants de Brutus*, was rejected by the players. He burnt the manuscript, and resolved to have no more to do with the drama; but, subsequently, at the persuasion of Prieur, he wrote *Idoménée*, which, in 1705, was brought upon the stage. The faults of the play were overlooked in consideration of the youth of the author, and the promising talent which it displayed; and the promptness with which the author in five days wrote anew the last act, which had displeased at the first representation, drew the attention of the public to the young poet, whose talents, after the appearance of his *Atrée*, in 1707, were loudly applauded. Prieur, though sick, requested to be carried to the theatre, and said to the young tragedian, "I die content; I have made you a poet, and leave in you a man who belongs to the nation." A strange taste for unnatural declamation had been excited by the *Rhodogune*, and this manner was carried to excess by Crébillon, in the *Atrée*. In 1709 appeared his *Electre*, which is as declamatory and as intricate as his earlier plays;

yet it suited the taste of the age. His *chef d'œuvre*, at least according to La Harpe, is his *Rhadamiste* (1711). But Boileau, on his death-bed, hearing the first scenes of this tragedy read to him by Le-verrier, could not help exclaiming to his friends, "Heavens! do you wish to hasten my death? Why, the Boyers and Pradons were sons to this author! I shall be more willing to leave the world, since our age is becoming inundated with silly trash." Most persons of the present day would probably agree with Boileau. In eight days, the *Rhadamiste* passed through two editions, and Paris and Versailles vied with each other in admiring it. Crébillon had been told that his talent lay in the terrible, and thought, therefore, that he could not exert himself too much in scenes of horror, and hence was called the *terrible*. *Xerxes* (1714) exceeded, in this respect, all that he had before written, but soon disappeared from the stage. *Semiramis* (1717), the mother enamoured of her son, and not cured of her passion by the discovery of his relationship, was severely censured. It was not till nine years after this that his *Pyrrhus* appeared (1726), and met with a good reception, contrary to the expectation of the author, who, in this work, had abstained from the frightful and shocking. Domestic distress and poverty seem, from this time, to have crippled the powers of his genius. His small patrimony was absorbed by debts and law expenses. A father and a beloved wife were taken from him within a short time. Amidst the embarrassments in which he was involved, he refused, with characteristic inflexibility, all the offers of assistance which were made him. When madame de Pompadour wished to humble Voltaire, Crébillon was thought of as a fit instrument for her purpose. The king gave him the office of censor of the police, a yearly pension of 1000 francs, and an appointment in the library. Thus freed from anxiety, he finished his *Catiline*, which was represented, at the king's expense, in 1749, with all the pomp that the court theatre could display. This piece, overrated by the party opposed to Voltaire, is undervalued by La Harpe. To make some atonement to the character of Cicero, which was thought to have been wronged in his *Catiline*, he wrote, at 76, the *Triumvirate*, or the Death of Cicero, which was brought upon the stage in his 81st year. The defects of the piece were overlooked, from respect to the age of the author. Thus much for his dramatic compositions. In general, Crébillon shows

none of the true elevation of the tragic art, but only an imitation, sometimes a happy one, of the manner struck out by Corneille. He was a man of a proud and independent character, disdained to flatter the great, and passed much of his life in a condition bordering on poverty. More fortunate circumstances might have given more amenity to his spirit; but, neglected, as he imagined, by mankind, he sought consolation in the company of dogs and cats, which he picked up in the streets (the poorest and most sickly were those which he preferred), and found a species of enjoyment in an irregular manner of living. In 1731, he became a member of the academy. Crébillon died June 17, 1762, at the age of 88. Louis XV erected a magnificent monument to him in the church of St. Gervais, which, however, was never entirely completed till it was removed to the museum of French monuments (*aux petits Augustins*). Besides the splendid edition of Crébillon's works published by the order of Louis XV, for the benefit of the author, after the successful performance of *Catiline* (*Œuvres de Crébillon, imprimerie R. du Louvre, 1750, 2 vols. 4to.*), there is another published by Didot the elder, 1812, 3 vols., in both of which, however, six verses are omitted in *Catiline*, which had been left out in the representation, as applicable to madame de Pompadour.

CRÉBILLON, Claude Prosper Jolyot de, the younger, son of the preceding, born at Paris in 1707, succeeded as an author in an age of licentiousness. By the exhibition of gross ideas, covered only with a thin veil, and by the subtleties with which he excuses licentious principles, Crébillon contributed to diffuse a general corruption of manners, before confined to the higher circles of Parisian society. In later times, the French taste has been so much changed, especially by the revolution, that such indelicacies as are found in his works would not be tolerated at the present day. His own morals, however, appear to have been the opposite of those which he portrayed. We are told of his cheerfulness, his rectitude of principle, and his blameless life. In the circle of the *Dominicains* (a Sunday society), he was a favorite, and the *caveau* where Piron, Gallet, Collé, wrote their songs and uttered their jests, was made respectable by his company. Of his works, the best are—*Lettres de la Marquise *** au Comte de **** (1732, 2 vols., 12mo.); *Tanzai et Néadarné* (less licentious, but full of now unintelligible allusions); *Les Égaremens du Cœur et de*

l'Esprit (Hague, 1736, 3 vols.), perhaps the most successful, but unfinished. One of his most voluptuous pieces is *Le Sopha* (1745, 2 vols.). In the same licentious strain are most of his other writings composed. It is still a disputed point whether he was the author of the *Lettres de la Marquise de Pompadour*. They are not included in the edition of 1779, 7 vols., 12mo. Crébillon held a small office in the censorship of the press. He died at Paris, April 12, 1777.

CRECY or CRESSY EN PONTTHIEU; a town in France, in Somme; 10 miles N. of Abbeville, and 100 N. of Paris; population, 1650. It is celebrated on account of a battle fought here Aug. 26, 1346, between the English and French. Edward III and his son, the Black Prince, were both engaged, and the French were defeated with great slaughter, 30,000 foot and 1200 horse being left dead in the field; among whom were the king of Bohemia, the count of Alençon, Louis count of Flanders, with many others of the French nobility.

CREDIT, in economy, is the postponement agreed on by the parties of the payment of a debt to a future day. It implies confidence of the creditor in the debtor; and a "credit system" is one of general confidence of people in each other's honesty, solvency and resources. Credit is not confined to civilized countries; Mr. Park mentions instances of it among the Africans; but it will not prevail extensively where the laws do not protect property, and enforce the fulfilment of promises. Public credit is founded upon a confidence in the resources, good faith and stability of the government; and it does not always flourish or decline at the same time and rate as private credit; for the people may have either greater or less confidence in the government than in each other: still there is some sympathy and correspondence between the two; for a general individual confidence can rarely, if ever, take place in the midst of distrust of the government; and, *vice versa*, a firm reliance upon the government promotes a corresponding individual confidence among the citizens. The history of every industrious and commercial community, under a stable government, will present successive alternate periods of credit and distrust, following each other with a good deal of regularity. A general feeling of prosperity produces extension and facilities of credit. The mere opinion or imagination of a prevailing success has, of its own force, a most powerful influence

in exciting the enterprise, and quickening the industry, of a community. The first requisite to industry is a stock of instruments, and of materials on which to employ them: a very busy and productive community requires a great stock of both. Now if this stock, being ever so great, were hoarded up; if the possessors would neither use, let, nor sell it, as long as it should be so withdrawn from circulation, it would have no effect upon the general activity and productiveness. This is partially the case when a general distrust and impression of decay and decline cause the possessors of the stock and materials to be scrupulous about putting them out of their hands, by sale or otherwise, to be used by others; and others, again, having no confidence in the markets, and seeing no prospect of profits, hesitate to purchase materials, or to buy or hire the implements, mills, ships, &c., of others, or to use their own in the processes of production and transportation. This state of surplusage and distrust is sure to be followed by a reduction of money prices; and every one who has a stock on hand, and whose possessions are estimated in money, is considered to be growing poorer and poorer every day. But when prices have reached their lowest point, and begin regularly to rise, every body begins to esteem himself and others as being prosperous, and the opinion contributes powerfully to verify itself. Credit begins to expand; all the stores of the community are unlocked, and the whole of its resources is thrown open to enterprise. Every one is able readily to command a sufficiency of means for the employment of his industry; capital is easily procured, and services are readily rendered, each one relying upon the success of the others, and their readiness to meet their engagements; and the acceleration of industry, and the extension of credit, go on until a surplus and stagnation are again produced. The affairs of every industrious and active community are always revolving in this circle, in traversing which, general credit passes through its periodical ebbs and flows. This facility and extension of credit constitutes what is commonly called *fictitious capital*. The fiction consists in many individuals being supposed to be possessed of a greater amount of clear capital than they are actually worth. The most striking instance of this fictitiousness of capital, or, in other words, excess of credit, appears in the immense amounts of negotiable paper, that some individuals and companies spread in the community,

or of paper currency, where the issuing of notes for supplying currency by companies or individuals is permitted. Individuals or companies thus draw into their hands an immense capital, and it is by no means a fictitious capital when it comes into their possession, but actual money, goods, lands, &c.; but, if they are in a bad, losing business, the capital, as soon as they are intrusted with it, becomes fictitious in respect to those who trusted them with it, since they will not again realize it. Extensive credits, both in sales and the issuing of paper, in new and growing communities, which have a small stock and great industry, grow out of their necessities, and thus become habitual and customary, of which the U. States hitherto have given a striking example.

CREECH, Thomas, a scholar of some eminence for his classical translations, was born in 1659. He took the degree of M. A. at Oxford in 1683, having the preceding year established his reputation as a scholar, by printing his translation of Lucretius. He also translated several other of the ancient poets, wholly or in part, comprising selections from Homer and Virgil, nearly the whole of Horace, the thirteenth Satire of Juvenal, the Idyls of Theocritus, and several of Plutarch's Lives. He likewise published an edition of Lucretius in the original, with interpretations and annotations. He put an end to his life at Oxford, in 1700. Various causes are assigned for this rash act, but they are purely conjectural. He owes his fame almost exclusively to his translation of Lucretius, the poetical merit of which is very small, although, in the versification of the argumentative and mechanical parts, some skill is exhibited. As an editor of Lucretius, he is chiefly valuable for his explanation of the Epicurean philosophy, for which, however, he was largely indebted to Gassendi.

CREED; a summary of belief; from the Latin *creda* (I believe), with which the Apostles' Creed begins. In the Eastern church, a summary of this sort was called *μάθημα* (the lesson), because it was learned by the catechumens; *γράφη* (the writing), or *κάνων* (the rule). But the most common name in the Greek church was *σύμβολον* (the symbol, q. v.), which has also passed into the Western church. Numerous ancient formularies of faith are preserved in the writings of the early fathers, Irenæus, Origen, Tertullian, &c., which agree in substance, though with some diversity of expression. The history of creeds would be the history of the church,

and of its melancholy aberrations from the simple doctrines of Jesus. Into this interesting, but humiliating history we cannot now enter, but must confine ourselves to a rapid view of a few of its most prominent features. Of the earlier creeds, there are three which require particular attention. I. The *Apostles' Creed* is so called from its having been formerly considered as the work of the apostles themselves. This notion is now acknowledged to be without foundation. When and by whom it was drawn up, is not known. It can only be traced to the 4th century. It contains a profession of belief in the Holy Ghost, in the divinity of Jesus, his descent into hell, and his ascension into heaven, in the resurrection of the body, in life everlasting, &c. II. The *Nicene Creed*, so called because it was adopted at the council of Nice, A. D. 325, held to oppose the Arian heresy. It therefore contains an explanation of the article of the *Apostles' Creed*—"I believe in Jesus Christ, the only Son," &c., which is as follows: "The only Son of God, begotten by the Father, that is to say, of the substance of the Father, God of God, light of light, very God of very God, begotten and not made, consubstantial with the Father, through whom every thing has been made in heaven and on earth." Macedonius, bishop of Constantinople, having denied the divinity of the Holy Ghost, it became necessary to settle this point, which was done by the council of Constantinople, A. D. 381, who added the words which follow "I believe in the Holy Ghost;" viz. "the Lord and Giver of life, who proceedeth from the Father ('and the Son' was afterward inserted by the Spanish bishops), who, with the Father and the Son together, is worshipped and glorified, who spake by the prophets." The insertion of the words "and the Son" was finally sanctioned by the Roman church in 883, but has never been received by the Greek church. III. The *Athanasian Creed* is now acknowledged not to have been the work of Athanasius (q. v.), whose name it bears. It was probably written in Latin, in the sixth century. In the 10th century, it was generally received in the Western church, and, at the reformation, was adopted by the Protestants. It consists of an introduction and two positions, with their proofs, deductions and conclusions. The introduction declares, that "whosoever will be saved must hold the Catholic faith." The first position then states, "The Catholic faith is this—that we worship one God in Trinity, and Trinity in

Unity, neither confounding the persons, nor dividing the substance." For (to give briefly the remainder of this position) there are three persons, but one Godhead. The Father, Son and Holy Ghost are uncreate, incomprehensible, eternal, almighty, God, Lord; yet there are not three Lords, Gods, almighty, eternal, incomprehensible, uncreated, but one. The Father is neither made, created nor begotten: the Son is of the Father alone, not made, nor created, but begotten. The Holy Ghost is of the Father and the Son, neither made, nor created, nor begotten, but proceeding; and in this Trinity none is afore or after another; none is greater or less than another. He, therefore, that will be saved must thus think of the Trinity. The second position establishes the doctrine of Christ's incarnation. It is necessary to everlasting salvation, that we believe rightly in the incarnation of our Lord Jesus Christ. The right faith is, that he is the Son of God, God and man; perfect God and perfect man; yet not two, but one Christ; one, not by conversion of the Godhead into flesh, but by taking of the manhood into God; one altogether, not by confusion of substance, but by unity of person. This is the Catholic faith, which except a man believe faithfully, he cannot be saved.

Besides these creeds, there are numerous *Confessions of Faith*, which have been adopted by different churches, as standards to which the ministers in the respective communions are required to conform. I. The Greek church (q. v.) presented the *Confession of the true and sincere Faith* to Mohammed II, in 1453; but in 1643, the *Orthodox Confession of the Catholic and Apostolic Greek Church*, composed by Mogila, metropolitan of Kiow, was approved with great solemnity by the patriarchs of Constantinople, Alexandria, Antioch and Jerusalem, and for a long time was the standard of the principles of the Russian Greek church: it has been superseded by the *Summary of Christian Divinity*, composed in 1765, by the metropolitan of Moscow (translated into English, Edinburgh, 1814). II. The church of Rome has always received the *Apostles'*, the *Nicene* and the *Athanasian Creeds*; but a public authoritative symbol was first fixed by the council of Trent. A summary of the doctrines contained in the canons of that council is given in the creed published by Pius IV (1564), in the form of a bull. It is introduced by the *Nicene Creed*, to which it adds twelve articles, containing those doctrines which

the church of Rome finally adopted after her controversies with reformers. III. The Lutherans call their standard books of faith and discipline *Libri Symbolici Ecclesiæ Evangelicæ*. They contain the three creeds above mentioned, the Augsburg Confession (q. v.), the Apology for that confession by Melancthon, the Articles of Smalcalden, drawn up by Luther, the Catechisms of Luther, and, in many churches, the Form of Concord or Book of Torgau. The best edition is by Tittmann (Leipsic, 1817). The Saxon (composed by Melancthon), Würtemberg, Suabian, Pomeranian, Mansfeldtian and Copenhagen Confessions agree in general with the symbolical books of the Lutherans, but are of authority only in the countries, from which they are respectively called. IV. The confessions of the Calvinistic churches are numerous. The following are the principal: 1. The Helvetic Confessions are three—that of Basle (1530); the Summary and Confession of Faith of the Helvetic churches (Basle, 1536); and the *Expositio simplex*, &c. (1566), attributed to Bullinger. 2. The Tetrapolitan Confession (Strasburg, 1531), which derives its name from the four cities of Strasburg, Constance, Memmingen and Lindau, by the deputies of which it was signed, is attributed to Bucer. It differs from the symbolical books of the Lutherans in the doctrine of the sacraments, and especially in its exposition of the eucharist. 3. The Palatine or Heidelberg Confession was framed at Heidelberg by order of the elector palatine, John Casimir (1575). 4. The Confession of the Gallic Churches was accepted at the first synod held by the reformed at Paris, in 1559. In the following year, it was presented to Francis II, and, in 1561, it was presented by Beza to Charles IX. 5. The Confession of the Reformed Churches in Belgium was drawn up in 1559, and approved in 1561. 6. The Confession of Faith of the Kirk of Scotland. The ecclesiastical discipline and doctrine of the church of Geneva were adopted in Scotland from the beginning of the reformation there. In 1581, the Scotch nation subscribed a General Confession, together with a Solemn League and Covenant to defend the Protestant religion and Presbyterian government. The Scotch covenanters afterwards adopted the Westminster Confession, in the compilation of which some delegates from their general assembly had assisted. In 1688, that confession was received as the standard of the national faith, which all ministers, and the officers of the Scotch uni-

versities, are required to subscribe. With this are generally connected the catechisms of their assembly. 7. Confession of Faith of the Anglican Church. In the beginning of the reign of queen Elizabeth, she gave her assent to thirty-nine articles agreed upon in the convocation held at London in 1552. They were drawn up in Latin; but, in 1571, they were revised and subscribed both in Latin and English. They were adopted by the Episcopal church in the U. States in 1801, with some alterations, and the rejection of the Athanasian Creed. The first five contain the doctrines of the Anglican church concerning the Father, Son and Holy Ghost; in the sixth, seventh and eighth, the rule of faith is established; the next 10 relate to Christians as individuals, and the remaining 21 relate to them as members of a religious society. (See *Corpus et Syntagma Confessionum Fidei*, Geneva, 1612 and 1654; *Sylloge Confessionum*, Oxford, 1804; Butler's *Account of Confessions of Faith*.)

CREEKS, or MUSCOGEES; Indians in the western part of Georgia and the eastern part of Alabama, in the country watered by the Chatahoochee, Tallapoosa and Coosa. The number of warriors is about 6000, and of souls about 20,000. They suffered severely in 1813 and 1814, in the war with the U. States. (See *Seminole*.) They are accounted the most warlike tribe found east of the Mississippi. Some of their towns contain from 150 to 200 houses. They have made considerable progress in agriculture, and raise horses, cattle, fowls and hogs, and cultivate tobacco, rice and corn.

CREES, or KNISTENAU; Indians in North America, residing about lon. 105° 12' W.; lat. 55° N. They are of moderate stature, well proportioned, active, have keen black eyes and open countenances.

CREFELD; a city in the Prussian province of Cleves-Berg, with 1543 houses and 16,000 inhabitants, of whom 700 are Mennonites; above 12,000 are manufacturers. The city is built in the Dutch taste. The chief manufactories are of velvet cloth and ribands. The former is made principally in the city, the latter in the environs. Silk goods of various kinds, flannels, woollen stockings, cotton and linen goods, &c., are also made here. Crefeld likewise contains tanneries, sugar refineries, distilleries, manufactories of soap. Of late, it has exported much to America.

CREMNITZ, or KREMNITZ; a free royal city in Hungary, in Barsch, situated on the side of a hill; 100 miles E. Vienna; lon. 19° 13' E.; lat. 48° 45' N.; population, 9700; houses, 1200. It is situated amidst

lofty mountains, and contains one Lutheran, one Calvinist, and one Catholic church, and a Lutheran gymnasium. It is celebrated for its mines of gold and silver, and is the oldest mining town in Hungary. The situation is elevated, and the air is very cold. The town itself is very small, not containing 50 houses, but the *faubourgs* are of great extent. The ducats which bear the name of Cremnitz have enjoyed, for a long time, the reputation of very fine gold. They are to be known by the two letters *K. B.* (*Kermecz Banya*, Cremnitz mines), between which is the image of the sovereign. Much gold and silver from these mines is coined in Vienna.

CREMONA; a city of the Lombardo-Venetian kingdom, capital of the province and district, in a beautiful situation. It is about five miles in circumference, and has spacious and regular streets, with several squares, but the houses are in general ill built. Here are 44 churches and chapels, 43 convents, and an obscure university. It is the see of a bishop. The cathedral is a massy structure, with a façade of beautiful white and red marble, ornamented, in the interior, with various paintings and pictures in fresco. The tower of Cremona, built by Frederic Barbarossa, in the 12th century, is a very curious edifice, consisting of two octagonal obelisks, surmounted by a cross, and, in all, 372 feet in height. The silk manufactures of this place are considerable, and it has long been noted for its superior violins. This city is of great antiquity, having been created a Roman colony B. C. 291. The Venetians possessed it a long time; and, under Napoleon, it was, until 1814, capital of the department of Alto Po. Population, 23,000; 38 miles S. E. Milan; lon. 10° 2' 12" E.; lat. 45° 7' 43" N.

CREOLE (from the Spanish *Criollo*) is the name which was originally given to all the descendants of Spaniards born in America and the West Indies. It is also used for the descendants of other Europeans, as French, Danes, in which case we say, *French-Creole*, *Danish-Creole*. Since the native Spaniards have been expelled from the former Spanish American colonies, the term *Creole* is comparatively little used, in speaking of those parts of America, it being seldom necessary as a term of distinction; but, in speaking of the French, Danish and Spanish possessions in the West Indies, the word occurs more frequently. In the U. States, it is often used for the descendants of the French and Spaniards in Louisiana (many of the latter having

settled there from Spanish America), in contradistinction to *Americans*, meaning, by the latter term, people born in the other states, or their descendants. In 1776, Charles III, king of Spain, declared the Creoles capable of civil, military, and ecclesiastical offices, from which, till then, they had been excluded. Native Spaniards, however, still continued to have the preference, and the Creoles were treated with the arrogance which too often distinguishes the conduct of the natives of a parent country towards colonists; and the consequence was great exacerbation of feeling on the part of the Creoles. In the West Indies, the Creoles have always enjoyed equal rights with native Europeans. Before the declaration of independence by the colonies of Spanish America, there existed marked lines of distinction between the different classes, founded on difference of birth. The *Chapelones* were Europeans by birth, and first in rank and power; the *Creoles* were the second; the *Mulattoes* and *Mestizoes* (descendants of white and black, or white and Indian parents) formed the third class; *Negroes* and *Indians*, the fourth. At present, they are all entitled to equal privileges by the constitutions. Some of Bolivar's generals are dark Mulattoes, and Paez is a Llanero. The Llaneros are converted Indians. The native Spaniards formerly avoided associating with the Creoles, and formed the first class. In Venezuela, there existed a kind of Creole nobility, unknown in other parts of South America. They were called *Mantuanos*, and divided themselves into those of *Sangre Azul* (blue blood), descendants of the first Spanish conquerors, and those of *Sangre Mezclada* (mixed blood), Creole families of a later origin, who had intermarried with Spaniards or Frenchmen. The Creoles, in general, before the revolution, were very lazy, leaving the mechanical arts and husbandry altogether to the Mulattoes, Negroes or Indians; and, even now, the mechanics are mostly colored or black persons. The ladies are of a sallow complexion, have beautiful teeth, large, dark eyes, and are, like the men, very finely formed.—*Creole dialects* are those jargons which have originated from the mixture of different languages in the West Indies. They are spoken by the slaves, who have destroyed the fine grammatical construction of the European languages, and have intermixed with them some original African words. According to the European language which prevails in a Creole dialect, it is called *French-Creole*, *Danish-Creole*, &c.

In St. Thomas, for instance, the latter is spoken; in Hayti, French-Creole. Among the numerous corruptions of European words and constructions, we find, very generally, in the Creole dialects, the corruptions of grammar common among children; for instance, *me* is used instead of *I*. Often no distinction is made between the possessive pronoun and the personal; e. g., *me house* for *my house*, or *wi massa* for *our master*. The infinitive is used for the finite tenses, as *moi donner* for *je donne*. It is well known that Homer has several deviations from grammar which are now peculiar to children; and the Creole dialects have several peculiarities in common with those used by Homer. The mixture of words from different languages is often considerable in these dialects; but most of them can be understood, without a great deal of difficulty, by a man acquainted with English, Danish, French and Spanish. We will give an example of the Papimento language—a Creole dialect spoken in St. Thomas—from a work extracted from the four Gospels, entitled *Da Tori va wi Massa en Helpiman Jesus Christus, so leki wi findi datli na inni dem so Evangeliste: Mattheus, Marcus, Lucas en Johannes*, 1816 (The Story of our Lord and Savior Jesus Christ, as we find it in the four Evangelists, &c.) A part of the first chapter of the Gospel of St. John, from the 4th to the 8th verse, is given in this work, as follows:—*Libi ben de na inni va hem, Kaba da libi ben de Kanderi va somma. Kaba da Kanderi de krini na dungru, ma dungru no ben teki da Kanderi. Gado ben senni wan somma, dem kali Johannes, dissi ben Komm va takki vo da Kanderi, va dem somma Komm bribi na da Kanderi. Hem srefi no da Kanderi, ma a ben Komm va takki na somma vo da Kanderi.* This specimen will give an idea of the strange mixture of words, and of the clumsy periphrases used to express ideas, e. g., *libi ben de na inni va hem*; of the poverty, e. g., *ben* for *been, has been, has, was, and had*, &c. There are, however, in all languages, heavy periphrases, our familiarity with which prevents us from being sensible of them; e. g., *je venais de chez moi*, or *he is about to set out on a journey*; which, if we had one word for *undertaking a journey*, and a tense for expressing the intention, might be expressed in one word. That a careful investigation of the Creole dialects would lead to several interesting discoveries respecting the origin of some grammatical formations and modes of expression, is hardly to be doubted. When the

allied armies invaded France, and the Russian and German soldiers were often under the necessity of communicating with each other, and with the French, a kind of jargon came into use among them, in which the writer observed that *mi*—the Low German for *me*, and pretty nearly resembling the French *moi*—was used by all parties to express the first person singular. The infinitive was also used instead of the finite modes, expressing only the gross idea of action without modification. *Flesh*, from the German *Fleisch* (meat), *dobri*, from the Russian, for *good*, were also employed by all parties, as was also the word *caput*, to signify *broken down, spoiled, &c.* This last word is still in use among the lower classes of North Germany. *Mi flesh caput* meant, in this military dialect, *my meat is spoiled*. Several of the modern European languages must have originated in this way, after the irruption of the northern tribes into the Roman empire.

CRESCENDO, or CRES. (Ital.) By the term *crescendo*, the Italians signify that the notes of the passage over which it is placed are to be gradually swelled. This operation is not of modern invention. The ancient Romans, as we learn from a passage in Cicero, were aware of its beauty, and practised it continually.—*Crescendo* is also the name of a musical instrument, invented in 1778, by the counsellor Bauer, in Berlin, which is played like a piano, and, like this, is furnished with wire strings.

CRESCENT (crescens, Lat.); an emblem, representing the moon in her state of increase. This emblem of the Ottomans is of very high antiquity. The Egyptians had their Isis, the Greeks their Diana, and it is easy to conceive that the crescent, which announced the returning light of the moon, soon became an object of worship with such people. Thus Isis, Diana, and the bull Apis, are decorated with this emblem; which is also found on medals of Alexander, and other ancient monuments of art. The citizens of Athens of illustrious birth wore crescents of ivory and silver upon their buskins; and the same mark of distinction was granted to the patricians and senators of Rome. They were called *lunulati calcei*. The crescent was often used by females as an ornament for the head; an example of which may be seen on a bust of Marciana, in the Villa Pamfili. On many medals of queens, the bust is supported by a crescent, expressive of the relation they bore to their husbands, who, as kings, were as the sun, while they were as the moon. It is also

an emblem of the eternity of an empire. The god Lunus bears it upon his shoulder; and the *denarii* of the Lucretian family have it accompanied by the *Seven Stars* of the northern hemisphere. It is also found on medals of many cities, particularly of Byzantium, from whence it is supposed to have been borrowed by the Ottomans. Since their establishment in Europe, it has been the universal emblem of their empire. It decorates their minarets, their turbans, their ensigns, their insignia; every thing appertaining to the Mussulmans is characterized by this sign, and their states are designated as the Empire of the Crescent. During the crusades, particularly, the crescent was the distinguishing symbol of the Mussulmans, as the cross was of the Christians.

CRESCENZI, Pietro, or Petrus de, the restorer of the scientific study of agriculture in Europe, born at Bologna, in 1230, was an attorney and magistrate, till he was obliged, by civil troubles, to leave his native country. He travelled through Italy, and collected useful observations. It was not till after 30 years of absence, when order was at length restored to his native city, that he was permitted to return; and, at the age of 70, he was made senator. He now carried into execution his principles of agriculture, on an estate near Bologna, in the cultivation of which he passed the remainder of his life. See his essay on agriculture (*Ruralium Commodorum*, 12 books), which he composed at the desire of Charles II. He submitted his work to the examination of learned men in Bologna, by whom it was corrected and improved. It is a remarkable monument of his time, of which it is far in advance. Apostolo Zeno has proved that these 12 books, in the arrangement of which the author seems to have followed Columella, were written originally in Latin. There exists an Italian translation (*Il Libro della Agricoltura di P. Crescenzio*, Florence, 1487 et seq.), which is esteemed very highly, on account of the purity of the language, and has given rise to the opinion that Crescenzi wrote in his native tongue. He understood the ancients, and made use of them. His principles are simple, founded upon experience, and free from many prejudices, which continued to prevail in Europe for centuries after. His work was no sooner published, than it spread throughout Europe. It was translated into several European languages, particularly for Charles V of France, in a splendid manuscript (1373), which is still extant; and no soon-

er was the art of printing invented, than copies of this work were greatly multiplied. The oldest known edition, which is now very rare, appeared at Augsburg, in 1471, in folio. The earliest Italian translation, the author of which is supposed to be Lorenzo Benvenuti, of St. Geminiano, and which is accounted among the models of language, is contained in the collection of the *Classici Italiani* (Milan, 1805). A more exact, but a less esteemed translation, was made by Sansovino. We are indebted for much information concerning Crescenzi and his work to professor Filippo Re, at Bologna.

CRESCENZI, D. Juan Baptista, marquis de la Torre, born at Rome towards the end of the 16th century, studied the art of painting under Pomerancias. Some of his early compositions attracted the attention of the pope, Paul V, who intrusted him with the decoration of the Pauline chapel. Cardinal Zapata took him to Spain in 1617, where he obtained the favor of Philip III. Some flower-pieces occasioned his receiving the commission to build the sepulchral monument in the Escorial, the splendor and finished elegance of which place it among the most remarkable monuments of Europe. (See Santo's *History of the Escorial*, with copperplates.) The bronze figures were executed by Roman artists. Philip IV made him a grandee of Castile, with the title of *marquis de la Torre*, and conferred upon him other marks of distinction. His house, which contained rich treasures in every branch of art, was ever open to artists. He died in 1660.

CRESCIMBENI, Giovanni Maria, a scholar and poet, was born at Macerata, in the Mark of Ancona, Oct. 9, 1663. When but a child, he displayed an inclination for poetry. Ariosto's verses, in particular, were impressed on his memory by an edition of Orlando Furioso, with copperplates, in which he used to search for and peruse the passages to which the engravings referred. In the Jesuits' college, at Macerata, he wrote, at 13, a tragedy—*Darius*. At 15, he was a member of an academy, and, at 16, doctor of laws. His father sent him, in 1681, to Rome, to perfect himself in the knowledge of law; but he applied himself, with still more zeal, to poetry. Some *canzoni* of Filicaja, in 1687, gave him correct views of the character of the poetry then in vogue. Dissatisfied with all that he had formerly attempted, he felt himself at once constrained to imitate only the ancient models, and to recommend their simple and natural manner

to his contemporaries. Crescimbeni belonged to all the three academies in Rome, which rivalled each other in wretched verses. Out of these, he selected certain members, whose views harmonized with his own, and formed a new academy, which was sportively called the *Arcadia*, in allusion to the rural taste of the founder. (See *Arcadians*.) He was the first *custode* of this academy, under the name of *Alfesibeo Cario*, and was re-elected to the office for several successive Olympiads. Crescimbeni, delighted with the success of his plan, was not the least active among his fellow poets. In 1698 appeared his *Istoria della volgar Poesia*—a work of vast industry, but destitute of method and criticism. He next published his *Trattato della Bellezza della volgar Poesia* (Rome, 1700, 4to.), which passed, in a short time, through three editions, and, like the earlier work, was first made capable of being understood and enjoyed by the *Commentarij intorno alla Storia della volgar Poesia* (Rome, 1702, 5 volumes, 4to.). The favor of Clement XI placed him in an easy situation. In the tranquillity of his canonicate, disturbed only by the disputes of the Arcadians, the number of his works rapidly increased. He made a translation of Nostradamus's *Lives of the Provençal Poets*, with additions, enlarged his own *Commentaries* with four valuable volumes, and wrote a *History of the Arcadia*, and *Lives of the Arcadian Poets*. About this time, also, appeared the two first volumes of verses (*Rime*) of his Arcadia, which were well received. Clement V and Benedict XIII rewarded his labors with ecclesiastical honors; and John V of Portugal presented the Arcadia with some funds. The society erected a theatre, still existing, on the Janiculum, and their first Olympic games were celebrated Sept. 9, 1726, in honor of the king of Portugal. The poems which Crescimbeni read on that occasion were received with lively approbation. Meanwhile his constitution was yielding to a disorder of the breast. After being admitted, at his request, into the order of the Jesuits, in whose garb he wished to die, he expired, March 8, 1728. During his lifetime, he had caused his monument to be erected in the church of Santa Maria Maggiore, with the inscription—I. M. C. P. ARC. C. (*Joannes Marius Crescimbenius, Pastorum Arcadum Custos*), and bearing the Arcadian pipe. He was of a gentle disposition, benevolent, affable and moderate. Among his numerous works, oc-

casional compositions and eulogies, those already mentioned are all that deserve a high rank in the literature of his country. A biography of him is prefixed to his *History of Arcadia* (Rome, 1712, 12mo.), by the canon Mancurti of Imola.

CRESPI, Giuseppe Maria, surnamed *il Spagnuolo*, a painter of the Bolognese school, born at Bologna, in 1665, studied the masterpieces in the monastery of *San Michael in Bosco*, and particularly imitated the Caracci, whose works he also copied. He received instruction from Canuti, then from Cignani, afterwards studied in Venice and Parma, and finally came out with his own productions in his native city. His first work was the *Combat of Hercules with Antæus*. From this time he had continual employment. He painted, for cardinal Ottoboni, the *Seven Sacraments*, now in the Dresden gallery; several pieces for prince Eugene of Savoy, for the elector of the Palatinate, for the grand-duke of Tuscany, and for cardinal Lambertini, his patron, who afterwards, when pope Benedict XIV, conferred on him the honor of knighthood. Crespi, however, has been frequently censured for the singular ideas which he often introduced into his paintings; e. g. he represents Chiron giving his pupil Achilles a kick for some fault that he had committed. Moreover he painted every thing *a prima*, with strong, bold strokes, in the manner of Caravaggio, and has become a mannerist from a desire to be constantly new. He had many scholars, among whom were his two sons, Antonio and Luigi Crespi. The latter distinguished himself by his writings on painting. Crespi died in 1747.

CRESSY. (See *Crecy*.)

CREST (from the Latin *crista*) is used to signify the rising on the defensive armor of the head, also the ornament frequently affixed to the helmet, such as a plume or tuft of feathers, a bunch of horse-hair, &c. Warriors have always been in the habit of adorning their persons; and the helmet, from its conspicuousness, is very naturally chosen as the place of one of the principal ornaments. We learn from Homer (*Il. iii*, 336) that the crests of the earlier Greeks were of horse-hair; afterwards plumes, especially red ones, were adopted. (*VIRG. Æn. ix*, 50, 271, 808.) To gain an enemy's crest was accounted an honorable achievement, as it was reckoned among the *spolia*. The Greeks called the crest *φάλος* and *λόφος*; but some are of opinion that these words mean different things, *φάλος* signifying the raised part of the helmet (*conus*), and

λάφος, the real crest. The crests of commanders (ἀμφιφαλοὶ), of course, were generally larger than those of common soldiers. The Æginetan statues (see *Æginetan Style*) have crests of horse-hair. In the middle ages, when rank and honors became hereditary, and particular heraldic devices were appropriated to particular families, the crest became a distinguishing hereditary mark of honor. It denotes, in heraldry, a figure placed upon a wreath, coronet, or cap of maintenance, above both helmet and shield; as, for instance, the crest of a bishop is the mitre. The crest is considered a greater criterion of nobility than the armor generally. It is commonly a piece of the arms, as that of Castile is a castle. Crests, therefore, form an important subject in the unimportant science of heraldry.

CRETE. (See *Candia*.)

CRETICUS. (See *Rhythmus*.)

CRETINISM makes a very close approach to rickets in its general symptoms. It differs principally in its tendency to that peculiar enlargement of the thyroid gland, which, in France, is denominated *gottre*, and in the mental imbecility which accompanies it from the first. The enlargement of the gland does not always, however, accompany the other symptoms, though it does generally. Cretinism was first distinctly noticed and described by Plater, about the middle of the 17th century, as occurring among the peasants in Carinthia and the Valais. It was afterwards found, in a still severer degree, in other valleys of Switzerland, and the Alps generally. It has since been detected in various other regions, where the country exhibits similar features, as among a miserable race called *Cagots*, inhabiting the hollows of the Pyrenees, whose district and history have been described by Mr. Raymond; and in Chinese Tartary, where it is represented as existing by sir George Staunton. On the first discovery of cretinism, it was ascribed by some to the use of snow-water, and by others to the use of water impregnated with calcareous earth, both which opinions are without foundation. The first is sufficiently disproved by the fact that persons born in places contiguous to the glaciers, and who drink no other water than what flows from the melting of ice and snow, are not subject to this disorder; and, on the contrary, that the disorder is observed in places where snow is unknown. The second is contradicted by the fact, that the common water of Switzerland, instead of being impregnated with calcareous

matter, excels that of most other countries in Europe in purity and flavor. The water usually drank at La Batia and Martigny is from the river Dranse, which flows from the glacier of St. Bernard, and falls into the Rhone. It is remarkably free from earthy matter, and well tasted. At Berne, the water is extremely pure; yet, as Haller remarks, swellings of the throat are not uncommon in both sexes, though cretinism is rare. As comfortable and congenial warmth forms one of the best auxiliaries in attempting the cure of both cretinism and rickets, there can be no doubt that the chill of snow-water must considerably add to the general debility of the system when laboring under either of these diseases, though there seems no reason for supposing that it would give rise to either. It is not difficult to explain why water impregnated with calcareous earth should have been regarded as the cause; for in cretinism, as in rickets, the calcareous earth, designed by nature for the formation of the bones, is often separated, and floats loose in various fluids of the body, for want of a sufficiency of phosphoric acid to convert it into a phosphate of lime, and give it solidity. And as it is, in consequence, pretty freely discharged in the urine, this seems to have given rise to the opinion that such calcareous earth was introduced into the system with the common water of the lakes or rivers, and thus produced the morbid symptoms. M. de Saussure has assigned the real cause of the disease. The valleys of the Alps, he tells us, are surrounded by very high mountains, sheltered from currents of fresh air, and exposed to the direct, and, what is worse, the reflected rays of the sun. They are marshy, and hence the atmosphere is humid, close and oppressive; and when to these causes we add the meager, innutritious food of the poor of these districts, their indolence and uncleanness, with a predisposition to the disease, from a hereditary taint of many generations, we can sufficiently account for the prevalence of cretinism in such places, and for the humiliating character which it assumes. The general symptoms of cretinism are the same as those of rickets; but the disease shows itself earlier, often at birth, and not unfrequently before this period, apparently commencing with the procreation of the fœtus, and affording the most evident proofs of ancestral contamination. The child, if not deformed and diseased at birth, soon becomes so; the body is stunted in its growth, and the organs in their development.

CREÛSA; the name of several celebrated females of antiquity. 1. Daughter of Erectheus, who, before she was married to Xuthus, gave birth to Ion, the fruit of an amour with Apollo. To her second husband she bore Achæus. 2. The daughter of Priam and Hecuba, wife to Æneas, and mother of Ascanius. In the tumult of the conflagration of Troy, when Æneas fled with the images of his gods, with his father and son, he lost her, and, after he had sought her a long time in vain, her spirit appeared to him, saying that the mother of the gods had taken her to herself, because she was not willing that she should leave Phrygia.

CREUTZ, Gustavus Philip, count of; a Swedish poet and statesman, was born in Finland in 1726. He was a member of the learned and elegant circle, which surrounded the queen of Sweden, Louisa Ulrica, sister of Frederic the Great; and his *Atis og Camilla*, an erotic poem in five cantos, published at Stockholm (1761), grew out of the meetings of this society. This poem and his Letter to Daphne are considered as masterpieces in Swedish poetry. He was appointed minister to Madrid, and, at a later period, to Paris, where he remained twenty years, and became particularly acquainted with Marmontel and Grétry. April 3, 1783, he signed, with doctor Franklin, a treaty of amity between the United States and Sweden. He was afterwards placed at the head of the department of foreign affairs in Stockholm, but he could not endure the climate of his country, and died in 1785. His works and those of his friend Gyllenberg are published together, under the title *Vitterhets Arbeten of Creutz og Gyllenberg*, Stockholm, 1795. At a chapter of the Seraphim order, April 28, 1786, king Gustavus himself read the eulogy of Creutz.

CREUZER, George Frederic (in his late publications called simply Frederic), professor at the university of Heidelberg, a philologist and antiquarian, born at Marburg, in Hesse, March 10, 1771, was devoted, from his earliest youth, to the ancient classics. He studied at the universities of Marburg and Jena, and afterwards lived in and near Giessen, occupied with the study of the Greek historians, and at the same time with teaching. About this time, he published his first literary production, *Herodotus und Thucydides; Versuch einer näheren Würdigung ihrer Historischen Grundsätze* (Essay toward determining the Historical Principles of Herodotus and Thucydides), Leipsic, 1798

and 1803, which was received with approbation, as was also his subsequent publication, *De Xenophonte Historico* (1799). In 1802, he was made professor of eloquence in the university at Marburg, and, in 1804, professor of philology and ancient history, at Heidelberg. His *Dionysus sive Commentationes Academicæ de Rerum Bacchicarum Originibus* (Heidelberg, 1808) may be considered as the first specimen of his views on the connexion of the mythological traditions of the ancient world. According to Creuzer, there existed, in the most ancient times of Greece, a body of Grecian poetry borrowed from the East. Homer, and more particularly Hesiod, instead of being the authors of the religion, or even of the mythology, of their country, merely introduce us to a previously existing world of poetry, philosophy and theology. The most ancient Greek poetry contained the symbolical and even the Magian and allegorical ideas; and though this poetry, which was introduced from the East, changed its forms at different times, it was never substantially lost among the Greeks. It was preserved in the hierarchical institutions and mysteries, and was in later times an object for the investigation of historians and philosophers; but the traces which remain are only sufficient to enable us to determine and describe its most essential features. According to Creuzer, this ancient wisdom was received first from the Pelasgi, who were, if not altogether a ruling tribe of priests, yet a tribe with ruling priests. But exclusive hierarchical institutions could not prosper upon the soil of Greece. The Pelasgi were expelled by the Hellenes. After the ancient races had become extinct, the Hellenic spirit departed more and more from the spirit of the East. Families of priests had united into castes, and what remained of the old and religious poetry was confined to the mysteries. In Homer and Hesiod there are evident traces of a misunderstanding of the elder notions and traditions; yet there are also evidences that they were not ignorant of the ancient theology. The first germ of the more profound theological doctrines can therefore be found only in a revelation from above, to which we must refer the religious belief of different nations, and we must conclude that similar symbols and allegories are founded upon similar primitive views. Creuzer developed these principles in his *Symbolik und Mythologie der alten Völker, besonders der Griechen* (Leipsic and Darmstadt, 1819—

1821, 5 volumes, with an atlas). He has met with much opposition. G. Hermann, in his *Briefe über Homer und Hesiod, vorzüglich über die Theogonie* (Heidelberg, 1818), and in a letter addressed to Creuzer, *Über das Wesen und die Behandlung der Mythologie* (Leipsic, 1819), opposed him with much perspicuity and force of argument. I. H. Voss declared open war against Creuzer, in the *Litteraturzeitung* of Jena, and published his *Antisymbolik* (Stuttgart, 1824), which was followed by replies from Wolfg. Menzel and others. The study of the theories of Creuzer, which are elaborated in his *Symbolik* with the most extensive learning, has been facilitated by a perspicuous abstract, *Auszug der Symbolik und Mythologie* (Leipsic and Darmstadt, 1822, 1 volume). In 1809, Creuzer accepted the professorship of philology in Leyden; but, before entering on the office, he felt the injurious influence of the Dutch climate upon his health, and returned in October of the same year to Heidelberg. He has since published an edition of *Plotinus de Pulchritudine, aced. Procli Disp. de Pulchritudine et Unitate, Nicephori Nathanaelis Antitheticus* (Heidelberg, 1814). Guigniaut has partly translated, partly recomposed, Creuzer's *Symbolik* in his work *Religions de l'Antiquité considérées principalement dans leur Formes Symboliques et Mythologiques* (Paris, 1824). The academy of inscriptions, at Paris, chose Creuzer a foreign member in 1825.

CREVENNA, Pietro Antonio (commonly called *Bolognaro Crevenna*), a bibliographer, born in the middle of the 18th century, at Milan, received from his father-in-law Bolognaro (whose name he took) a large fortune, and lived mostly in Holland. Love for the sciences, in particular for literary history, induced him to devote his hours of leisure, from an extensive commercial business, to literary pursuits, and to collect a choice library. The learned catalogues of his books, prepared by himself and others, have given to the works which belonged to him great value in the eyes of amateurs, and the catalogues themselves have bibliographical authority. His *Catalogue Raisonné de la Collection des Livres de M. Crévénna* (Amsterdam, 1776, 6 vols., 4to.) contains an exact description of the *Incunabula*, with collations of rare books, and letters of many learned men of the 17th and 18th centuries, printed there for the first time. To understand the importance of the Crevennian library, it is necessary to compare with this catalogue another, the *Catalogue*

des Livres de la Bibl. de M. Crévénna (Amsterdam, 1789, 6 vols.). In 1790, he sold the greatest part of his library by public auction. What he retained may be known by the *Catalogue de la Bibl. de feu M. Crévénna* (Amsterdam, 1793). Towards the end of his life, he left Holland, and died in Rome, Oct. 8, 1792.

CRIBBAGE; a game at cards, wherein no cards are to be thrown out, and the set to make 61; and, as it is an advantage to deal, by reason of the crib, it is proper to lift for it, and he that has the least card deals.

CRICHTON, James, was born in Scotland, in 1551, or, according to some accounts, in 1560, of a noble family. On account of his remarkable endowments, both of body and mind, he obtained the surname of the *Admirable*. He was educated at the university of St. Andrew, and, before his 20th year, had run through the whole circle of the sciences, could speak and write to perfection 10 different languages, and was equally distinguished for his skill in riding, dancing, singing, and playing upon all sorts of instruments. Thus accomplished, he set out on his travels, and is said to have gone to Paris, where he offered to dispute in any art or science, and to answer whatever should be proposed to him in any of these 12 languages—Hebrew, Syriac, Arabic, Greek, Latin, Spanish, French, Italian, English, Dutch, Flemish and Slavonic; and this either in prose or verse, at the option of his antagonist. On the day fixed, he is said to have maintained the contest from nine o'clock in the morning until six at night, to the great admiration of the spectators, who saluted him as the "admirable Crichton." Before and after the dispute, he was engaged in tilting, vaulting, &c., or in balls, concerts, and other similar amusements. This account is probably derived from the following letter, which has generally been applied to Crichton. "There came to the college of Navarre a young man of 20 years of age, who was perfectly well skilled in all the sciences, as the most learned masters of the university acknowledged. In vocal and instrumental music, none could excel him. In painting and drawing in colors, none could equal him. In all military feats, he was most expert, and could play with the sword so dexterously, with both his hands, that no man could fight him. When he saw his enemy, he would throw himself upon him at one jump of 20 or 24 feet distance. He was a master of arts, and disputed with us, in the schools of the

college, in medicine, the civil and canon law, and theology; and, although we were above 50 in number, besides above 3000 that were present, so pointedly and learnedly he answered to all the questions proposed, that none but eye-witnesses can believe. He spake Latin, Greek, Hebrew, and other languages, most politely. He was a most excellent horseman; and, truly, if a man should live a hundred years without eating, drinking or sleeping, he could not attain to this man's knowledge, which struck us with a panic; for he knew more than human nature can well bear. He overcame four of the doctors of the church, for, in learning, none could contest with him, and he was thought to be Antichrist." Whoever this astonishing youth may have been, it could not, says doctor Kippis, have been Crichton; for Pasquier, from whose *Recherches de la France* this letter is taken, says, expressly, that this young man made his appearance in 1445, about a century before Crichton's birth. After similar exhibitions at Rome and Venice, we find him, in 1581, at Padua, exposing the errors of Aristotle, astonishing his hearers with his ingenuity and elegance in an extempore oration In Praise of Ignorance; and, finally, to confound his enemies, offering to prove the fallacies of Aristotle, and the ignorance of his commentators, to dispute in all the sciences, to answer all that should be proposed or objected, in the common logical way, or by numbers and mathematical figures, or in a hundred sorts of verses, and, during three days, sustaining this contest with a spirit and energy, with such learning and skill, as to obtain the praises and admiration of all men. His next exploit was at Mantua. There was in that city a famous gladiator, who had foiled the most skilful fencers in Europe, and had lately killed three persons, who had entered the lists with him. Crichton offered to fight him for 1500 pistoles, and, having slain him in the contest, he distributed his prize among the widows of the three persons above-mentioned. The duke of Mantua, in consequence of his wonderful performances, chose him preceptor to his son—a youth of a dissolute life and riotous temper. To amuse his patron, Crichton composed a comedy, ridiculing the weaknesses of men in all employments, and sustained 15 characters in his own play, "setting before the eyes of the spectators the overweening monarch, the peevish swain, the superficial courtier, the proud warrior, the dissembled churchman, the cozening lawyer, the lying traveller,

the covetous merchant, the rude seaman, the pedantic scholar, and the tricky servant," &c. During the carnival (1583), while amusing himself with his guitar, he was attacked by half a dozen persons in masks. He defended himself, and, disarming their leader, found him to be his own pupil. Crichton fell on his knees, and presented his own sword to the prince, who immediately stabbed him to the heart. The motives which impelled his pupil to the commission of so savage a deed are unknown. It is difficult to decide with certainty on the merits of Crichton. The works which he has left us, consisting of a few Latin odes, and some sketches of scholastic reasoning, do not give us a very elevated idea of his talents; and the original sources, from which our information is derived, are not of the most indubitable character. It appears, from the usual account, that, at 20 years of age, he was acquainted with all sciences, and was master of 12 languages. His death took place 13 years after, during which period we do not find that he performed any thing worthy of his early fame. The best account of him is contained in the *Biographia Britannica*, and the following sentence is passed upon him there:—"What, then, is the opinion which we are to form of the admirable Crichton? It is evident that he was a youth of such parts as excited admiration of his present attainments, and great expectations of his future performances. He appears to have had a fine person, to have been adroit in his bodily exercises, to have possessed a peculiar faculty in learning languages, to have enjoyed a remarkably quick and retentive memory, and to have excelled in power of declamation, fluency of speech, and readiness of reply. His knowledge, likewise, was probably very uncommon for his years; and this, in conjunction with his other qualities, enabled him to shine in public disputation. But whether his knowledge and learning were accurate or profound, may justly be questioned; and it may equally be doubted, whether he could have risen to any great eminence in the literary world."

CRICKET (*gryllus*, Lin.; *acheta*, Fab.); a genus of orthopterous or straight-winged insects, belonging to the *grylloid* family, which comprises the grasshoppers, mole-cricket, crickets proper. This family, like all other orthoptera, do not undergo a complete transformation. They are hatched from eggs symmetrically stuck together by a viscous material, either upon vegetables, or placed under ground;

and, from the moment of escaping from the egg, the young are sufficiently vigorous to seek their own food, which consists of organized substances. While yet very soft, they are perfectly formed, with the exception of the rudiments of the *elytra* and wings. These, in some species, are never developed. As the insect grows, the skin becomes too small, and requires to be changed as often as seven or eight times, before the insect attains its full size. The crickets are distinguished from the other members of this family by their long, silken *antennæ*, by having but three joints to their *tarsi*, and by the comparative smallness of their thighs. Their bodies are short, thick-set and soft, with the head, corselet and abdomen immediately applied, and of equal length and breadth. The head is thick, rounded above, and nearly vertical. Between the eyes, which are widely separated and reticulated on the surface, there are two brilliant *stemmata*. The corselet is quadrangular, somewhat larger transversely, and rounded at the edges. The *elytra*, which do not completely cover the belly, are curved squarely, and are not roof-shaped, as in the locust and grasshopper. In the winged species, the wings exceed the *elytra*, and even abdomen, beyond which they project, in the form of a sort of bifid tail. In addition to the two flexible abdominal appendages common to both sexes, the females have a long borer or oviduct, which is a stiff, square tube, formed of two pieces, separable, and free at the point, sometimes seeming to be split, and terminating by a slight enlargement.—The noise, for which all crickets are remarkable, and usually called *chirping*, is produced by the friction of the bases of their *elytra*, or wing-cases, against each other, these parts being curiously adapted to produce this sound. Both sexes have the *elytra* longitudinal, divided into two portions, one of which is vertical or lateral, covering the sides, and the other dorsal, covering the back. These portions, in the female, have their nervures alike, running obliquely in two directions, forming, by their intersection, numerous small meshes, which are of a rhomboidal or lozenge shape. The *elytra* of the females have an elevation at the base. The vertical portion in the males does not materially differ from that of the females, but, in the horizontal part, the base of each *elytrum* is so elevated as to form a cavity beneath. The nervures are stronger, and very irregular in their course, with various inflexions, curved, spiral, &c., producing a

variety of different sized and shaped meshes, generally larger than in the female: towards the extremity of the wing, particularly, there is a nearly circular space, surrounded by one nervure, and divided into two meshes by another. The friction of the nervures of the convex surface of the base of the left or undermost *elytrum* against those of the concave surface of the base of the right one, causes vibrations of the membranous areas of an intensity proportioned to the rapidity of the friction. In fact, the insect may be regarded as performing on a sort of violin, the base of one *elytrum* serving for a bow, and the cords of the other as the strings of the instrument. The reader, who may wish to enter upon a very minute study of this and similar insects' contrivances for producing sounds, may advantageously consult De Geer (vol. iii, p. 512), and Kirby and Spence (24th letter, vol. 2, p. 375 et seq.) The chirping of the domestic cricket (*acheta domestica*) is by many regarded as pleasant or musical, and their presence in holes is regarded as a good omen by some people. Where they are numerous, certainly, to our ears, their noise is any thing but agreeable; and it requires considerable habituation to it to be able to sleep undisturbed by it. They are very harmless, taking up their abode near chimneys, fire-places, and other warm situations, whence they come out, when the inmates of the house have retired to rest, and commence their monotonous song. If a light be brought, they speedily retreat, leaping lightly to their holes, the length and peculiar structure of their long thighs especially fitting them for this mode of progression. One action which we have observed them perform with the *antennæ* shows the delicacy and perfection of the muscles. They move the long silken appendages, as if cleaning or polishing them, somewhat as we see birds do with their feathers. The field crickets (*A. campestris*) are as loud and noisy in the day as those above-mentioned are at night, and largely contribute to the music of the fields, so delightful to the ear of the student of nature. Both species have attracted the attention of poets, who have celebrated their simple but lively notes in verse of various degrees of excellence. Both species are equally innoxious, subsisting on small particles of organized matter, which might otherwise become troublesome from accumulation; while, from their numbers, birds and other animals of higher rank in the scale of being obtain a part of their supply of food.

CRILLON, Louis de Balbe, one of the greatest warriors of the 16th century, and the friend of Henry IV, was born in 1541, at Murs, in Provence, of a respectable family of Piedmont. Being a younger son, the name of *Crillon* was given him from an estate belonging to the family—a name which he so ennobled by his exploits and virtues, that the heads of the Balbe family adopted it for their own. The army called Crillon the *man without fear* (*l'homme sans peur*). Charles IX, Henry III and queen Margaret called him simply *le brave*; but Henry IV gave him the surname of *le brave des braves*. His independence and nobleness of spirit were equal to his bravery, and his humanity and virtue were not less famous than his heroic achievements. He was distinguished in five successive reigns—those of Henry II, Francis II, Charles IX, Henry III, and, above all, in that of Henry IV. In his first campaign (1557), he contributed much to the speedy conquest of Calais, by a bold deed of arms. He was the first to storm the breach. Here he encountered the commander of the fort, grappled with him, and threw him into the moat. The English had employed 11 months in the reduction of the place. The French retook it in 8 days. Crillon subsequently distinguished himself in the battles of Dreux (1561), Jarnac (1563), and Moncontour (in 1569), against the Huguenots. As a knight of Malta, the young hero gained renown in the crusades against the Turks. Selim II had taken Cyprus from the Venetians. The terror of the Moslem arms filled all Europe; a coalition was formed, and the famous naval battle of Lepanto fought in 1571. Crillon, in this action, displayed prodigies of valor, and, though wounded, was appointed to carry the tidings of the great victory to the pope and the king of France. Pope Pius V and the king of France (Charles IX) loaded him with honors and favors. The massacre of St. Bartholomew (1572), the preparations for which had been carefully concealed from Crillon, was loudly reprobated by him. We find him, the following year, at the celebrated siege of Rochelle, and, subsequently, in various military operations, where there was need of courage and enterprise. Henry III ventured to propose to him the murder of the duke of Guise, which had been resolved upon by the estates of Blois. "I cannot stain my honor with a deed of shame" was his answer. He fought heroically for Henry IV against the league. After the battle of Arques, in Normandy, Henry wrote to him—"Pends-

toi, brave Crillon, nous avons combattu à Arques et tu n'y étais pas. Adieu, brave Crillon, je vous aime à tort et à travers." He succeeded in throwing himself into Quillebœuf, which was defended by a small force against marshal Villars. Villars summoned the city to surrender, representing to Crillon that it was impossible for him, in an almost open place, with a comparatively feeble garrison, to hold out against his army: Crillon's answer was, "*Crillon est dedans, et Villars est dehors.*" Villars ordered an assault, but was repulsed, and the siege was raised. The young duke of Guise, who was with Crillon at Marseilles, when a Spanish fleet was cruising before the place, indulged in a frolic, which afforded new proof of the heroism of Crillon. Guise rushed, with some of his young friends, about midnight, into the warrior's sleeping apartment. They hastily awaked him, and exclaimed that all was lost; that the Spaniards had made themselves masters of the harbor, and of all the important points in the city: rescue was impossible. The young duke now proposes to Crillon to make their escape together. Crillon rejects the proposal with indignation. "It is better," he cries, "to die with arms in our hands than to survive the loss of this place." He arms himself, and rushes down stairs, when the laugh of the young duke discovers the jest that had been played upon him. Crillon turned with a serious air, seized the duke by the arm, and said, "Young man, never amuse yourself with trying the courage of a brave man. By Heaven, had you found me weak, I would have plunged this dagger into your breast!" Finally, when the wars which had shaken Europe were terminated by the peace with Savoy, Crillon returned to Avignon, where he died in 1616, in his 75th year. History represents this hero as a brilliant warrior, a wise counsellor, true to his word, and faithful to every duty. He did not desert Henry III when his crown seemed to be lost. He was faithful to Henry IV when he had nothing but in prospect. Nevertheless, his independence sometimes became rudeness. He was exceedingly sensitive on the point of honor, and any phrase which looked like an insult would make him draw his sword. He was remarkable for his profanity, and, in the last days of his life, swore with his favorite oath never to swear again. Next to Bayard, Crillon is the greatest character of his class, to be found in French history.

CRIME. [The present article is from the German, and, of course, was written by a European lawyer, and has reference to

the jurisprudence of the European continent.] *Crime* is generally used to designate an act of guilt, which offends the laws both of God and man. It implies freedom of will, and a power of distinguishing between right and wrong. Hence young children, madmen and idiots cannot commit crimes, neither can persons in a state of great intoxication.* But the circumstances under which full imputability or responsibility shall commence cannot be decided by general rules, but each case must be judged by itself. To constitute a crime, there must be an intention manifested by an outward act. If the intention be wanting, the act is merely accidental. If the outward act be wanting, there is nothing for human tribunals to punish. Mere intention does not come under their cognizance. There are, moreover, many acts of guilt committed, in every community, which are not of a nature to be made the subject of legislation, and cannot be brought before the courts. On the other hand, there are, in every state, certain actions, in themselves naturally indifferent, but which are forbidden and punished as injurious to the community. These form the greater part of the class of mere offences against the police regulations. Many actions, in themselves indifferent, may, however, by reason of the heavy penalties attached to them, be classed among crimes in the technical and juridical sense. The degree of punishment imposed on any crime should be proportioned to the degree of injury voluntarily inflicted. It is a matter of importance to decide whether an uninterrupted series of illicit acts is to be considered as the continuation of a single crime (*delictum continuatum*), or as several crimes of the same kind (*delictum reiteratum*). In the former case, there would be only one punishment; in the latter, several. But the award of several punishments, if capital, cannot be executed by more than one punishment of death; and, if the punishment consist in a deprivation of freedom, the confinement can only be prolonged. According to the scientific principles of law, it would be, perhaps, most correct to consider the several crimes as constituting a whole, deserving only one punishment, to be proportioned to the amount of guilt (*pœna major absorbet minorem*), although the majority of learned jurists is, at present, of another opinion.—*Quasi delicta* are injuries which must be repaired by their authors,

* Drunkenness is not admitted as a ground of acquittal, or even of mitigation of punishment, either in England or the U. States.

though the intention to perpetrate an illicit act need not be evident. The Roman law has made such provisions in various cases. (See *Criminal Law*.) Punishments themselves may be divided into criminal or civil, or police punishments. The criminal or severe punishments are such as have great crimes for their object. They may be divided into, 1. capital punishments (see *Death, Punishment of*): 2. deprivation of liberty simply (as in the case of imprisonment, and exile from the country), or accompanied with hard labor (for instance, labor in a work-house, a treadmill, &c.), or sharpened by the infliction of pain (for instance, the punishment of laboring in the work-house, with stripes at the entrance and exit, or hard labor, with an iron chain round the neck): 3. punishments inflicting mere bodily pains, or corporeal punishments, such as mutilation (which, however, is discarded in well ordered states) and whipping (the latter is frequently applied in inferior crimes, or on young persons not yet entirely corrupted): 4. punishments affecting the honor. All punishments of crime, indeed, have this character; but, in some cases, the punishment consists mainly in the degradation. Of this latter sort are, 1. such punishments as have for their object to work complete degradation; for instance, the breaking of the armorial bearings of a noble family by the hangman, branding, and the public flogging usually connected with it, deprivation of decent burial, civil death, hanging in effigy: 2. such as are intended merely to withdraw some particular civil honor; as loss of nobility, exclusion from guilds and corporations, removal from office: 3. such as have for their object merely humiliation and chastisement. The latter sort may, according to the rank of the criminal and the magnitude of the crime, be connected with corporeal punishment; for instance, the pillory, &c.: or they may be of a different kind; as suspension from office, church penances, judicial reprimands, begging of pardon, recantation of injuries, &c. This latter class of punishments is intended chiefly for the correction of the person chastised. The highest degree of degrading punishments is always to be considered as equal to loss of life. 4. *Civil death* is a fiction of law (*fictio juris*), by means of which an individual can be considered as really dead, with regard to all or some of the common legal privileges. This is not always to be considered as a degrading punishment, since any one can give occasion to a sentence

of civil death by absence or neglect. This, however, in such instances, has no effect beyond the case which gave occasion to the sentence. 5. Fines in money are not always attended with a loss or diminution of honor. They are imposed principally on usurers, counterfeiters, libelers, adulterers, forestallers, persons guilty of frauds against the revenue, and other frauds, of adulterating wine, of carrying on trades which they are not entitled to exercise, and on many offenders against the police regulations and the feudal institutions. Except in the case of high treason, fines or confiscations do not usually embrace the whole fortune of the offender, and are mostly limited to the instruments with which the crimes were perpetrated. A colorable transfer of property which has become liable to confiscation will not protect it. Civil and police punishments are such as are inflicted for petty offences, and can be imposed by the civil judge. They are chiefly—1. fines; yet a corporeal punishment, when changed by the sovereign into a fine, retains the character of a criminal punishment, without being generally connected with ignominy; 2. imprisonment; for instance, civil confinement, arrest, which is not connected with criminal imprisonment; 3. such fines as are neither equivalent to a corporeal punishment, nor can be changed into one; 4. condemnation to mechanical and agricultural labors, or chastisement with stripes, confinement within jail limits, or confinement to a country, city or district, by which a person is laid under an obligation not to pass over certain limits; 5. removal from office without infamy; 6. temporary suspension from office; 7. reprimand from the court; 8. recantation before the court, or publicly; 9. apologies ordered by the court. Punishment can be inflicted only upon the perpetrator of a crime, and his accomplices. Fines, which have not been imposed during the life-time of the criminal, cannot be exacted after his death, unless, in order to escape punishment, he commits suicide, or endeavors to delay the judgment in other unlawful ways. If the laws of the place where the crime has been committed, differ from those where the criminal is tried, the milder punishment is usually preferred to the more severe. The severity of the laws of a country ought not to add to the severity of the punishment of a crime committed abroad. In the case of crimes of a very deep die, the punishment is determined by the general law. Punishments are also divided into ordinary or legal, and discretionary punishments.

The former are expressly provided by the law for any case that may occur; the latter are pronounced by the judge, in cases in which the legal punishment cannot take effect, or in which the punishment is left to his discretion. Alterations in the legal punishments take place, 1. when the object of the punishment would not be obtained by its application; 2. when the execution is impossible, or, at least, very difficult; 3. when the execution would be injurious not so much to the criminal as to some innocent individual; 4. when the rank or the personal relations of the criminal require an exception. Before making such an alteration, however, the inferior court or judge must first obtain the opinion of the higher court. Punishments do not take effect in case, 1. of unlimited remission or pardon; 2. of a mitigation of the sentence; 3. of entire abolition, or the stopping of all proceedings, by the sovereign power; 4. of the expiration of the period within which process can be instituted, which is generally 20 years; 5. of the restoration of the offender to his former rank; 6. where the party is provisionally discharged, but remains liable to be put again on trial, if new evidence should be produced; 7. of the death of the criminal, unless he was convicted of high treason, or unless the case was one in which the punishment was to have been executed in effigy; 8. in the case of small offences, the punishment may be remitted upon an accommodation taking place between the parties, or upon a request for pardon coming from the offended party; 9. corporeal punishments are remitted, in general, when the criminal, before the execution of the sentence, becomes insane or sick, to such a degree, that the infliction of the punishment might prove fatal to him. In such a case, fines are usually substituted for corporeal punishments. The obligation to repair the injury done to the offended party, does not become extinct with the punishment.—[The foregoing article contains a summary view of the theory of crimes, and of the principles applicable to them, derived from the civil law, or the jurisprudence of continental Europe. The admission of drunkards into the class of persons not responsible for the acts which they commit, on the ground that the injuries which they commit are not accompanied with a rational intention, is liable to much objection. The common law has decided that, as it is a voluntary madness, resulting from the vice of the party, he shall not excuse one offence by setting up another. But a dis-

inction is taken between a crime committed when the party is in a state of actual intoxication, and a crime committed when he is insane, and his insanity is remotely caused by an indulgence in habits of drunkenness. In the former case, he is deemed culpable, in the latter, not. The principle that there are degrees in crime, is not always sufficiently attended to, and codes of penal law often assign very disproportionate punishments to offences. The criminal code of England has been justly stigmatized as sanguinary, as it punishes capital crimes of very different magnitudes. It seems to have been regulated, in a great measure, by the principle of terror, and not of reform. In the U. States, punishments are comparatively mild. There are very few crimes punished with death. No state punishes capital more than 10 or 12 offences. The other punishments are generally fine, imprisonment, confinement in a house of correction, hard labor, &c., in penitentiaries for a term of years or for life; and the punishments are proportioned, both in length of time and degree, to the offence. In many of the American states, the punishment by the pillory is abolished; and in all, the tendency is to avoid disgraceful punishments which are cruel. The constitution of the U. States has expressly declared, that excessive fines shall not be imposed, nor cruel and unusual punishments inflicted. The common law provides that every offence, which is not punishable by law in any other manner, shall be punished by fine or imprisonment, or both, at the discretion of the court before which the conviction is had, according to the aggravation of the offence.] (For more information on this subject, see *Criminal Law*.)

Crime, the Statistics of. This forms a very interesting subject, which has not been as yet sufficiently investigated to enable us to give as accurate an account as we could wish of the comparative amount of crime in different countries, and of the numerical proportion of the different kinds of crime. In deducing inferences from such views, we should keep in mind the general condition of different countries, and not argue, for instance, against the moral state of a rich and populous country, because many crimes against property are committed therein, nor against that of a poor and thinly peopled region, because it affords comparatively numerous instances of personal violence. For the study of the statistics of crime in France, we would recommend

the *Compte générale de l'Administration de la Justice criminelle en France*, which has been published annually, since 1825, by the keeper of the seals. It gives an excellent view of all the criminal processes in France. For England, we have the returns to parliament, of which an abstract has appeared, for two years past, in the Companion to the British Almanac, published under the direction of the society for the diffusion of useful knowledge (London). For America, we do not know of any more complete statement, than that given in the Annual Reports of the Prison Discipline Society (Boston), though it has not yet been in the power of this praiseworthy institution to give a complete view of the nature of crimes in all the states. Respecting Germany and many other parts of the European continent, much information is to be found in the *Jahrbücher der Straf- und Besserungs-Anstalten* (Annals of Establishments for Punishment and Correction), by Nicholas Henry Julius (Berlin), published in monthly numbers—a very excellent work, embracing a wide extent of information. The same writer has collected, in a highly judicious manner, a great number of statements respecting crimes, prisons, houses of correction, common schools, &c., both in Europe and America, in his *Vorlesungen über Gefängniss-Kunde*, &c. (Lectures on the Subject of Prisons), by doctor N. H. Julius, Berlin, 1828. The last report of the keeper of the seals in France, for 1828, contains the following information. The courts of assize decided within the year 6396 cases. The number of individuals accused was 7396, being an increase of 467 above those of 1827. The proportion of the persons accused to the whole population, was, in 1827, as 1 to 4593, and in 1828, as 1 to 4307. Among the 7396 persons brought to the bar of the courts of assize, 5970 were men, and 1426 women, being in the proportion of 100 to 24. Among these, 4166 could neither read nor write; 1858 could write and read but imperfectly; 780 were well instructed in the first elements of knowledge; and 118 had received an education in colleges, or otherwise superior to that supplied by primary schools. Of the 7396 prisoners, 2845 were acquitted, and 4551 convicted. Of the latter, 114 were condemned to death, 268 to hard labor for life, 1142 to hard labor for different terms, 1228 to solitary imprisonment, and the rest to different kinds of correctional penalties. The proportion of acquittals to convictions is as 39

to 61. Of the persons convicted and condemned, 3833 appealed to the court of cassation against their sentences. Among the 114 condemned to capital punishment, 17 were persons who had already been sentenced to penalties less severe. The chambers of the first instance discharged, before trial, 16,409 persons who had been arrested, or against whom informations had been lodged. The police cases or charges, decided within the year, amounted to 95,589, including 132,169 persons. This is an excess of 9162 over those of the preceding year. Among the facts, of which justice was called upon to verify and state the causes, were 4855 accidental deaths, 1754 suicides, and 86 duels, of which 29 were fatal. Late reports to the English parliament contain the following

Return of the Number of Persons charged with Criminal Offences committed for Trial, whether convicted or acquitted, and the Number executed in England and Wales, with a similar Return for Ireland, in the years 1827 and 1828.

ENGLAND AND WALES.

Committed for trial.	1827.	1828.
Males, . . .	15,151	13,832
Females, . .	2,770	2,732
	<u>17,921</u>	<u>16,564</u>
Convicted,	12,564	11,723
Acquitted,	3,407	3,169
No bills found, and } not prosecuted, }	1,950	1,672
	<u>17,921</u>	<u>16,564</u>
Of whom were executed,	70	79

IRELAND.

Committed for trial.	1827.	1828.
Males, . . .	14,598	11,919
Females, . .	3,433	2,764
	<u>18,031</u>	<u>14,683</u>
Convicted,	10,207	9,269
Acquitted,	3,059	2,245
No bills found,	4,461	3,078
Bailed and not prosecuted,	304	91
	<u>18,031</u>	<u>14,683</u>
Of whom were executed,	37	21

Return of the Number of Male Convicts sent to New South Wales and Van Dieman's Land, in 1826 and 1827, with the total Expense of their Conveyance, and the average per head.

	Number.	Total Expense.	Average about
1826 . .	2097	£53,349 5 2	£25 8 10
1827 . .	3393	81,682 17 8	24 1 6

A report of a committee of the house of commons, in 1828, contains the following statement of the comparative amount of crime in England and France in the year 1826.

In France, the total number of accused was	6,988
Acquitted,	2,640
Convicted,	<u>4,348</u>
	<u>6,988</u>
In England, committed for trial, . .	16,147
Acquitted,	3,266
Not prosecuted, or no } bills found, }	1,786
	<u>5,052</u>
Convicted,	<u>11,095</u>
	<u>16,147</u>

Of 4,348 convicted in France, were condemned to death, 150
In England, of 11,095 1,200
Of those condemned to death in France, it would appear that the greater part were executed: in England, of 1,200, only 57 were executed.—Of the crimes for which the punishment of death was inflicted, we find, in the French statement, murder, 11; attempt to murder, 88; parricide, 4; infanticide, 6; poisoning, 11; false money, 9; robbery on a public road, 1; other robberies, 2; arson of houses, 17; arson of other descriptions, 1. The English statement, besides the crimes contained above, contains, burglary, 10; forgery, 1; horse-stealing, 7; larceny in a dwelling-house to the value of 40 shillings, 5; rape, 2; sheep-stealing, 3. In France, it appears to be the practice to condemn, in the first instance, to the punishment intended to be inflicted. For instance, in France, robbery on the highway gives, condemned to death, 1; hard labor for life, 30; for a term, 8; solitary confinement, 5; correctional punishments, 22. The English gives, robbery on person, on the highway and other places, sentenced to death, 144; executed, 15.—Of secondary punishments, France gives, hard labor for life, 281; for a term, 1139; solitary confinement, 1228; to the pillory, 5; banishment, 1; degradation from civil rights, 1; correctional punishments, 1478. In England, we have transportation for life, 133; for 14 years, 185; for 7 years, 1945; imprisonment 5 years, none; 3 years, 11; 2 years, and above 1 year, 297; 1 year, 1201; 6 months and under, 5813; whipping and fine, 310.—With respect to terms of imprisonment, we find in the French statement,
For 20 years, 48

For 15 years,	59
10	175
5	857
From 1 to 5 years,	512
6 months to 1 year,	68
Less than 6 months,	104

In France, the number of accused were in the proportion of 1 in 4195 of the population; of the accused tried, 1 in 4557. In England, the proportion would be greatly superior. But it is difficult to draw any parallel in this respect. The offences tried before the correctional tribunals in France are of a graver character than those which are punished in England out of the courts of assize and quarter session. For instance, in France, under the head of crimes punished by the correctional tribunals, there appear, under the title *vol*s (thefts), 10,796, of which 4364 were punished by imprisonment for a year or more. Distinguishing crimes against the person, and those against property, the number under the former head is, in France, of accused, 1907; under the latter, 6988: leaving out Corsica, the former number would be reduced to 1821, the latter to 6939. In England, including the same class of crimes, the numbers are,

Against the person,	531
Against property,	15,616

But adding to the 6939, 10,796, the numbers would be

For France, against the person, . .	1,821
property,	17,735
For England, against the person, . .	531
property,	15,616

Without pretending to any great exactness on this subject, it may be inferred that the whole quantity of crime is greater, in proportion to the population, in England than in France; but that of offences against the person, there are more, both in proportion to the whole number of offences, and to the population, in France than in England. The general conclusion from this and other facts seems to be, that crowded towns and flourishing man-

ufactures tend to increase depredations on property, and to diminish acts of violence against the person.—In Prussia, 9646 crimes were committed in 1817. The proportion of crimes to the population was greatest in Berlin, in which it was as 1 to 297. In the Rhenish provinces, the proportion was 1 to 400; in Silesia and Prussia Proper, 1 to 2000. This difference is owing to the difference in the condition and state of civilization of the provinces. From 1818 to 1827, 210 persons were sentenced to death in Prussia, but only 87 executed, giving one execution to 135,414 inhabitants. For a full account of the statistics of crime in Prussia, see the above-mentioned *Gefängniss-Kunde*, by doctor Julius.—In the Netherlands, in 1825, when the inhabitants were 6,157,286, there were 4400 criminals in the prisons, 2400 in houses of correction, and 1150 military prisoners. See *Verslag van de Handelingen der tweede algemeene Vergadering van het Nederlandisch Genootschap tot Zedelyke verbetering der Gevangenen, gehouden binnen, Amsterdam, den 27 April, 1825* (Account of the Transactions of the second general Meeting of the Netherlands Society for the Improvement of the Condition of Prisoners, held in Amsterdam, &c.).—Russia presents, from 1823 to 1827, both inclusive,

853 thefts and robberies,	
5,817 murders,	
5,263 suicides,	
95 cases of exposed children,	
14,087 } whole number of criminals,	
} including deserters.	

—In Spain, in 1826, according to official reports, in which, however, no information is contained respecting the state of crime in Arragon, Valencia and the Balearic islands, the number of criminals amounted to 12,937, which, if the population is 11,447,629, would give one crime for 885 persons.

The following table shows the number and offences of the convicts in the Massachusetts Prison from 1820 to 1828 inclusive:

Crimes.	1820.	1821.	1822.	1823.	1824.	1825.	1826.	1827.	1828.
Stealing, shoplifting, &c.,	244	207	...	230	222	199	192	180	186
Counterfeit money,	16	13	...	22	26	35	30	23	18
Burglary,	19	17	...	15	16	16	17	16	18
Forgery,	3	9	...	8	11	11	8	7	9
Robbery,	3	3	...	5	4	2	1	1	1
Arson,	5	7	...	8	5	6	6	5	4
Assault,	2	4	...	3	...	...	...	2	3
Attempt to commit rape,	4	5	...	7	7	11	10	10	7
Adultery, &c.,	3	1	...	1	...	...	...	3	3
Attempt to murder,	1	6	...	6	6	9	10	11	10
Conspiracy,	2	2	...	...	...	...	...	...	...

<i>Crimes.</i>	1820.	1821.	1822.	1823.	1824.	1825.	1826.	1827.	1828.
Manslaughter,	1	1	...	...	...	3	3	1	4
Bestiality,	1	1	...	...	...	...	...	...	...
Fraud,	3	3	...	...	...	...	...	...	1
Maiming cattle,	1	...	...	...	...	...	1	...	...
Perjury, . . . . .	...	1	...	1	...	...	...	...	...
Robbing bank, . . . . .	...	...	...	1	1	...	1	1	1
Common cheat, . . . . .	...	...	...	...	...	3	2	1	...
Common thief, . . . . .	...	...	...	...	...	8	20	16	20
Assault and battery, . . . . .	...	...	...	...	...	...	...	...	1
Murder committed, . . . . .	...	...	...	...	...	2	2	2	2
Attempt to rescue convicts, . . . . .	...	...	...	...	...	2	1	1	...
Open and gross lewdness, . . . . .	...	...	...	...	...	2	2	...	...
Horse-stealing, . . . . .	...	...	...	...	...	...	1	1	1
Maiming, . . . . .	...	...	...	...	...	2	...	...	...
Receiving stolen goods, . . . . .	...	...	...	...	...	1	4	1	1
Escape from house of correction, . . . . .	...	...	...	...	...	1	1	1	...
Conspiracy to defraud, . . . . .	...	...	...	...	...	1	...	...	...
Accessory to thieving, . . . . .	...	...	...	...	...	...	...	2	...

The four reports, which have been published by the prison discipline society above-mentioned, contain many interesting facts respecting other prisons, but do not enable us to give a general view of the state of crime in the U. States. (See the article *Prison*.) The following is an abstract of the state of crime in several countries, such as we should wish to be able to give of all civilized countries:—

Number of Crimes brought before Courts of Justice.

		CRIMES AGAINST PERSONS.		CRIMES AGAINST PROPERTY.		Total.	Proportion to Population.
		Whole No.	Per Ct.	W. No.	Per Ct.		
Scotland, 1806—1811, } Ireland, 1805—1810, } Wales, 1805—1811, } England, 1805—1811, }	{ annual average, }	.....	...	.....	...	89	1 : 20,279
		.....	...	.....	...	2,644	1 : 1,702
		.....	...	.....	...	72	1 : 8,436
		.....	...	.....	...	4,777	1 : 1,988
England, {	1805, . . . . .	.....	...	.....	...	4,527	1 : 1,951
	1826, . . . . .	.....	...	.....	...	16,147	} 1 : 763
	1827, . . . . .	.....	...	.....	...	17,921	
	1828, . . . . .	.....	...	.....	...	16,564	
London, {	1823—1825, . . . . .	.....	...	.....	...	.....	1 : 403
	1826, . . . . .	.....	...	.....	...	3,457	} 1 : 380
	1827, . . . . .	.....	...	.....	...	3,381	
France, {	Before courts { 1825,	2066	29	5168	71	7,234	1 : 4,424
	of assizes, } 1826,	1907	27	5081	73	6,988	1 : 4,436
	Of correction- { 1825,	.....	...	.....	...	141,733	1 : 219
	al police, } 1826,	.....	...	.....	...	159,740	1 : 194
	Of local po- { 1825,	.....	...	.....	...	139,944	1 : 222
	lice, } 1826,	.....	...	.....	...	141,021	1 : 221
	Total, { 1825,	.....	...	.....	...	288,911	1 : 107
Prussia (the old } provinces), }	1819—1826, " 52,583	30	132,549	70	185,132	1 : 427	
	Assizes, 1822—26, "	23	.....	27	317	1 : 6,666	
	Correctional { 1822—26, "	52	.....	48	7,744	1 : 276	
	police, } 1822—26, " .....	...	.....	...	212,374	1 : 51	
Rhenish } Prussia, }	Local police, 1822—26, " .....	...	.....	...	252,679	1 : 42	
	Total, 1822—26, " .....	...	.....	...	...	...

Convicted Criminals.

		For Crimes against Pers.	For Crimes against Prop.	Total.	Proportion to Population.
Scotland, 1823, . . . . .		.....	.....	288	1 : 9,649
England, {	1810—1826,	2,539	119,349	121,888	1 : 902
	1826, . . . . .	.....	.....	11,095	1 : 1,082
	1827, . . . . .	.....	.....	12,564	1 : 1,019
	1828, . . . . .	.....	.....	11,723	
London, 1827, . . . . .		.....	.....	2,300	1 : 587
Ireland, {	1815, . . . . .	.....	.....	2,319	1 : 2,803
	1823, . . . . .	.....	.....	7,923	1 : 820
	1827, . . . . .	.....	.....	10,207	1 : 666
	1828, . . . . .	.....	.....	11,919	1 : 570
France, {	Assizes, { 1825,	1,046	3,548	4,594	1 : 6,748
	{ 1826,	1,459	3,451	4,910	1 : 6,313
	Correctional { 1825, . . . . .	.....	.....	118,251	1 : 262
	police, { 1826, . . . . .	.....	.....	134,384	1 : 231
	Local police, { 1825, . . . . .	.....	.....	119,091	1 : 260
	{ 1826, . . . . .	.....	.....	119,746	1 : 259
	Total, { 1825, . . . . .	.....	.....	241,936	1 : 128
	{ 1826, . . . . .	.....	.....	259,040	1 : 120
Pays de Vaud, 1826, . . . . .		.....	.....	79	1 : 2,151
Prussia, {	Old provinces,	827	8,048	8,875	1 : 924
	Rhenish provinces,	110	3,307	3,417	1 : 543
	The whole country,	937	11,355	12,292	1 : 818
Sleswic Holstein, in 1820, . . . . .		.....	.....	1,089	1 : 6,281
Norway, {	Per centum, in 1821,	10	90	100	
	Total, 1814—1826, . . . . .	.....	.....	9,740	1 : 1,403
Spain, {	Total, in 1826, . . . . .	.....	.....	12,937	1 : 885
	Per centum, in 1826,	37	63	100	

Sentences of Death.

		Sentenced. annual average	Executed.
Scotland, 1806—1811,		7½	3½
England and Wales, 1805—1811,		375½	56
Ireland, 1805—1810,		85	48
Scotland, 1821—1823, in the whole,		49	28
England, 1810—1826,		15,652	1,384
London, 1731—1740,		531	316
France, {	1810—1826,	2,755	350
	1825,	176	111
	1826,	150	110
Prussia, {	Old provinces, 1818—1827,	140	77
	Rhenish prov., "	70	10
	Total,	210	87
Spain, 1826,		167	

Executions.

		For Crimes against Pers.	For Crimes against Prop.	Total.	Proportion to Population.
Scotland, {	1768—1775,	11	21	32	.....
	1776—1780,	2	7	9	.....
	1827, . . . . .	...	....	13	1 : 169,271
England, {	1826, . . . . .	...	....	57	1 : 210,526
	1827, . . . . .	...	....	70	1 : 182,857
London, {	1731—1740,	46	270	316	.....
	1749—1780,	112	889	1,001	1 : 30,000
	1781—1806,	61	726	787	
	1827, . . . . .	...	....	17	1 : 79,412

		For Crimes against Pers.	For Crimes against Prop.	Total.	Proportion to Population.
France,	{ 1815—1819 (annual average),	....	....	303	1 : 90,909
	{ 1825, . . . . .	....	....	111	1 : 279,279
	{ 1826, . . . . .	....	....	110	1 : 281,818
Prussia,	{ Old provinces, 1818—1827,	....	....	77	1 : 1,240,960
	{ Rhenish prov., “	....	....	10	1 : 2,371,000
	{ Whole country, “	....	....	87	1 : 1,354,140

Prisoners.

		Number.	Proportion to Population.
Scotland,	{ 1825, including debtors,	8,378	1 : 262
	{ “ without debtors,	5,935	1 : 369
Debtors,	{ England, April 29, 1826,	2,864	1 : 4,187
	{ Wales, “ “ “	73	1 : 10,411
	{ Scotland, “ “ “	216	1 : 10,185
	{ Ireland, “ “ “	663	1 : 11,011
France, 1821,		41,307	1 : 778
Southern Netherlands (civil and milit. prisoners),	{ 1817,	11,729	1 : 512
	{ 1819,	11,353	1 : 528
	{ 1821,	10,557	1 : 568
Prussia,	{ 1798,	2,179	1 : 3,671
	{ 1826,	5,300	1 : 2,396
Prussian army,	{ 1826, standing army,	1,124	1 : 111
	{ “ militia,	724	1 : 122
Prussia, civil and military,		8,100	1 : 1,550
Sleswic Holstein, 1819,		622	1 : 112
Norway,	{ 1821,	693	1 : 1,399
	{ 1826,	833	1 : 1,200
	{ 1814—1826,	7,740	1 : 1,371
Sweden, 1824,		1,500	1 : 1,600

Though the number of persons committed for trial has progressively increased, in England, for a series of years, it by no means follows that the quantity of crime has increased; and it is perfectly certain, that crimes of the most atrocious character have diminished. Thus, though the parliamentary returns of the number of criminal offenders committed for trial in 1827 be greater, by 1774, than those of 1826, we should minutely investigate the nature of the offences with which these persons are charged, before we affirm that the morals of the people generally were more unsound in 1827 than in 1826. “Offences,” say a committee of the house of commons, in a report on the criminal commitments and convictions, “which were formerly either passed over entirely, or were visited with a summary chastisement on the spot, are now made occasions of commitment to jail and regular trial. Mr. Dealtry—a magistrate for the West Riding of the county of York—says, ‘I think one reason we may give for the increase of crime, or the greater exhibition of it to public view, is the seizure and delivery to the police of all those who commit offences, that are styled offences at all.

I remember, in former days, persons were taken and pumped upon, or something of that sort; but now they are handed over to the police and tried.’ Sir Thomas Baring, and other witnesses, gave a similar testimony. The malicious trespass act, the act for paying prosecutors their expenses in cases of misdemeanor, and other acts not necessary to mention, have tended to fill the prisons, without any positive increase of crime. The magistrates, likewise, are more ready to commit than they used to be.” There is a fact, which is most important to keep in view, namely, that, in England, and in every other country rapidly advancing in civilization, offences against the person are diminished precisely in the proportion that the means of education are enlarged. The most numerous class of offences has been found, not only in that country, but in France, in the U. States, and in Switzerland, to be that of the smaller offences against property; for example, in London and Middlesex, as stated by Mr. Peel in the house of commons, the number of commitments, in 1820, was 2773; in 1826, 3457; increase of commitments, 684. In 1820, of these commitments, the number for larceny was

1384; in 1826, 2118; increase of commitments for larceny, 734. Thus we see that, whilst, in 1826, there was a large increase of offences against property, there was an actual diminution of crimes against the person. The report of the committee before-mentioned states, that "the numbers of persons convicted of murder, from the year 1821 to 1827 inclusive, adding thereto those convicted of shooting at, stabbing, and administering poison with intent to murder, were respectively, 35, 57, 26, 38; 29, 27, 47. The numbers charged with murder, shooting at, stabbing, and administering poison with intent to murder, were, from 1821 to 1827, 232, 241, 239, 253, 273, 245, 288. The whole number of persons tried for offences against the person, in 1827, including robbery of the person, which ought not properly to have been included, was under 1000. The criminal calendar of London and Middlesex exhibits, for the respective periods from 1811 to 1817, and from 1821 to 1827, an average increase of committals in the latter seven years, equal to 48 per cent. The convictions, during an average of the same periods, have increased 55 per cent. The population of London and Middlesex has been computed to have increased 19 per cent.; therefore, of the convictions, 36 per cent. remains to be accounted for by other causes than the increase of population. That large increase, afflicting as it is, may be attributed to the large increase

of petty offences, of stealing from the house, or the person, 'goods which are easily transported, and may be quickly converted into money,' and to the greater vigilance of the police, which renders prosecutions more certain. Moreover, the number of those sentenced to death has increased only 4 per cent.; but, the population having increased 19 per cent., there is thus a positive diminution of 15 per cent. upon the higher offences, subject to the penalty of death generally. For the higher crimes against the person, such as murder, manslaughter, shooting, stabbing and poisoning, the number of convictions followed by sentence of death has decreased 50 per cent. For some of the most atrocious offences against property, such as arson and maiming of cattle, the number of convictions followed by sentence of death has decreased 50 per cent. For the offences of coining and forgery, uttering base coin, &c., the number of convictions has decreased 22 per cent., and the number of those sentenced to death has decreased 43 per cent. This particular decrease is principally to be attributed to the withdrawal of small notes of the bank of England from circulation. The great increase of convictions has, therefore, been in the class of frauds, and larcenies of all descriptions. This result for London and Middlesex is also true, as will be seen from the following table, with reference to all England and Wales.

Years.	Total Convictions.	Total Convictions for Larceny.	Yearly Increase of Convictions.	Yearly Inc. of Convictions for Larceny.	Yearly Inc. of Convictions not for Larceny.
1821	8,788	6,629	.....	.....	....
1822	8,209	6,424	.....	.....	....
1823	8,204	6,452	.....	26	....
1824	9,425	7,550	1,221	1,068	123
1825	9,964	8,011	539	461	78
1826	11,095	8,962	1,131	951	180
1827	12,564	9,803	1,469	841	628

Much of the large increase of convictions not for larceny, in 1827, may be distinctly referred to the passing of the act for paying prosecutors their expenses in cases of misdemeanor. The increase, in 1824, 1825 and 1826, is also to be referred to changes in legislation and temporary causes. Offences against the game laws have greatly multiplied the number of commitments. From 1820 to 1826, 12,000 persons were committed to the county prisons on the charge of poaching. From the returns for England and Wales, of which we have thus given the results, it appears that, since 1821, the convictions

for larceny (that is, for robbery and theft of all descriptions) have increased 50 per cent., while the population has increased, by computation, about 16 per cent. We have thus 34 per cent. of this increase of crimes against property unaccounted for by the increase of population. Some of this increase is real, and some only more apparent.—With reference to the real and apparent increase of the smaller crimes against property, the greater multiplication of property, in a highly-civilized state of society, offers a ready solution why such a growing tendency to theft may exist, notwithstanding the progress of education.

The number of thieves increases from the constant addition to the number of the objects of temptation, from the greater luxuries with which every individual is surrounded, from the increased rapidity with which goods may be transported to distant parts of the country, and from the more easy communication with the continent. Add all these causes, and many others, to a more vigilant administration of justice, which produces committals for the most trifling offences against property, and we shall easily understand how the return of committals may be increased, while the great bulk of the people is becoming more intelligent and more prudent.—M. Lucas, an advocate in the royal court at Paris, has collected, with much accuracy, a body of facts relating to France, Great Britain, the cantons of Geneva and Vaud, and the U. States, all of which tend to confirm the principles we have endeavored to establish—that the higher crimes are lessened as men become more civilized and enlightened; and that, though offences against property may increase, crimes against the person are invariably diminished. With regard to France, this fact has been clearly proved by the calculations of M. Charles Dupin. In the northern departments of that country, where the inhabitants are the best instructed, the higher crimes against the person are rare; in the southern, where the people are very ignorant, the most frightful crimes are twice as numerous. But, again, it is remarkable, that, in the north—the richest and most enlightened portion of France—the crimes against property exceeded, in 1826 and 1827, those in the south by 917. Of those crimes, however, the south exhibits the greatest number of atrocious examples, having 207 highway robberies, while the north had only 82. In the canton of Vaud, from 1803 to 1826, the total number of offences was 1914. Of these, there were only 52 of the highest crimes against the person. Of the offences against property, only 75 were of the gravest character of crime, such as burglary and highway robbery. In the canton of Geneva, from 1815 to 1826, there were 212 criminal processes, of which 27 only were for crimes against the person. The number of offences against property was 185, of which 145 were simple larcenies. In the state of Pennsylvania, from 1787 to 1825, the total number of convictions was 7397, of which 628 were for offences against the person. Of the remaining 6769 offences against property, 5338 were larcenies. In Spain, the catalogue of

crimes against the person for one year amounts to 3436, amongst which are the following:—

Homicides,	1233
Infanticides,	13
Poisonings,	5
Anthropophagy,	1
Cutting and maiming,	1773.*

We thus see that, in Spain, the greater quantity of crime is precisely of an opposite character to that which exists in France, Great Britain, Switzerland and Pennsylvania. On the other hand, the crimes against property amount only to 2379. From these data, we may conclude that the greater proportion of offences amongst an ignorant people are those which proceed from the licentious and revengeful passions, unsubdued by the cultivation of the understanding, and the subjection of the will to true morality and pure religion. The greater portion of offences among a rich and highly-cultivated people, are of that sort which proceed from the temptations of property, the accumulation of which is the result of capital and intellectual energy. (For further information, see *Prison*, and *School*.)

CRIMEA. (See *Taurida*.)

CRIMINAL LAW. [This article, to the paragraph on page 34, is from the German Lexicon.] In no department of legal science do so many different views prevail among jurisconsults, and in none have these views exercised so great an influence upon the theory and practice, as in this. The doctrine of the criminal law is, that the individual committing an unlawful act, must not only make amends to the party injured, but also be punished by the supreme authority of the state. The first question is, whether and how far the state is authorized to inflict punishment. This question cannot be decided by positive rules of law, because the object of the inquiry is to reconcile these rules with natural justice. States have, indeed, at all times, exercised the power of punishment, without waiting for or regarding such theoretical investigations, because it is obvious that, without the right of punishing, no state could exist. The different systems, which have attempted to establish theoretically the right of punishment, may be brought under the following heads:—

I. The system of *vengeance*. From the

* This comparative statement of offences in France, Switzerland, the U. States and Spain, rests upon the authority of an article in the *Bulletin Universel*, for September. The precise year taken for Spain is not mentioned.

opinion that he who has injured another, cannot complain of injustice, if a similar evil is inflicted upon himself, and the injured person, or, in case of murder, his family, would be disgraced, if they did not obtain satisfaction, arises the rude system of retaliation, which we meet with in so many nations; but, whilst those who take revenge must beware not to exceed the measure of the injury received, lest they become aggressors in their turn, they will be obliged to adhere literally to the rule of "an eye for an eye, a tooth for a tooth;" and in this state we find the criminal law subsisting among nations for a considerable time, and bloody revenge and retaliation become a common right and duty. (See Michaelis, *On the Mosaic Law*.) In this state of things, the punishment of offences against the law belongs not to the community, but to the individual, and the public authority is active only in putting limits to the continual exercise of revenge, and in providing means for terminating the hostilities among families, which threaten the nation itself with destruction. From this arises the system of composition. Offences are estimated at certain rates in money; and not only is the offender forced to pay the sum fixed, but the offended party must also receive it in satisfaction. With this degree of progress is connected the idea of a national peace, which is developed in various forms and relations, as the peace of the king, the peace of the court, &c., involving, at the same time, the acknowledgment of a public power, whose duty it is to protect and judge. We find the law of composition among the old Germans, as well as the nations of the Indian archipelago, and the tribes of American savages. The next step is the acknowledgment of the principle, that the community is bound to prevent crimes. The right of revenge passes into the hands of the state, which does not wait for the complaint of the offended party, but takes upon itself the duty of the accuser. The theory which next succeeds is,

II. The system of *detering*. By the punishment of the offender, others are to be deterred from similar acts. The punishment is, therefore, inflicted publicly; and the more horrible the crime, the more effort is made to confirm the popular abhorrence of it by severe penalties. This system is liable to the most weighty objections. It cannot be allowable to torment or put to death a human being, simply with the view that others may receive from his sufferings such an impression, as

to be proof against the temptation to commit crime. In point of fact, this end has never been attained, and would require a scale of punishments offensive to sound reason. The mere fear of punishment is of very little weight. Men are kept from crime principally by the natural abhorrence of wrong, heightened by a good education and good example. If the plan of deterring should be carried through consistently, it would compel us to proportion punishment rather to the temptation to commit crimes than to their magnitude. (See Feuerbach's *Revision der Grundsätze des peinl. Rechts*, Erfurt, 1799—Revision of the Principles of Penal Law.) With regard to capital punishments, more particularly, the system of deterring fell by degrees into disrepute, after the marquis Beccaria (*On Crimes and Punishments*, London, 1770), and a great many other learned men, had declared themselves for,

III. The system of *prevention*, which is ingeniously defended by the Hessian minister Von Grolman (*Grundsätze der Criminalrechtswissenschaften*, Giessen, 1798—Principles of the Science of Criminal Law). Every crime contains, if man is considered as a consistent being, the expression of a principle of conduct, and, accordingly, besides the present transgression of the law, a threat of a repetition of the offence. The community is, therefore, entitled to take measures of prevention against it, which, if the injury done is irreparable, may extend to the deprivation of life. This system may be said to afford the true reason for punishment in general. It may, however, be objected to it, that this provision against future crimes is not really punishment, and that the punishment must needs be omitted, if this presumption of the future offences is refuted by the particular circumstances of the case. This principle, moreover, admits of no scale of punishment, because the means of effectual prevention must always be the same—death or imprisonment for life. The direction which the science of natural law had taken, at this period, seeking for the foundation of every right in a contract, led to,

IV. The system of *compact*, which asserts that, by becoming a member of the state, every individual has, by tacit compact, bound himself to submit to punishment, if the society choose to inflict it. As, however, no one can be bound by a contract to any thing which is not right in itself, the lawfulness of punishment cannot be shown in this manner. Fichte, there-

fore, in his original way, modified this theory. He proceeded upon the principle that, by trespassing upon the right of others, the criminal deprived himself of the claim to be treated as a rational being, since the rights of a free agent depend on his respect for those of others. Every crime, therefore, he says, justifies the expulsion of the offender from human society. The compact, by which the punishment is determined, is consequently in favor of those who receive a lighter punishment than such expulsion. They acquire a right, by suffering some determined evil, to be admitted again into civil society. Much of this theory is true, but the real existence of such a compact seems to be wanting.

V. At the same time, the theory of *atonement* was introduced by Klein and others. The criminal does injury in two ways; 1. to the person who is the immediate subject of the wrong, for which he has to make him amends according to the rules of private law; and, 2. by the bad example afforded by the diminished respect for the laws of the state, for which he is answerable to the community. This latter injury is compensated by the punishment, which vindicates the authority of the law in the minds of the people. This theory has, in later times, been further developed, with great ingenuity, by Schultz (*Entwicklung der philosoph. Principien des bürgerl. und peñl. Rechts*, 1813—Development of the philosophical Principles of Civil and Criminal Law), and by Martin (*Lehrbuch des Criminalrechts*, 1819—1825—Compendium of Criminal Law).

VI. The theory of *psychological constraint*, by Feuerbach, is founded upon the system of deterring, with the addition of this position—that the threatening of punishment, in general, is lawful, because it forbids no one to do any thing which he can have a right to do; and this menace renders punishment lawful in case of an offence occurring, because the individual knew beforehand what he had to expect. This theory is exposed to most of the objections against the theory of deterring, and the grounds on which it rests often fail in particular cases.

VII. The principle of *moral correction*, has been little used as the basis of the right to punish. It has for its end to correct, by punishment, in the criminal himself, those unlawful propensities which impelled him to crime. It is undeniably correct, so far as this, that the punishment ought never to be such as to make the moral correction of the criminal impossi-

ble, by the annihilation of his sense of honor, by exposing him to corruption in the society of other criminals, and destroying his ability to support himself in an honest manner. But it is evident, on the other hand, that the sentiments of men, and their moral reformation, cannot be the direct object of legislation, from the very circumstance, that this effect is not of a kind to be ascertained; but to produce an outward habit (for instance, to dispose the idle to labor, the drunkard to sobriety, &c.), is practicable.

Finally, VIII. The theory of *retaliation* has been adopted, since the time of Kant, by almost all the German philosophers, but, at the same time, by very few lawyers. It is founded upon the principles, that the state ought to suffer no wrong within itself; that every unlawful action ought to be annihilated, and is annihilated when made to revert on the author; and that the latter suffers no injustice by being treated in the same way as he has treated others. This retaliation is not, however, a literal one. It inflicts not the same evil on the criminal which he has done to another; but it seeks for a generic notion of the offence, and applies, according to this, the principle of the criminal against himself. This affords, at the same time, a measure for punishment, which no other principle of penal law affords, though it still requires that the degree of punishment, in particular cases, should be fixed by positive law.

We have thus set forth the theories on the subject of criminal legislation. In no branch of law has legislation been at all times so active as in this. The influence of theory has extended even to the forms of process, and the civilization of nations always manifests itself early by the improvement of the criminal law. Criminal law was first treated scientifically in Italy, but remained in a very rude state till the middle of the 16th century. The dreadful abuses in the administration of criminal justice in Germany and France, gave occasion to the two great reforms introduced by the penal code of Charles V, of 1532, and the criminal ordinance of Francis I, of 1539. This branch of jurisprudence now assumed a more systematic character. The ordinance of Charles V greatly improved the forms of process, but retained, according to the spirit of the times, cruel punishments, and even torture. Of the points of criminal law, which, in recent times, have given rise to much diversity of opinion, the following are of particular practical importance:—1. The right of punishing flagrant

crimes without the authority of an express law. Those who acknowledge the authority of a natural law, affirm the existence of such a right, and divide criminal actions into those which are bad in themselves (*delicta juris naturalis*), or, as the English law terms them, *mala in se*, and actions which are of themselves indifferent, but are subjected to a penalty by particular laws (*delicta juris positivi*), or, as the English law terms them, *mala prohibita*. Crimes of the first class, as murder, theft, &c., must be every where punished, even without a positive law; but those of the second, as contraband trade, are punishable only when made penal by express enactment. Feuerbach and others, however, acknowledge no right of punishment without an express law. 2. With the preceding is nearly connected the question—how far it is the right or duty of the state to punish crimes, which have been committed in foreign countries. On this point, in addition to the difficulties attending the main question, there exists a great difference of opinion as to the laws by which such crimes are to be judged, whether by the laws of the foreign country, or of that to which the individual belongs. 3. What power should be given to the judge to vary the punishment according to the different circumstances attending the offence? The tendency, in modern times, is to define crimes and their punishments so exactly as to leave nothing to the discretion of the judge, and to enable every man to see what he has to expect from a violation of the law. It is doubtful whether so much precision is generally advantageous, since it almost necessarily produces an unequal distribution of punishment, the question whether it shall be light or severe frequently depending on a little difference in the age of the offender, the amount of property stolen, &c.; so that a penny more or less may make a difference of several years' confinement in a penitentiary; or the difference of a day, in the age of the culprit, may decide whether he shall be punished with a few stripes, or deprived of his liberty for years, or of his life. 4. One of the most difficult points is the just estimation of injuries done to the honor of another, which involves the great question of the liberty of the press. The most important differences of opinion, however, are those which prevail with regard to criminal process. From the representation given above of the principles and the development of penal law, it is evident that criminal proceedings have always been

founded at first upon private accusations, in regard to which almost the same principles prevail as those observed in civil actions. In the course of time, this mode is superseded by a public accusation on the part of the state, appearing by an attorney, to prosecute the offence. Upon this principle are founded the criminal proceedings of the English courts, and of the French courts since the revolution. With this may be united the public trial by jury, which has found so many adherents in modern times. Its fundamental character consists in this, that the party accused remains merely passive, and waits for the charge to be proved. The consequence is, that the sentence must be pronounced from a view of probabilities, and depends, therefore, more on a knowledge of men, and the deductions of a sound judgment, than on technical rules. It has been considered the safest mode of trying offences, in particular, as it prevents the dangers arising from the influence of the higher officers of the state over judges deriving their salaries from the sovereign, by referring the question of guilt or innocence to the verdict of men taken immediately from among the people, i. e. jurors. The German criminal proceedings are directed principally, it may be said solely, to the end of obtaining from the accused a confession of the deed, and of its circumstances, by inquisitory process. This admits neither of an accuser nor of a public trial, but the judge must inquire of the accused himself, and obtain from him, if possible, by a skilful combination of the circumstances, as well as by awakening the voice of conscience, complete truth. What is in Germany the chief business of the judge, belongs, in France, to the *juge instructeur*, and, in England, to justices of the peace, as police officers, whose investigations afford, in common cases, the materials for the final trial. The opponents of the trial by jury allege, as a chief reason for their opposition, that, when the preparatory process affords no certain results, the subsequent trial is attended by the same uncertainty.

To the preceding article, taken from the German Lexicon, we have to add a few suggestions growing out of the practice of the common law, which constitutes the basis of the institutions of the U. States, as well as of England. The general theory of the common law is, that all wrongs are divisible into two species; first, civil or private wrongs; secondly, criminal or public wrongs. The former are to be redressed by private suits, or remedies in-

stituted by the parties injured. The latter are redressed by the state, acting in its sovereign capacity. The general description of private wrongs is, that they comprehend those injuries which affect the rights and property of the individual, and terminate there; that of public wrongs or offences is, that they comprehend such acts as injure, not merely individuals, but the community at large, by endangering the peace, the comfort, the good order, the policy, and even the existence of society. The exact boundaries between these classes are not, perhaps, always easy to be discerned, even in theory; for there are few private wrongs which may not and do not exert an influence beyond the individual whom they directly injure. In doubtful cases, the legislature usually interferes, and prescribes a positive rule. In clear cases, the right of punishment on the part of the state is assumed as a deduction from natural justice and the duty of the state to protect all its subjects. Hence, in the common law, two classes of offences are distinctly traced out. The first embraces those which rest upon legislative enactments. The second embraces those which, independently of any such enactment, are deemed, from their very nature, injuries to the public. The offences belonging to this last class are not, perhaps, capable of a perfect enumeration; and the test by which they are ascertained is left to the judgment of judges, as cases arise, to be fixed, not according to their own discretion, but by analogy and appreciation of the principles and cases already well settled by former adjudications. When, therefore, a non-enumerated wrong arises, which does not fall under any known former rule, the question which is discussed is, how far it falls under the principles already established respecting public crimes. If reasoning furnishes a strong analogy, it is deemed a public offence; if otherwise, it is left for the legislature to declare that it shall be such. Treason, murder, setting fire to a dwelling house in a large city, riots disturbing the general peace, poisoning public wells, &c., it will be readily admitted, naturally endanger the good order and safety of the state, and therefore are properly to be punished by the state. But it is not so easy to trace the same principle in mere secret thefts, or a private fight, and yet deny its existence in violent seizures of private property, and private quarrels producing defamation of character. The common law considers the great object of the public punishment of crimes to be

the prevention of offences, by deterring both the offender and others from a repetition of the same. Its object is not so much an atonement for, or expiation of, the offences, as a precaution against their recurrence. This naturally includes, not as a primary motive, but as an incident, the reformation of the criminal himself; for, so far as that is effected, it prevents offences. That system of punishments is indeed most desirable, which attains its object by such a reformation. But it is obvious, that reformation cannot always be relied upon as a sufficient security for society. Hence arises the necessity or policy of capital punishment, which, by cutting off the offender, not only operates as a terror to others, but secures society against the possible perpetration of the same offence by him. Undoubtedly it ought never to be resorted to except in cases of atrocious guilt, and where less punishments are manifestly inadequate to produce security. Some persons, indeed, doubt the lawfulness of capital punishment altogether; but the divine law has certainly sanctioned it. Others, who do not question its lawfulness, doubt or deny its policy. It is certain that the frequency of capital punishment has some tendency to abate its terrors; and it is by no means as certain that capital punishments have a tendency to prevent the occurrence of the crime, or to secure a conviction. There is a natural repugnance to punish, with so much severity, slight offences; and judges and juries, as well as the public, under such circumstances, lean against prosecutions and in favor of acquittals. Hence the probability of conviction is sometimes in proportion to the moderation of punishments. On the other hand, it is found by experience, that the punishment of death is not sufficient to deter men from the commission of offences to which they are strongly tempted by their passions or their wants.* The tendency of modern legislation has, therefore, almost uniformly been in favor of relaxing the severity of the penal code. In England, capital punishments are very extensively provided for by statute. There are more than 160 capital offences in her code. (4 *Bl. Comm.* 18.) In the U. States, there has been a constant effort to diminish the number of capital offences. There are but 9 in the criminal code of the U. States; and the codes of the respective states do not gen-

* Indeed, the severity of the punishment sometimes induces the offender to become more savage and atrocious. Thus, where robbery is punishable with death, it is often attended with murder.

erally embrace a larger number. Treason, murder, rape, arson or burning of a dwelling house, are generally punishable with death; and sometimes robbery, burglary or breaking into a dwelling house in the night time with intent to steal. The code of the U. States also includes piracy, the slave-trade, fraudulently casting away ships on the sea, robbery of the mail, burning public ships of war, and the rescue of convicts capitally convicted when the sentence is about to be executed. The punishment of other offences is, for those of great enormity, solitary confinement or hard labor in a penitentiary or prison erected for that purpose; and for those of a lower degree, fine or imprisonment, or both, according to the nature and aggravation of the offence. In the U. States, no capital punishments are inflicted unless by the injunctions of some positive statute. In England, the same rule prevails to a limited extent. A few offences are punished by the common law with death, without any statute to direct it, founded either upon the notion of conformity to the divine law, or upon some positive law whose existence cannot now be traced. Such are murder, rape, robbery, burglary, and certain other felonies at the common law. In respect to other offences, for which no statute has prescribed any punishment, the general rule of the common law is, that they are punishable by fine or imprisonment, or by both. Considering the infinite variety of circumstances which may occur to extenuate or aggravate the offence, not only the common law, but the legislature has left much of the degree of punishment to the discretion of the judges who try the case. That discretion must be exercised in public; and experience has proved that it is, on the whole, wiser and safer to leave it to the natural operations of judicial responsibility, than, by any attempts to define and limit the exact degree of punishment, to run the hazard of introducing other mischiefs by excluding mercy where it might be most desirable. No code of laws could be sufficiently minute to embrace all circumstances; and none could, therefore, provide for a perfect uniformity of punishments, according to the absolute nature of the offence. Another inquiry is, Who are, in a legal sense, capable of committing crimes, so as to be amenable to punishment? The general rule of the common law is, that all persons are punishable for disobedience to, and infractions of the law. The exceptions are few, and are clearly defined. They are such as presuppose a defect of

reason and understanding, or of intention. A defect of understanding exists in the case of injuries committed by persons in a state of infancy, lunacy, idiocy, or intoxication. A defect of intention exists in the case of offences committed by chance, mistake and ignorance, wholly without or against the intention of the party. In respect to want of capacity, idiots, madmen, and other persons not at the time in possession of reason, such as somnambulists, are generally excused, whatever injuries they may commit. But the common law does not extend this indulgence to crimes committed by persons who are in a state of voluntary intoxication. It considers this circumstance rather in the light of an aggravation of the offence. But a distinction is here to be made. If the party be, at the time of the offence, drunk by the use of strong liquors, he is punishable, though he may be thereby reduced, at the time, to a state of insanity. But if drunkenness be only the remote cause of the insanity, and the party be not, at the time, under the influence of intoxicating liquors, the law treats his case like that of any other insane person. It does not look back to the original and remote cause of the insanity, to ascertain whether it has been produced by criminal indulgence, or neglect of duty, but to the immediate and operating cause, at the time when the crime is committed. The exception, therefore, of the case of insanity by immediate intoxication, is carved out of the general exception in favor of insanity, and arises from, or at least is countenanced by, motives of public policy, to prevent the dangerous effects arising from indulgence in strong liquors. The common law is, in this particular, more severe than the civil law. The latter never punished capitally for an offence committed under such circumstances. (4 *Bl. Comm.* 26.)—As to crimes committed by infants. There are various ages of infancy, in the common law, for different purposes. The general age of majority for all purposes is, in our law, 21 years; in the civil law, 25 years. Children under 7 years of age are deemed without discretion, and are universally exempted, by our law, from punishment. Between 7 and 14 years, they are said to be in a dubious stage, in point of discretion. If they, in fact, possess it, if they appear to have judgment, and understanding, and a sense of crime, they are liable to punishment; otherwise not. Generally, the rule of presumption is in favor of mercy, that an infant under 14 is *doli incapax*; but this presumption

may be removed by facts establishing a clear sense of the difference between good and evil, together with malice and superior cunning. (4 Bl. Comm. 22, 23.) However, it deserves consideration, whether this is a sufficient test of rational discernment of the nature of crime and duty; and judges may well lean against convictions in such cases, upon principles not merely of humanity, but of philosophical responsibility. After 14, the general presumption is in favor of an infant being *doli capax*, and therefore he generally stands upon grounds similar to those of adults, until his actual incapacity is proved. —As to crimes committed by lunatics and idiots, the exception on account of want of capacity obviously applies only to cases where it exists at the time of the commission of the offence. Hence it is no excuse, if a person who has been insane commits an offence in a lucid interval, or at a time when his reason is clearly restored. So, on the other hand, a person may not be an absolute idiot, so as to have no discernment whatsoever, and yet may be excusable from punishment if his capacity be so weak that he does not, though an adult, understand clearly the distinctions between right and wrong. Extreme old age sometimes reduces persons to a state almost of fatuity, and exposes them to be imposed upon, and even seduced to the commission of offences, under circumstances where they would be held no more liable to punishment than infants. Every thing depends upon soundness of mind and real discretion at the time of committing the offence. When a person becomes insane after the commission of an offence, and before trial, he is not, by the common law, ever allowed to be brought to trial, until he is restored to his reason. At whatever stage of a public prosecution the insanity occurs, it operates as a suspension of all further proceedings. Thus, if it occurs before arraignment, the party ought not to be arraigned for the offence; if after arraignment, he ought not to be required to plead; if after plea, he ought not to be put to trial; if after trial, he ought not to have judgment or sentence pronounced against him; if after judgment, execution of the sentence ought to be stayed. The ground upon which this rule of law is commonly supposed to stand is, that it ought never to be presumed that the party, if sane, might not suggest some defence that, in reason or justice, would entitle him to mercy, or to exemption from punishment. A reason quite as satisfactory is, that the

punishment of an insane person can produce no good result, either to reform the offender or as a public example. It would shock all the feelings of humanity to inflict punishment on those whom the visitation of Providence had already made objects of wretchedness and of compassion. In all cases where it is doubtful whether the party be insane or not, the fact is, by the common law, to be tried by a jury. —In respect to injuries committed without the intention of the party, as through misfortune or chance. Where an accidental mischief happens in the performance of a lawful act, in the doing of which the party uses reasonable care and diligence, he is wholly free from guilt, and it is deemed his misfortune; but if he does not use reasonable care and diligence, he is liable to punishment according to the nature and extent of his negligence. If guilty of gross negligence, he is sometimes punishable in the same manner as if the act were intentionally committed; if guilty of slight negligence only, he escapes with a more moderate punishment. If the mischief happens in the performance of an unlawful act, and a consequence ensues which was not intended or foreseen, the party is not free from guilt. But the degree of punishment ought to depend upon the nature of the unlawful act itself. A distinction is taken, in the common law, between cases where the original act is wrong and unlawful in itself (*malum per se*), and where it is merely prohibited by statute (*malum prohibitum*). In the former case, the party is responsible for all incidental consequences of the unlawful act; in the latter, not. An illustration of these principles may be found in cases commonly put in our treatises on criminal law: If a man be at work with a hatchet, and the head flies off, and kills a stander-by, this is not any offence, for the party was doing a lawful act, without any intention of hurt. So a parent may moderately correct a child, and if, in so doing, death happens, against his intention, it is mere misadventure. But if he corrects the child immoderately, or uses an instrument which is dangerous to life, or is wanting in reasonable caution, he is guilty either of manslaughter or murder, according to the circumstances and the degree of the punishment. If a man, riding a horse with reasonable care, accidentally runs over a child and kills him, he is not guilty of any offence. If he rides him furiously in a street where there may be danger, and the like mischief happens, he is guilty of manslaughter at least. If he rides him

furiously into a crowd, either from wantonness or thoughtlessness, and the like accident happens, it will be murder. If a person in England, duly qualified by law to kill game, accidentally kills another while so doing, he is guilty of no offence. If a person be prohibited by statute from killing game, and the like accident happens by his shooting, he is not answerable in any other manner than a person duly qualified. This last case illustrates the distinction as to cases of *malum prohibitum*. On the other hand, if a person, shooting at poultry belonging to another person, by accident kills a man, if his intention was to steal the poultry, it will be murder, by reason of the felonious intent: if his intention was not to steal, but it was an act of mere wantonness, it will be manslaughter only. In these last cases, the act is *malum in se*.—In respect to injuries committed through ignorance or mistake. This may arise when a man, intending to do a lawful act, does what is unlawful. An illustration commonly put is that of a man intending to kill a thief or house-breaker, in his own house, who, by mistake, kills one of his own family. In this case, if he acted under circumstances of reasonable belief that the party killed was the thief or house-breaker, there is no ground to impute criminality to him. His conduct was founded in a mistake of fact, that is, of the person; for it is sometimes lawful, by the common law, to kill a house-breaker found in your house. But a mistake, or ignorance of law will not justify an act of the like nature. If a person supposes he has a right to kill a trespasser or outlaw, or excommunicated person, and he does so, he is guilty of murder.—In respect to crimes committed by compulsion or force. The common law recognises but few cases in which the authority or command of a superior furnishes any excuse for the commission of an offence. In the case of children or servants, the commands of the master or parent furnish no excuse. In the case of a wife who commits a crime in company with her husband, she is deemed, by the benignity of our law, to act under compulsion, and therefore she is excused in all cases except murder, manslaughter and treason. These exceptions are founded upon the peculiar danger and atrocity of the offences, and the public policy of discouraging every motive to commit them. Where the wife commits the offence alone, without the company or compulsion of her husband, she is personally responsible in the same manner as if she were unmarried. There are

other species of compulsion recognised in the common law, which may excuse the commission of offences. Thus where a person commits an offence in consequence of threats or menaces, which induce a fear of death or other bodily harm. This is called *duress per minas*. But the fear which compels a man to do an illegal act must be just and well grounded, such as may intimidate a firm and resolute man, and not merely of such a nature as may operate upon the timid and irresolute, otherwise it will constitute no excuse. Thus, in time of war or rebellion, a man may be excused for doing treasonable acts, if they are caused by the compulsion of the enemy or rebels. But the compulsion must not be a mere threat to do injury to property, nor even slight injury to the person, but a just fear either of death or of great bodily injury; and even in such case, it is the duty of the party to avoid doing such acts as soon as he safely may, by escape or otherwise; for if he does not, he will be liable to punishment as a volunteer. But even this excuse is not allowed in all cases, but seems principally confined to crimes positively created by society; for no man can justify or excuse himself for murdering an innocent person, under the pretence of fear or necessity, though he certainly may kill another in necessary self-defence. Another case of compulsion or necessity often occurs in the reasoning of speculative writers, whether a person in extreme want of food is excusable for stealing to satisfy his hunger. Whatever may be the doctrine of foreign jurists, or the opinion of publicists, it is certain that no such excuse is now admitted in the common law. If the offence should be committed under circumstances of extraordinary suffering, the case would rarely be brought before any tribunal of justice; and if it should be, the power of pardon in the government, and the humanity of the court itself, would either annul or mitigate the punishment. There is another case often put, where two persons at sea are shipwrecked, and get on a single plank, and it cannot support both, but both must be drowned unless one is displaced: what is then to be done? In such a case, the law of self-preservation has been supposed to justify either party in a forcible dispossession of the other. The common law seems to recognise this principle, and, in such a deplorable calamity, imputes no blame to the survivor.—We now proceed to notice another important distinction, which the common law acts upon in relation to crimes. It is the dis-

tion in guilt and punishment which is made between principals and accessories. Persons are called *principals in the first degree*, who are the actors or perpetrators of the offence. Persons who are present, aiding and abetting the perpetrator, are called *principals in the second degree*. This presence may be either in fact, as where the parties are immediately standing by, or are within sight and hearing; or constructive, as when the party, though not within sight or hearing, is on the watch at a convenient distance, ready to assist, and near enough to do so, if required. There are cases, too, in which a person may be the principal in construction of law, although he is absent, and the fact is done through the instrumentality of another; as, in case of murder by poisoning, a man may be the principal felon by preparing or laying the poison, with an intention that it should be taken, or by employing an innocent person to administer it, under false pretences, although he is not personally present when it is taken or administered. Many cases of the like nature may be easily put. An *accessory* is he who is not the chief actor in the offence, nor present at its perpetration, in the sense above stated, but who is in some manner concerned in it, either before or after the fact is committed. If he procures, counsels, abets or commands the crime, and is absent at its commission, he is deemed an accessory *before* the fact. If, without any such participation in it, he knows that the crime has been committed, and afterwards relieves, assists, comforts or receives the offender, he is deemed an accessory *after* the fact. Thus, if he aids the offender to escape, or rescues him from arrest, or conceals or supports him, he is deemed an accessory after the fact; so if he buys or receives stolen goods, knowing them to be stolen. There are certain classes of offences at the common law which admit of no accessories. Thus, in treason, all the parties concerned are deemed principals *propter odium delicti*; and in offences which are under the degree of felony, and in trespasses, all persons concerned are deemed principals, for an opposite reason, because the law will not condescend, in petty crimes, to ascertain the different degrees of guilt. In all other offences, that is, in all except the highest and the lowest, there may be, technically speaking, accessories. It follows as a maxim, that, in such cases, the accessory cannot be guilty of a higher offence than his principal. In respect to punishment, the ancient common law did not make any

distinction between accessories and principals; but by statute, many distinctions are now made, and especially regarding accessories after the fact. In the U. States, few of our criminal codes have failed to mark out very strong differences in the punishment. There are, in fact, many reasons which require the distinction between principals and accessories to be constantly kept in view. In the first place, in many instances, a man cannot be tried as accessory until after the trial and conviction of the principal. In the next place, if a man be indicted as accessory and acquitted, he may still be indicted as principal. In the third place, as a natural inference from the other considerations, the defence of the accused may, and often must, turn upon very different principles, where he is accused as accessory, from what might or could arise if he were accused as principal.—In respect to the mode of presentment and trial for offences. In England, no person can be brought to trial, for any capital offence or felony, except upon the presentment or indictment of a grand jury; but for inferior offences or misdemeanors, an information, in the nature of an indictment, may be filed by the king's attorney-general, or other proper officer, upon which the party may be put upon trial. Even in such cases, an indictment also lies. In the U. States, informations are rarely resorted to in any of the states in such cases; and the usual, and, in many cases, the only constitutional course is an indictment by a grand jury. All offences, whether charged by indictment or information, are, by the common law, to be tried by a jury composed of 12 men, and their verdict is conclusive upon the facts. In the U. States, this privilege of trial by jury is generally secured by the constitutions of the state and national governments. A privilege often quite as valuable to the accused, is that of being assisted by counsel in the management of his defence. It is a curious anomaly in the English jurisprudence, that counsel are admissible in the argument of facts to the jury only in the highest and lowest offences; in treason, by the express provision of statute, and in mere misdemeanors, by the common law. In all capital cases, except treason, the accused is denied this privilege; and, however important and useful such a privilege may be, the introduction of it has been hitherto successfully resisted in the British parliament. In the U. States, a far different, and, as we think, wiser and more humane rule prevails. In all criminal cases,

the accused is entitled, as of right, to the assistance of counsel in his defence; and this right, also, is generally secured by the state and national constitutions of government. This is not the place for a discussion of the value of such a right, though to us it seems recommended by principles of policy as well as of justice and humanity. The mode of impanneling juries, the right of challenge, and other incidents of criminal trials, belong more appropriately to other heads. (See *Crime, Courts, and Jury.*)

CRISIS (from *κρίνω*, to decide), in medicine; a point in a disease, at which a decided change for the better or the worse takes place. The crisis is most strongly marked in the case of acute diseases, and with strong patients, particularly if the course of the disease is not checked by energetic treatment. At the approach of a crisis, the disease appears to take a more violent character, and the disturbance of the system reaches the highest point. If the change is for the better, the violent symptoms cease with a copious perspiration, or some other discharge from the system. In cases where the discharge may have been too violent, and the nobler organs have been greatly deranged, or where the constitution is too weak to resist the disease, the patient's condition becomes worse. In regular fevers, the crisis takes place on regular days, which are called *critical days* (the 7th, 14th and 21st); sometimes, however, a little sooner or later, according to the climate and the constitution of the patient. A bad turn often produces a crisis somewhat sooner. When the turn is favorable, the crisis frequently occurs a little later. After a salutary crisis, the patient feels himself relieved, and the dangerous symptoms cease.—It hardly need be mentioned, that the word *crisis* is figuratively used for a decisive point in any important affair or business, for instance, in politics.

CRISPIN; the name of two legendary saints, whose festival is celebrated on the 25th of October. They are said to have been born at Rome, about 303 A. D., and to have travelled to France to propagate Christianity, where they died as martyrs. During their mission, they maintained themselves by shoemaking; hence they are the patrons of shoemakers.

CRITICAL PHILOSOPHY. (See *Kant*, and *Philosophy.*)

CROATIA; a kingdom of the Austrian monarchy, connected with Hungary. It is divided into Civil and Military Croatia. The former contains 3665 square miles,

441,000 inhabitants, 7 cities, 16 market towns, 1827 villages, and consists of the three counties of Agram, Creutz, and the Hungarian Littorale (of which the principal place is Fiume). It is watered by the Drave, Save, Culpa and Unna, and bounded by Hungary, Slavonia, Bosnia, Dalmatia, Illyria and Styria. Military Croatia (see *Military Districts*) contains 6100, according to some, 4884, square miles, with 414,800 inhabitants, in 6 cities, 6 market towns, and 1241 villages. The inhabitants are Croats and Rascians, mixed with a few Germans and Hungarians. The Croats, a Slavonic tribe, are Roman Catholics, and are known as good soldiers, but have made little progress in science and the arts; nay, they have not among them even all of the ordinary mechanics. Their language is the Slavono-Horwatic dialect. In Turkish Croatia (on the Unna and near Bihatsch), they are Greek Catholics. Civil Croatia is fertile, and intersected by heights of very moderate elevation, extending down from Styria and Carniola. Military Croatia, however, towards Bosnia and Dalmatia, has mountains rising to the height of 5400 feet; as, for instance, Wellebit, the Plissivicza mountains, and the mountains of Zrin. The climate is healthier than that of the neighboring Slavonia, and mild. The country produces chiefly wine, tobacco, grain of various sorts, including maize, fruits, particularly plums, wood, cattle, horses, sheep, swine, game, fish, bees, iron, copper, and sulphur.

CROCODILE (*crocodilus*); a genus of saurian, or lizard-like reptile, species of which are found in the old and new world. That inhabiting the Nile and other rivers of Africa has been known for many ages, and celebrated, from the remotest antiquity, for qualities which render it terrible to mankind. As the largest reptile known,* and as the most ferocious and destructive of the inhabitants of the waters, it could not but command the attention, and excite the fears, of those who were near enough to observe its peculiarities. Few persons have read the sublime book of Job, without being struck with the magnificent and terrible description of the attributes of leviathan to which alone the characters of the crocodile correspond. It is not surprising that the Egyptians, who deified almost

* The skeletons of much larger reptiles have been discovered within the last half century; but, from the strata in which they were found, it is certain they had become extinct long before the earth was inhabited by man.

every thing, should place among their gods animals so powerful and destructive, though a better reason is to be found in the defence which they afforded against the incursions of Arabs and other robbers, who were not fond of adventuring across canals and rivers frequented by crocodiles. A regular priesthood and worship were consecrated to this ferocious deity, and in the temple of Memphis a sacred individual of the species was reared with great care, being abundantly fed, adorned with jewels, and lodged in a spacious basin, having offerings and sacrifices made to him. Being thus fed and managed, the terrible reptile became sufficiently mild and tractable to be led about in ceremonial processions. When he died, the priests embalmed his body, and buried it in the royal sepulchre! So much for the wisdom of the nation which is commonly regarded as the most enlightened of antiquity! The most ancient description of the crocodile is that given by Herodotus, in his observations on Egypt, in his first book. This account, though mingled with a considerable share of fable, is generally correct; and some of the errors still in existence concerning this animal, appear to be derived from his statement: such are the stories of the bird which picks the crocodile's teeth, and that the animal moves only the upper jaw. The latter assertion, though utterly incorrect, is repeated, even at this day, by persons who have had opportunities of knowing better from actual observation, had they not been too much blinded by prejudice to profit thereby. The genus is characterized by the following peculiarities: The tail is compressed or broadest vertically; the posterior feet are wholly or partly palmated; the tongue attached to the mouth, even to its very edges, without being in the least extensible; a single range of simple pointed teeth; the male organ single. There are five toes on the front, four on the hind feet, only three toes of each foot being provided with claws. The body, above and below, and the entire length of the tail, are covered with square scales or plates, most of those on the back having ridges or spines of various lengths: the flanks are only protected by small round scales. Two ranges of spines, forming a double dentated line, are placed at the base of the tail, which subsequently unite or form a single ridge on the remainder of its length. The ears are externally closed by two fleshy slips; the nostrils form a long narrow canal, which only opens interiorly at the

back of the throat. The eyes are provided with three lids; and under the throat there are two small pouches, which secrete a strongly musky substance. Cuvier has divided the genus into three sub-genera, viz. *gavials*, having an elongated narrow beak or snout; *caymans*, or alligators, with broad snouts, and having four lower teeth to fit into holes excavated for them in the upper jaw, and *crocodiles* proper, having the head oblong, twice as long as broad, and the four long lower jaw teeth passing by grooves, and not entering into cavities in the upper jaw. The gavials are most common in, if not peculiar to, the great rivers of India. The alligators are confined to the new continent, and the crocodile proper, with a single exception, to Africa. These reptiles are truly formidable, from their great size and strength, and, if they were not rendered unwieldy by the length of the body and tail, might become as dreadful on land as in the water, where they can act to the greatest advantage. Where they abound, it is extremely dangerous to venture into the rivers for the purpose of bathing, or to be carelessly exposed in a small boat. On shore, their shortness of limb, great length of body, and difficulty of turning, or of advancing otherwise than directly forward, enable men and animals readily to escape pursuit. For a crocodile of 12, 15, or 18 feet in length, to turn fairly, it must necessarily describe a very large circle. In the water, the vast force it can exert by means of the long oar-like tail, amply compensates for want of flexibility, and renders the animal more than a match for any of its enemies. The force with which it darts through the water, in pursuit of prey, resembles the flight of an arrow rather than the progression of a huge animal, and, when engaged in rude gambols, or in combating with others of its kind, the waves are lashed into foam, and may be truly said to "boil like a pot." The mouth, when expanded, forms a horrible chasm, extending even to the ears, and armed around its border by strong pointed teeth. This construction, with the absence of lips, and the confined position of the tongue, show that the action of the mouth is confined simply to seizing and tearing the food. These animals are exclusively carnivorous, feeding on such animals as frequent the waters, on fish, or carcasses thrown into the streams they inhabit. They always prefer their food in a certain state of putrefaction, and are found to keep animals killed by themselves in the mud, until this process has

begun. In regard to the general character and habits of crocodiles, we might safely refer to the account given in the first volume of this work, under the title *Alligator*, which has been more carefully observed. They are so similar in every respect, that what is said of the American species, with very slight modification, will hold good of the African. The crocodile of Egypt is no longer found, except in the upper parts of that country, where the heat is greatest, and the population least numerous. Anciently, the species was common nearly to the outlet of the Nile; and it is stated by Pliny, that they used to pass the winter months buried in the mud, in a state of torpidity. They are still common enough in the river Senegal, the Jaïre, Joliba, &c. The size to which these creatures grow is very remarkable, and would lead us to believe that they live to a vast age. It is stated by excellent authorities, that individuals have been killed in Upper Egypt measuring 30 feet in length. M. Cloquet, who was one of the French institute, engaged in exploring that country, while the armies of the republic were present, saw a crocodile 25 feet long. A little reflection upon the muscular power of such a reptile will serve to convince us of its ability to commit extensive ravages on the lives of other creatures. There are numerous particulars connected with the anatomy of these beings, which are very curious and interesting. Such are the articulations of the lower jaw with the upper, the joint being so far back as to cause almost every incidental observer to believe that the upper, not the lower jaw, is moved in opening the mouth; the lateral spines on the vertebræ, which prevent the turning of the body, except in a large circle; the curious set of ribs designed exclusively for the protection of the belly, aided by two broad bones standing on the anterior edge of the pelvis, which may be compared with the *ossa marsupialia* of certain quadrupeds; the construction of the external ears; the apparatus for the protection of the eye, &c., &c. But for such details, we are under the necessity of referring the reader to treatises especially devoted to their illustration. The species of crocodile admitted by Cuvier, in the excellent researches contained in the 10th and 12th volumes of the *Annales du Muséum*, are the following: 1. the common crocodile of Egypt (*C. vulgaris*); 2. the double-crested (*C. biporcatus*); 3. the lozenge crocodile (*C. rhombifer*); 4. the two-plate crocodile (*C. biscutatus*); and 5. the Hay-

tian (*C. acutus*), the only true crocodile found in the new world, according to his definition. The memoirs above referred to contain very minute and satisfactory accounts of the discriminating marks of these species, and to that source the reader who desires such information may refer with great advantage.

CRÆSUS, the last king of Lydia, lived in the sixth century before Christ. He was brave, and augmented his empire by the conquest of many provinces of Asia Minor. His riches, which he obtained chiefly from mines, and the gold dust of the river Pactolus, were greater than those of any king before him; and the expression "riches of Cræsus" came to signify unbounded wealth. Proud of his treasures, he carried his love of splendor to extravagance, and thought himself the happiest of men. Herodotus tells us that Solon visited him at his court, and, on being asked by him who was the happiest man he knew, mentioned, first, Tellus, then Cleobis and Biton, all three humble individuals of Greece, who had died in the midst of a virtuous career. The story of these individuals, as related by Solon, is one of the most affecting and charming passages in the work of the father of history. Cræsus manifested displeasure that the choice of the sage had not fallen upon him; but Solon reminded him that no one can be safely pronounced happy until his death; and Cræsus was soon forced to acknowledge the truth of the reflection, having lost two beloved sons by violent death, and having been conquered himself by Cyrus, against whom he had waged war for the benefit of the Babylonians. He was taken prisoner in his capital, Sardis, and, having been placed on a pile in order to be burnt, he three times exclaimed, "Oh, Solon!" Cyrus, having learned the meaning of his exclamation, was much moved, ordered him to descend, took him as his companion in his wars, and treated him well. The time of the death of Cræsus is not known. He was alive in the reign of Cambyses, the son and successor of Cyrus. He is represented as one of the most pious among the ancients, constantly laboring to please the gods. Some historians deny the interview with Solon; others do not mention his having been sentenced to be burnt: at all events, the history, as it is told in Herodotus, is equalled by few narratives, true or fictitious, in touching simplicity.

CROCUS. (See *Saffron*).

CROISADE. (See *Crusade*).

CROIX, Saint, is the name of many rivers and places, as is also *Santa Croce* in Italian, *Santa Cruz* in Spanish, and the compositions with *Kreuz* in German. Among the many St. Croix are:

St. Croix, or *Schoodic*, or *Passamaquoddy*; a river of North America, which divides Maine from New Brunswick, and flows into Passamaquoddy bay. It is navigable for ships 25 miles.

St. Croix; a river in the North-West Territory, which runs into the Mississippi 90 miles below St. Anthony's falls. It is navigable for boats about 100 miles.

St. Croix; a river of Canada, which runs into the river St. Maurice 33 miles above Quebec.

CROKER, John W.; first secretary to the board of admiralty, member of the British parliament, a poet, and an active contributor to the *Quarterly Review*. He was born in Dublin, 1781, and, after having studied in Trinity college, in that city, was entered at Lincoln's Inn, and, in 1802, admitted to the Irish bar. In 1807, he was chosen member of parliament for Downpatrick (Ireland), and has ever since retained a seat in that body. In 1809, he distinguished himself by his activity in the affair of the duke of York and Mrs. Clarke, and was rewarded with the appointment of secretary for Ireland during the absence of sir Arthur Wellesley (duke of Wellington), and soon after with that of first secretary to the admiralty. In parliament, he is a fluent speaker, and an efficient supporter of the ministry. Mr. Croker has published several literary works of some merit, which appeared anonymously. Among them are, *Familiar Epistles on the Irish Stage* (poetical, 1803); an *Intercepted Letter from China* (1805), a *Satirical Sketch; State of Ireland, past and present* (1807); the *Battle of Talavera*, a poem, in which the battle is described with much fire (1809). He has been one of the most lively and popular of the regular contributors to the *Quarterly Review*. His articles have been more commonly on literary than political subjects, and show much tact and considerable talent. His favorite weapon is sarcasm. The most of the articles on French literature are from his pen, and display much illiberal prejudice, with not a little ignorance of the subject.

CROMLECH, or **CROMLEH**, in British antiquities; huge, broad, flat stones, lying upon other stones set up on end. They are common in the isle of Anglesea. These monuments are described by Mr.

Rowland, Dr. Borlase, &c., under the name of *arae*, or *altars*. Mr. Rowland, however, is divided in his opinion, supposing them to have been originally tombs, but that, in after times, sacrifices were performed upon them to the heroes deposited within. There is an account of king Harold having been interred beneath a monument of this kind, in Denmark; and Mr. Wright discovered, in Ireland, a skeleton deposited in one of them. Mr. Toland mentions a cromlech in Nevern parish, in Pembrokeshire, South Wales, having the middle stone 18 feet high and 9 broad towards the base, but narrowing upwards; and by it there lay a broken piece, 10 feet in length, which seemed to be of a weight heavier than 20 oxen could draw. But at Poitiers, in France, there is one supported by five lesser stones, much exceeding all in the British islands, as it is 50 feet in circumference. This he conceives to have been a "rocking-stone." At Boudoyr, in Anglesea, there is a noble cromlech, many of the stones being 30 tons in weight.

CROMWELL, Oliver, protector of the commonwealth of England, Scotland and Ireland, one of the most powerful characters that ever rose from a revolution; a statesman and general, who, with the Bible in one hand, and the sword in the other, raised and ruled the stormy elements of political and religious fanaticism; with a bold, yet artful ambition, achieved great enterprises, and planned still greater; admired, feared, and calumniated by his contemporaries, and first truly appreciated by after ages,—was born at Huntingdon, April 25, 1599, and descended from a family which traced its genealogy through Richard Williams, who assumed the name of Cromwell from his maternal uncle, Thomas Cromwell, secretary of state to Henry VIII, and through William ap Yevan, up to the barons of the 11th century. His father, Robert Cromwell, proprietor of the borough of Huntingdon, had a seat in parliament, but, at the same time, to support a numerous family, undertook a large brewing establishment. Oliver received a careful education. Anticipations of future greatness early seized upon his imagination. When a child, he met with several hairbreadth escapes. During his infancy, a large ape snatched him out of his cradle, and, to the terror of the family, mounted with him to the roof of the house. Some years after, he was rescued by a clergyman from drowning. The unusually strict discipline of the grammar school at

which he was educated, created a disgust in the ambitious boy for all prescribed tasks. While at school, he performed with great enthusiasm, in the old play of *Lingua*, the part of *Tactus*, who finds a crown and purple mantle. He retained an impression, in after life, of having seen, in his youth, an apparition of a gigantic woman at his bedside, who told him that he would become the greatest man in the kingdom. In his 17th year, he went to Cambridge, where he studied with zeal, but, at the same time, carried his fondness for athletic exercises even to a love of brawls and combats. After staying there a year, his mother sent him to study law in London, where he became a member of Lincoln's Inn, and spent most of his time in dissipated company. After remaining here a short time, he returned to reside upon his paternal property, where he continued his dissolute habits, and had a quarrel with his uncle. There was a restlessness in his nature, which made strong excitements necessary to him; but he early renounced the vices and follies of his youth, when, at 21, he espoused Elizabeth, daughter of sir James Burchier, a woman whose conduct was ever irreproachable. His change of character was owing, however, in a great measure, to his close connexion with a religious sect, which afterwards became formidable, in a political view, under the name of *Puritans* and *Independents*. At the same time, he became a student of theological and military works. In 1625, he was member of parliament, under the reign of Charles I, from the borough of Huntingdon. Here he saw, with indignation, the abuses of public administration, and, by the persuasion of the famous Hampden and St. John, his relations, took the side of the opposition. Both of them hated the established church, and their sentiments were embraced by Cromwell, whose spirit was early inclined to enthusiasm. His heated imagination often made him believe that he was dying, and the physicians pronounced him a "vaporous and fanciful hypochondriac." No one but the penetrating Hampden had a correct idea of his great talents. In the parliament of 1628, he distinguished himself by his zeal against popery. After this, he retired to a farm, made restitution of some money that he had won in earlier years by gaming, and, from 1635, devoted himself wholly to agriculture at Ely, where he had inherited an estate. While in this place, he prevented the draining of the fens, and thereby made himself so popular with the

people of the place, that they gave him the title of "lord of the fens." He afterwards patronised this measure during his protectorate. The storm was already at hand which was to shake the repose of England. The king wished to reign without a parliament, and the arbitrary manner in which he imposed taxes, assisted by the prevailing religious feeling and sectarian animosity, inflamed the passions of men, and urged them into political conflict. The opponents of the arbitrary measures of the government had so little idea of the impending convulsion, that several of them were making arrangements to embark, with their families, for New England. Among those already engaged in this scheme were Cromwell, Hampden, Pym, Haselrigg and other men, afterwards so formidable in the revolution; but the government forbade their emigration, as the king was fearful that they would help to widen the breach that already existed between the colonies and the English church. Thus did Charles himself counteract the movements of fortune in his favor. Cromwell returned to Ely, where he lived, for a time, a quiet and pious life. It was at this period that he wrote to his friend St. John, that "he was ready to do and to suffer for the cause of his God." He also held meetings of the sectaries at his house, and not unfrequently preached and prayed himself before them. At length, the king was compelled, by the state of affairs in Scotland, to summon a parliament. Cromwell (who was returned member by the town of Cambridge) and others were so loud in their complaints of abuses in church and state, that Charles prorogued the parliament, but, six months after, November, 1640, was obliged to reassemble it. In this parliament, called the *long parliament* (from November, 1640, to April, 1653) Cromwell attracted notice chiefly by his rustic and slovenly dress, and by the vehemence of his oratory, often degenerating into coarseness. "That sloven," said Hampden of him, "that sloven hath no ornament in his speech, but he will be the greatest man in England, if we should ever come to a breach with the king." In the declaration of grievances called the *Remonstrance*, which was passed by a small majority, and which brought on the civil war, Cromwell took an active part. He was at this time a sincere Puritan; but his crafty nature soon led him into the windings of intrigue. On the breaking out of the war in 1642, being appointed captain, and afterwards colonel, he raised a troop of horse composed of

zealous Puritans, who were ready to risk all for the cause of God. The address with which he infused his own spirit into his soldiers, and the strict discipline which he maintained, gave proof of the sagacity with which he afterwards ruled three kingdoms. His first military exploit was the occupation of Cambridge, where, with puritanical zeal, he seized the university plate, in the name of God, to defray the expenses of the war. He then routed the royalists, and made himself master of their supplies. This success very much facilitated the parliament's levies, while it had the opposite effect on those of the royalists. His troops behaved with remarkable order, except on occasions when their religious feelings were excited. He laid the foundation of his military fame by the relief of Gainsborough. From that time, he rivalled in boldness, in decision, and in presence of mind, the most practised warriors. At Marston Moor, July 2, 1644, the cavalry which he had trained, and which was commanded by Fairfax and himself, decided the victory. And now his political influence began. Both a Puritan and a republican, he thought with Ireton and Hampden, but spoke out more boldly and distinctly, and thus became the prominent leader of the party that was resolved to carry matters to the last extremity. But amid all his real and feigned honesty, he was already beginning to play the secret part, for which his sagacity and knowledge of human nature soon suggested the most politic course. He constantly served, as Hobbes remarks, the strongest party, as well as he was able, and carried matters with it as far as it wished. Once, indeed, when he had charged lord Manchester with cowardice, before parliament, because, after the battle of Newbury (1643), he would not permit the cavalry to charge the enemy on their retreat, from fear that, if routed, they would all be treated as rebels and traitors, the earl publicly accused him of an intention of putting himself at the head of the army, and giving the law to king and parliament. Fortunately for Cromwell, the influence of the Independents (q. v.) prevented a thorough investigation of the matter. From that time, however, the English Presbyterians regarded him as a dangerous man; and the commander-in-chief, Essex, joined with the Scots, who hated Cromwell for his contemptuous treatment of them, in seeking his downfall. Upon this, Cromwell, in concert with his friends, planned a measure which may be regarded as the

masterstroke of his political cunning. On fast day, he induced the London clergy to preach on the necessity of the parliament freeing itself from the charge of selfish ends, which could be done only by its members resigning all their lucrative offices, civil and military, and leaving it to the Lord to choose other instruments for bringing to a conclusion so glorious a work. In consequence of this, the parliament passed what was called the *self-denying ordinance*, in accordance with which sir Harry Vane, Cromwell, and others, gave in their resignations, because the army, as they said, stood in need of a stricter discipline, and, above all, of more Christian leaders. The project was carried through; Essex was dismissed, and the zealous, but irresolute sir Thomas Fairfax was put in his place. As the honorable but weak Fairfax did not feel himself qualified for the duties of general, he obtained an exemption from the above-mentioned ordinance for Cromwell, who, uniting ability with boldness, was again placed under him, with the command of the cavalry. Cromwell now introduced into the whole army the excellent discipline in which he had already trained a part of it, and gained the decisive battle of Naseby (June 14, 1645), in which the king was routed with great loss. Cromwell got possession of the correspondence of Charles I with the queen, from which the parliament published all the passages which would injure the king and queen in public opinion. After this victory, and the capture of Bristol, Cromwell wrote to the parliament, in that affectedly humble and sanctified strain, with which he disguised his ambitious designs; "This is none other but the hand of God, and to him alone belongs the glory." The spirit in the army, which the officers, and especially Cromwell, excited by their sermons and prayers, had now risen to fanaticism; at the same time that good order and morality were so well maintained, that profanity, drunkenness, robbery, and the like offences, hardly ever occurred. By this course, Cromwell succeeded in crushing the last efforts of the royal party, which he persecuted with fanatical bitterness. Charles I at last took refuge with the Scotch army; but was sold by them to the parliament (May 5, 1646) for their arrears of pay, on which occasion Cromwell was one of the commissioners. Contrary to the expectation of the people, Charles was treated as a prisoner by the leaders of the war party and the Independents, who carried their cruelty so far

as even to deny him the consolation of having one of his chaplains with him. The parliament was now in possession of the supreme power. It distributed rewards to its adherents, and Cromwell received £2500 a year, from the estates of the marquis of Worcester. But when the parliament wished to disband the army, which was infected with the fanatical spirit of the Independents, the soldiers appointed, from the creatures of Cromwell and the wildest visionaries, a council of officers and a body of subalterns and privates, called *agitators*, who insolently declared to the parliament, that they would not lay down their arms till the freedom of the nation was established. Some of the soldiers conducted with so much boldness, that the parliament ordered their arrest; on which occasion Cromwell not only supported the house, but, with tears in his eyes, deplored the seditious temper of the troops, which, he said, had even put his own life in danger. Some of the members, however, saw in him the secret mover of those measures, and accordingly proposed his apprehension; but, on that very day, Cromwell repaired to the army, in order, as he wrote to the lower house, to restore the deluded soldiers to their duty, and, at the same time, requested that Fairfax and the other officers would coöperate with him to this end. On the same day (June 3, 1647), one of the agitators, Joyce, forcibly carried off the king from Holmby, and delivered him into the hands of the army. Cromwell seems at this time to have contemplated the restoration of the king. But he was convinced, on a nearer view of the fanatical spirit that reigned in the army, that he could not venture such a measure without danger of his life; besides, he was only second in command, and could not reckon on the assistance of the most influential men, some of whom, as Vane and St. John, were his equals in cunning, and others, as Ludlow, Haselrigg, and many more, his equals in courage. They were all zealous republicans, and firmly resolved to destroy monarchy with the monarch. Cromwell seems, too, to have feared the political principles of his son-in-law, Ireton. Thus he was finally obliged to continue in the course which he had begun, and, in order to preserve the favor of the army, to make a hypocritical show of sentiments which he no longer felt. He personally respected the king as an upright and conscientious man. He is said to have connived at his flight from Hampton court, and to have wished

that he might escape from the kingdom; and spoke with tears of his first meeting with his children; for Cromwell, in private life, was mild and noble in his temper. At last, yielding to the force of circumstances, he united himself entirely to the commonwealth party, and, in their deliberations about the future form of government, feebly advocated a monarchy, which this party called a *mischief* and a *sin*, because they regarded God alone as their Lord and King. Cromwell had now learned the disposition of his people, and, with that coarse levity which was a leading trait in his character, he concluded a conference by throwing a cushion at Ludlow's head, and running down stairs, where another was thrown after him in return. The next day, he said to Ludlow, that he thought the abolition of the monarchy was desirable, but hardly practicable. Soon after, Cromwell had a proof of the strength of his party. Major Huntingdon accusing him, in parliament, of a design to raise, in concert with Ireton, an army against the parliament, and establish a military government under the name of the king, the influence of the Independents outweighed that of the Presbyterians; and, as the insurrections of the Welsh and Scotch were to be subdued, the parliament did not dare to condemn or dismiss a general whose services were so necessary. Upon this, Cromwell reduced Wales by a sudden attack; and, as Fairfax, from Presbyterian scruples, declined the command of the expedition against Scotland, he undertook it with the more eagerness, as he knew the weak condition of the Scotch army, and had, for many years, heartily hated the Scotch people. With a much inferior force, he defeated them at Preston, and was received in Edinburgh as a deliverer. Now followed the tragedy of the king's execution (see *Charles I*), who was beheaded Jan. 29, 1649. Cromwell was induced to consent to this act by the advice of Ireton, and took a conspicuous part in it, as he had not the courage or the power to prevent it. He carried his want of feeling so far, as not only to be a spectator of the execution from a window fitted up for him, but even to have the body in the coffin shown to him. The republic was established, and Cromwell, as a proof of his republican virtue, resolved on the death of lord Capel, because, as he said, the friendship which he felt for this loyal adherent of the king must be sacrificed to public duty. Yet Cromwell was not naturally cruel. He shed blood from

a politic calculation of his own interest. He was more afraid of his old friends, the levellers, than of the royalists. At last, he succeeded in putting down the former by strong measures, and then, to the astonishment of his enemies, who wished for nothing more than his absence, he led his army to Ireland. Victory was now to raise him still higher in the favor of the people. He took Drogheda by storm (Sept., 1649), where he gave orders that nothing should be spared. "This bitterness," he said, "will save much effusion of blood, through the goodness of God." Most of the cities opened their gates without resistance, and Cromwell, trusting to the terror of his name, though his army was greatly weakened by sickness, marched boldly into the interior, where cowardice and treachery every where yielded him a submissive welcome. Within six months, the royalist party in Ireland was wholly crushed. Resigning the command to Ireton, he now undertook, at the request of the parliament, a similar expedition against Scotland, where Charles Stuart, afterwards Charles II., had been proclaimed king. Cromwell had, at first, desired that Fairfax should take the command of the army; but Fairfax had taken the covenants (see *Covenant*), and would not fight against the Scotch. Cromwell was therefore appointed commander-in-chief, and marched into Scotland. Being ignorant of the nature of the country, and of the situation of the Scotch forces, his supplies were cut off, his army became sickly, his retreat was intercepted, and he must have been forced to surrender at Dunbar, had the Scotch avoided a battle. When he saw them advance, he exclaimed, "The Lord hath delivered them into our hands!" The victory at Dunbar (Sept. 3, 1650) rid the fortunate general of his enemies the Presbyterians. He then marched into Edinburgh. Meanwhile king Charles had collected new forces; but Cromwell, by skilful marches near Stirling, cut him off from his points of support, when, contrary to his expectation, the king entered England, and threatened London itself. Every thing was done to strengthen the army of Cromwell, who conducted like an active and resolute general, while, in the royal camp, irresolution and discord prevailed. Charles was totally defeated at Worcester, Sept. 3, 1651. This victory, which Cromwell called the *crowning mercy* of God, gave the commonwealth party full power over three kingdoms. Cromwell already exerted a weighty influence on the supreme direction of public affairs. He

succeeded in restoring the continental relations of England, which had been almost entirely dissolved, and regulated them so as to promote the interests of commerce. The navigation act, from which may be dated the rise of the naval power of England, was framed upon his suggestion, and passed in 1651. At the same time, the general, who was honored by the city of London as the father of his country, was aiming at sole sovereignty. The only man whom he feared, Ireton, was dead. At a consultation with some members of parliament, and the most distinguished officers, on the form of government to be established, he recommended a species of monarchy, but was silent when some lawyers in the convention proposed the young duke of Gloucester for king. Meantime the long parliament, which was aiming to establish its own power, was growing more and more unpopular, in consequence of its undisguised tyranny, the war which it had provoked with the Dutch, and its treatment of the prisoners taken at Worcester, some of whom were put to death in prison, and others sold for slaves in the colonies. A frightful tempest, too, which occurred on the day of the execution of a London clergyman by the name of Love, made a deep impression on the people. And now Cromwell broke silence. He spoke openly to his friends of the ambition, the godlessness and injustice of the parliament. Encouraged by their support, he at last hazarded a decisive step, and, with 300 soldiers, dispersed that body, "for the glory of God and the good of the nation." He then summoned a council of war, in which the officers finally chose a parliament of 128 persons, selected from the three kingdoms, which, from Praise-God Barebone, one of the principal characters in it, by trade a leather-seller, was nicknamed *Praise-God Barebone's parliament*. Cromwell himself opened the session with a speech, in which he said, that the day had come, on which the saints were to commence their reign upon earth. Fifteen months after, a new annual parliament was chosen; but, after a session of five months, Cromwell prevailed on this body, who were totally incapable of governing, to place the charge of the commonwealth in his hands. The chief power now devolving again upon the council of officers (Dec. 12, 1653), they declared Oliver Cromwell sole governor of the commonwealth, under the name of *lord protector*, with an assistant council of 21 men. The new protector behaved with dignity and firmness. With

the aid of general Lambert, he formed a constitution, called the *Instrument of Government*, by which the protector was invested with the power of peace and war, and was to summon a parliament once every three years, which he should not dissolve under five months; bills presented to him were to have the force of laws if not ratified by him within 20 days; and, on the other hand, he had power to enact laws, with the consent of his council, which should be binding in the intervals of the sessions of parliament. In case of his death, the council were immediately to choose a new protector; but no protector after him was to command the army. Cromwell, having concluded peace with Portugal, turned the resources of the state to the enlargement of its navy and commerce. France and Spain courted the friendship of the fortunate protector, who at length united with cardinal Mazarin, in order to increase the colonial power of England. To make a thorough reduction of Scotland, he gave orders to general Monk to plunder every place that made resistance, and put the garrison to the sword—orders which were so rigorously executed by Monk, that terror ensured the most implicit submission. The nobles feared, the clergy hated the protector, while the people, whom he treated with equity and kindness, loved him, because they enjoyed much more liberty under him than before. The protector treated Ireland with great severity. His act of pardon was, in reality, a desperate remedy for a desperate evil. The surviving inhabitants of an island wasted by fire, sword and pestilence, were compelled to remove, on penalty of death, to a barren tract of the province of Connaught, which was divided among them; the rest of the island became the property of the conquerors. Such was the bitter hatred occasioned by the unceasing quarrels of the Protestants and Catholics. Here, however, as in Scotland, the protector established an equitable form of government, which, in the course of a few generations, would have very much improved the state of the island. But, in England, the situation of the protector was far from being secure. A member of parliament loudly declared, that he could not brook, after the overthrow of one tyrant, to see the liberties of the nation shackled by another, whose prerogative had no measure but the length of his sword; and Cromwell met with so much opposition, that, after the first five months, he dissolved the parliament. On the whole, his political

administration was masterly, and adapted to the circumstances of his situation. He established large magazines of provisions; the pay of the soldiers was regularly delivered to them a month in advance; the public revenues were strictly and economically managed, without any additional imposts. He appointed for judges the most upright and distinguished men. Among these was the famous sir Matthew Hale. He never interfered with the proceedings of the courts of justice. In religion, he acted on the principle of toleration. Every man had liberty of conscience. In other things, too, Cromwell, as his own correct judgment prompted, would have governed with mildness and justice, promoted the arts and sciences, and healed the wounds of the nation; but he was obliged to maintain his power, as he had acquired it, against his better will, by a severity often amounting to tyranny. Equally afraid of the royalists and the levellers, he could not rely upon the officers of the army; he did not place confidence even in the soldiers, and would have taken a regiment of Swiss for his body-guard, had he not been fearful of making himself unpopular, and betraying his suspicions, by so doing. With the help of the fanatics, he kept the royalists in check; and the latter served as a counterpoise to the former. For this reason he rejected, as much from policy as from principle, the proposition, which was repeatedly made in the council of war, to massacre all the royalists. They were obliged, however, to give up a tenth part of their property, were always looked upon as enemies, and were denied the common privileges of a court of justice. In order to collect the fines imposed on the royalists, to prosecute those whom he suspected, perhaps also to disunite the army, the protector divided England into 12 military jurisdictions, and placed over each a major-general with absolute power, from whose decisions there was no appeal, except to the protector himself; but he speedily broke up this odious government of pachas. On the other hand, he strengthened the British navy. The famous admiral Blake, and other naval heroes, fought several well-contested battles with the Dutch fleets, under De Ruyter, Tromp and others. In the peace with Holland (April 15, 1654), England maintained the honor of her flag, and the navigation act gave a new impulse to the colonial trade. The skilful and fortunate conduct of the war with Spain, from 1655 to 1658, in which Jamaica and Dunkirk were taken, made the new par-

liament, from which Cromwell had carefully excluded all republicans, so obsequious, that they at last offered him the title of king. Some individuals, among whom was Lambert, the second in command of the army, who was in hopes of being protector after Cromwell, and the majority of the officers, opposed the measure so resolutely, that Cromwell, fearing the fate of Cæsar, declined the title. His brother-in-law, Desborough, and his son-in-law, Fleetwood, also dissuaded him from accepting it. For this, the parliament, by an act entitled *Humble Petition and Advice*, gave him the title of *highness*, and the right of appointing his successor; and he was a second time solemnly invested by the speaker with the ensigns of his office—a velvet mantle of purple color, symbolical of justice and mercy, the Bible, the staff and the sword. Cromwell received from all quarters marks of the highest respect; yet the incense of admiration did not intoxicate his understanding: he saw things in their true light, with a calm, clear and careful eye. Shakspeare himself has portrayed no situation more dramatic than that of Cromwell; but, unlike the stupified and despairing Macbeth, the protector rose in spirit as he rose in fortune. He renounced the principles with which he had set out, as untenable. Gladly would he have repaired the past mischief; but the men whom he had hitherto used as instruments were opposed to him, and the blood of the king was inexpiable. Charles Stuart, son of the late king, offered to allow him to make his own terms, if he would place him on the throne; and Cromwell's wife urged him to accept the proposal; but he answered, "If Charles Stuart can forgive me all that I have done against him and his family, he does not deserve to wear the crown of England." Cromwell, the lord of three kingdoms, the mightiest potentate in Europe, the greatest man in an age of great men, and worthier than any other of his high station, had he risen by upright means, was unhappy in the last years of his life. In his heart, he wished to govern on mild and constitutional principles; but self-preservation compelled him to be severe and suspicious. A usurper must be a despot. He at last governed without a parliament, since none was pliant enough for him; and the bigots, who once extolled him, now called him a shameful tyrant. Their conspiracies against his life kept him in continual alarm. He never went out without a guard; no one knew what route he would take; he usually turned

back after starting, and took another direction; he wore a shirt of mail under his dress, and seldom slept two nights successively in the same room. According to Ludlow's account, he expressed, on his death-bed, some fears that his memory would be insulted, and his remains trampled upon. He asked his preacher, whether it was true that the elect could never finally fall; and, when assured that it was so, Cromwell rejoined, "Then I am safe; for I am sure that once I was in a state of grace." The powerful medicines which were administered to him, while his body was weakened by the tertian ague, brought on a kind of insanity. He assured his physicians, as the fanatics about him had persuaded him to believe, that he should not die, whatever they might think of his situation; "for God was far above nature, and God had promised his people his recovery." His last words appeared to be those of a person interceding with God for the people. Cromwell died Sept. 3, 1658, at the age of 59, and was buried in Westminster abbey. Most of the European courts went into mourning for him, even that of Versailles. Great as a general, Cromwell was still greater as a civil ruler. He lived in a simple and retired way, like a private man, without any parade or ostentation. He was abstemious, temperate, indefatigably industrious, and exact in his official duties. His exterior inspired neither love nor confidence; his figure had neither dignity nor grace; his conversation and manners were rude and vulgar; his voice was harsh; in his public speeches, he expressed himself with force and fire, but without method or taste. On the other hand, he possessed extraordinary penetration and knowledge of human nature; no one knew so well as he the art of winning men and using them to his purposes. He devised the boldest plans with a quickness, equalled only by the decision and intrepidity with which he executed them. No obstacle deterred him; and he was never at a loss for expedients. His coins bore the motto *Pax queritur bello*. Cool and reserved, but full of great projects, he patiently waited for the favorable moment, and failed not to make use of it. Under the guise of piety and virtue, he practised the most subtle Machiavellism; yet he was, in truth, an upright and tolerant Calvinist. As his political interest was often at variance with his real sentiments, he sometimes showed himself cruel, sometimes moderate, even towards his avowed enemies. In his intercourse with others, he often indulged in

low and scurrilous jests, frivolity and coarseness, which agreed as ill with his iron sternness of character, as with the noble spirit which breathes in some of his speeches, and with the force of his oratory, which swayed not only the ignorant and fanatical soldiery, but also the more enlightened parliament. His elevation was the fruit of injustice and deceit; and, on his death, his family soon sunk into obscurity. He had appointed his eldest son, Richard, his successor; but the republican and religious fanaticism of the army and officers, with Fleetwood at their head, now subverted, as it had formerly served, the projects of Cromwell. The mild and virtuous Richard was compelled, by the mutinous officers, to dissolve the parliament; and, a few days after, conscious of his incapacity, he voluntarily abdicated the protectorship, April 22, 1659. His brother Henry, who had talent, bravery and mildness of temper, and who, from 1654, had governed Ireland in tranquillity, improved its trade, and won the affections of the people by his upright administration, followed the example of Richard, and died in privacy in England. Richard lived in narrow circumstances, his property being nearly exhausted in the expenses of his father's funeral. At the restoration, he went to the continent, and returned to England in 1680, and, assuming the name of *Clark*, passed the remainder of his days in tranquil seclusion, at Cheshunt, in Hertfordshire. He died in 1712, at the age of 86. His father's corpse, by the command of Charles II., was dug up in 1661, hanged, and buried under the gallows.—For further information respecting the life of Cromwell, the reader may consult Clarendon and Hume, Ludlow's *Memoirs*, and those of Whitelocke and Noble; also the accounts of him by Banks, Jeudy Dugour (Paris, 1795), and Villemain's *Histoire de Cromwell* (Paris, 1819, 2 vols.); besides these, the collections of Cromwell's letters and state papers, by Carte, 1736, and Nichols, 1743, published at London. A descendant of the family, Oliver Cromwell, published *Memoirs of the Protector Oliver Cromwell, and of his Sons, Richard and Henry* (London, 1820, 4to.). See the following article.

CROMWELL, Oliver, a gentleman recently deceased, was the great-grandson of Henry Cromwell, son of the protector. He practised as a solicitor in Essex street (London) for several years, and was clerk to St. Thomas's hospital. He succeeded to the estate of Theobald's, which descended to him through the children of

Richard Cromwell, eldest son of the protector, and died at Cheshunt park, Hertfordshire, May 31, 1821, aged 79. He wrote the *Memoirs of the Protector, Oliver Cromwell, and his Sons, Richard and Henry*, illustrated by Original Letters and other Family Papers (London, 1820, 4to.).

CROMWELL, Thomas, earl of Essex, was the son of a blacksmith at Putney, in Surrey, and was born about the year 1490. In his youth, he was employed as clerk to the English factory at Antwerp. In 1510, he went to Rome, and, on his return to England, became the confidential servant of cardinal Wolsey. On his master's disgrace, in 1529, Cromwell defended him with great spirit, in the house of commons, of which he was then a member, and effectually opposed the articles of treason brought against Wolsey. After the cardinal's death, he was taken into the king's service, into which he entered with zeal, but with little consideration or regard for others. He was knighted and made a privy counsellor, and, in 1534, became principal secretary of state and master of the rolls. In 1535, he was appointed visitor-general of all the monasteries in England, in order to suppress them. In this office, he acted with great severity and injustice. His services were rewarded by the situation of lord keeper of the privy seal, and a seat in the house of peers, with the title of baron Cromwell of Okeham. On the abolition of the pope's supremacy, he was created king's vicar-general, and used all his influence to promote the reformation. He caused articles of religion to be published by the royal authority, acknowledging only three sacraments, and speaking doubtfully of purgatory. He was made chief justice itinerant of the forests beyond Trent, knight of the garter, and finally, in 1539, earl of Essex, and lord high chamberlain. He at length fell into disgrace with the king, for the interest he took in promoting his marriage with Anne of Cleves. Her person proved disagreeable to Henry, who fell in love with Catharine Howard, a lady allied to the principal Catholic families; and, in consequence of her influence and the royal displeasure, Cromwell was arrested at the council table on a charge of treason, committed to the Tower, and condemned without a hearing. He was beheaded on Tower-hill, July 28, 1540, declaring that he died in the faith of the Catholic church, from which he confessed he had been seduced. He bore his good fortune with moderation, was charitable to the poor, and willing to

benefit the deserving. The Protestants praise him for his industry and solidity, and all the qualities which fitted him for the management of important affairs; while the Papists dwell on his violence, ambition and injustice. He always gratefully returned any favors he had received while in an humble condition. He left a son, who was created lord Cromwell, which title remained in the family for several generations.

CRONION. (See *Jupiter*.)

CRONOS. (See *Saturn*.)

CRONSTADT, OF BURZENLAND (in Hungarian, *Brassau*); a free royal city of Transylvania, in the Land of the Saxons, 25 leagues E. S. E. of Hermanstadt, 31 N. N. W. of Bucharest, with a citadel; lat. $45^{\circ} 36' 30''$ N.; lon. $25^{\circ} 43' 47''$ E. It contains six Lutheran, one Roman Catholic, two Greek Catholic churches, one Lutheran gymnasium, one normal school; 25,000 inhabitants. Its commerce, chiefly with Walachia, is very brisk.

CRONSTADT, OR KRONSCHTAT; a seaport and fortress of Russia, in the government of St. Petersburg, situated on the south-eastern extremity of the island of Retusari, in the gulf of Finland, two miles from the coast of Ingria, and eight from that of Carelia, at the mouth of the Neva. It was founded by Peter I in 1710. Some of the streets are tolerably regular; but the houses are in general built of wood, and there is scarcely any pavement. The principal public buildings are the imperial hospital for sailors, the civil hospital, the barracks, the English and German churches, &c. The population amounts to about 40,000, of whom at least 10,000 are sailors. The harbor is very spacious, and consists of the three divisions of the merchants' harbor, the war harbor, and the man of war's mole. The war harbor is the principal station of the Russian fleet. Adjoining it are the docks for building and careening ships of war. They can hold ten men of war, and are faced with stone and paved with granite: they are 40 feet deep and 105 broad. The man of war's mole is an interesting structure, enclosed by a strong rampart of granite, built in the sea, under the direction of the late admiral Greig. Here is a foundry for casting cannon, and a ropewalk for manufacturing cables of all sizes, with great magazines of naval stores. Cronstadt is defended towards the sea by two fortifications, called *Cronschlot*, on the Neva, where this river is 2000 paces wide, and towards the land by ramparts and bastions. About 1100 vessels enter and leave the port annually. The principal

exports from this harbor are iron, flax, hemp, linseed, oil and tar. 22 miles west St. Petersburg. Lon. $29^{\circ} 49' 30''$ E.; lat. $59^{\circ} 59' 26''$ N.

CROSIER; a tall staff of silver or gold, curved at the upper end, which is carried before bishops, abbots and abbesses, as an ensign expressive of their dignity, while they are exercising the functions of their office; and the figure of which is also borne in their coat of arms. When bestowing the blessing upon the people, they take the staff into their own hands. It was originally a shepherd's crook, the bishops being regarded as the pastors of their dioceses. By degrees the humble emblem became highly adorned, and was made of costly materials. Artists like Benvenuto Cellini and Giovanni da Bologna were employed to make it. The investiture of the bishop is indicated by the delivery of the crosier. Some say that the crosier was originally only a simple staff, which, from the earliest times, has been given as an emblem of authority to judges, kings, &c. In conformity to this explanation, St. Isidore says that bishops bear the staff because they have the right to correct the erring, and the duty to support the weak. The excess of splendor lavished in later times upon this instrument, gave occasion to the following satirical lines:

*Au temps passé du siècle d'or,
Crosse de bois, evesque d'or:
Maintenant changent les loix,
Crosse d'or, evesque de bois.*

CROSS; one straight body laid at any angle upon another; the ensign or emblem of the Christian religion, as being a representation of the instrument of punishment, on which Jesus Christ suffered death from the Jews; the form in which many churches and cathedrals are built. The cross of the ancients was simply a piece of wood, fastened across a tree or upright post, on which were executed criminals of the very worst class. After the crucifixion of Jesus, and the extension of the Christian religion, the cross was assumed as the ensign of his followers. The cross was used emblematically before the Christian era. Upon a multitude of medals and ancient monuments, are to be found crosses placed in the hands of statues of Victory, and of figures of emperors. It was also placed upon a globe, which, ever since the days of Augustus, has been the sign of the empire of the world and the image of victory. The shields, the cuirasses, the helmets, the imperial cap, were all thus decorated. The

cross has also been often stamped upon the reverses of money, as is proved by the old English game of cross and pile. The coins struck at Constantinople, and those of the Franks from the time of Clovis, were also thus marked. Examples of these are given in the dissertation by Ducange, *Sur les Médailles Byzantines*, and in the treatise by Le Blanc, *Sur les Monnaies de France*. The cross is now the universal Christian emblem, being used upon the arms and banners of the soldier, the vestments of the priest, and in the armorial bearings of nobles. The forms of cathedrals, and often the patterns of their pavements, are adapted to the representation of the cross, which is also sculptured and elevated upon tombs and sepulchres. Sculptured crosses of various descriptions, elevated upon handsome pedestals, were formerly erected in cemeteries and market-places, to designate peculiar events; as the queen's crosses at Northampton, Waltham, &c. Very fine ones are still to be seen in many parts of Great Britain, and particularly in Ireland. In order to understand the meaning of the sign of the cross among the first Christians, it must be kept in mind, that the cross was in their time an instrument of infamous punishment, like the gallows at present, and that they assumed this sign to show that they gloried in being the followers of Christ, notwithstanding the infamy which had been attempted to be thrown upon him, by the manner of his execution. The custom of making the sign of the cross, in memory of Jesus, may be traced to the 3d century of our era. Constantine the Great had crosses erected in public places, in palaces and churches. This emperor is generally supposed to have been the first who ordered the cross to be used as the sign or emblem under which he would fight and conquer, in remembrance of the miraculous appearance of a cross in the heavens. A certain legend relates that, before his battle with Maxentius, a cross appeared to him, bearing the words *ΤΟΥΤΩ ΝΙΚᾷ* (Under this thou shalt conquer, *In hoc signo vinces*), in consequence of which he had a standard made bearing this image, and called *labarum*. It was customary, in his time, to paint a cross at the entrance of a house, to denote that it belonged to a Christian. Subsequently, the churches were, for the greater part, built in the form of this instrument. But it did not become an object of adoration, until the empress Helena (Constantine's mother) found a cross in Palestine, which was believed to be

the one on which Christ suffered, and conveyed a part of it to Constantinople. This is the origin of the festival of the finding of the cross, which the Catholic church celebrates on the third of May. Standards and weapons were now ornamented with it, and the emperor Heraclius thought he had recovered the palladium of his empire, when he gained possession of a piece of the true cross, in 628, which had fallen into the hands of the Persians, in 616. In memory of this event, the festival of the exaltation of the cross was instituted, Heraclius having caused the cross to be erected at Jerusalem, on mount Calvary. This festival is celebrated on the 14th of September. It is remarkable how this holy relic became multiplied. Numberless churches possessed some parts of it, the miraculous power of which was said to have been proved by the most astonishing facts; and many persons actually believed that it could be infinitely divided without decreasing. It was in vain that the Iconoclasts, who condemned the worship of images, attempted to overthrow the adoration of the cross. The crucifix was considered as a principal object of worship, in preference to the images of the saints, and, in compliance with the teachings of John of Damascus, was adored, during the 7th century, in all the churches of the East. That the West also ascribed a mysterious power to this symbol, is evident from the use which was made of it in the trials "by the judgment of God," in the middle ages. There never has existed any sign, which has been so often repeated in works of art as the cross. This may be ascribed, in part, to its form being applicable to many more purposes than those of other emblems; such, for instance, as the crescent. The distinguishing cipher of the Jesuits is *IHS*, which signifies *In hac cruce salus*, or *Jesus*, in Greek letters, and abbreviated. Crosses have been the badge of numberless orders, military and civil. To make the sign of the cross, is thought by many people, in Catholic countries, a defence against evil spirits, evil influences, &c. The Greeks make this sign constantly, hardly taking a glass of *raky* without signing the cross over it. Catholic bishops, archbishops, abbots and abbesses wear a small golden cross. The Catholic benediction is generally performed by making the sign of the cross over the object. There are different kinds of crosses, as the common cross, +, St. Andrew's cross, X, &c. (See the article *Ad-*

oration.) Two sorts of crosses are used for the forms of churches, the Greek and the Latin. The Greek cross has its arms at right angles, and all of equal length; whereas the Latin cross has one of its limbs much longer than the other three. Bramante originally designed St. Peter's for a Latin cross; Michael Angelo reduced it to the proportions of the Greek cross; but Carlo Maderno again elongated it to the original dimensions of Bramante. The cathedral of St. Paul's, London, is a Latin cross, with its base spread by a sort of second transept, which increases the breadth of the western front.

Cross, in baptism. In the administration of the ordinance of baptism, the practice of making the sign of the cross on the forehead of the person baptized, was adopted at an early period, though not enjoined by any express command, or sanctioned by any known example in scripture. The use of the cross, indeed, was very frequent in the primitive ages of Christianity. Such was the respect paid to it, that it formed, in one mode or another, a distinguishing part of the civil and religious ceremonies of those times. The first Christian writer who mentions it in connexion with baptism, is Tertullian, who wrote after the middle of the 2d century. This writer says (*De Cov. Mil.* c. 2), that "at every setting out, or entry upon business, whenever we come in or go out from any place, when we dress for a journey, when we go into a bath, when we go to meat, when the candles are brought in, when we lie down or sit down, and whatever business we have, we make on our foreheads the sign of the cross;" and, speaking of baptism, in his treatise *De Carn. Resur.*, he says, "the flesh is signed that the soul may be fortified."

Cross-bearer (*porte-croix, cruciger*), in the Roman Catholic church, the chaplain of an archbishop, or a primate, who bears a cross before him on solemn occasions. The pope has the cross borne before him every where; a patriarch any where out of Rome; and primates, metropolitans, and those who have a right to the *pallium*, throughout their respective jurisdictions. Gregory XI forbade all patriarchs and prelates to have it borne in the presence of cardinals. A prelate bears a single cross, a patriarch a double cross, and the pope a triple one on his arms.

Cross-bar Shot are shots with iron bars crossing through them, sometimes standing out 6 or 8 inches at both sides. They are used at sea for injuring the ene-

my's rigging, and in sieges, for destroying the palisades in the covert-way, ditches, &c.

Cross-Bow, or ARBALIST; formerly a very common weapon for shooting, but not long used in war after the invention of fire-arms. It is a strong wooden or steel bow, fixed to a stock, stretched by the spanner, and shot off by the trigger fixed to the stock. All kinds of weapons, in which the bow was fastened to the stock, were called *cross-bows*, some of which were attached to carriages, and drawn by horses. There was a small kind, from which were shot little balls. To the larger sort were attached instruments for bending the bow. There are some societies still existing in Germany, who exercise with the cross-bow; for instance, in Aix-la-Chapelle. (See *Archery*.)

Cross Examination; the examination of a witness called by one party, by the opposite party or his counsel.

Cross Fire, in the art of war, is when the lines of fire, from two or more parts of a work, cross one another. It is frequently made use of to prevent an enemy's passing through a defile. The flanks, as well as the faces of two adjoining bastions, afford the means of cross fire, as do also the faces of two adjoining redoubts.

CROTCH, William, in his infancy a musical prodigy, was born at Norwich, Eng., July 5, 1775. His father, a carpenter, had made a little organ for his amusement, and, one evening, when a friend was playing on the instrument, and singing at the same time, the child became so excited, that the parents were anxious to account for the cause: their surprise was extreme, when they remarked the delight with which the child touched the keys, when his mother carried him to the organ. The following morning, his father placed him at the instrument, when he repeated several passages from airs which he had heard performed. After this, the boy was permitted to play on the organ, whenever he was inclined. He learnt different airs with facility, and often intermixed passages of his own composition, which were always harmonious, as he had a natural aversion to discords. This prodigy of two years old was frequently called on to amuse the public by his extraordinary talent. In November, 1778, his mother took him to Cambridge, and, in December, to London, where the boy excited universal astonishment by his performance on the organ. In 1779, he played before the court of St. James with great applause,

his infantine, playful manner prepossessing every one in his favor. Whatever he had once heard he could repeat, and often with variations. In every other respect, Crotch was a perfect child, animated, petulant, sometimes obstinate, and of a weak frame. He now received regular instruction, first at Cambridge, then in the college of St. Mary, at Oxford. Here he was chosen organist, in his 18th year, and likewise studied drawing and painting, in which he made rapid progress. After he had been appointed doctor and professor in Oxford, he proceeded to London, where he delivered lectures on music in the Royal and Surry institution, and gave lessons on the piano during 20 years. He now lives at Fulham, near London, and has not appeared in public for several years. He is a well informed and modest man. His musical publications consist of arrangements of compositions for the piano-forte from the first masters, and an interesting collection of characteristic pieces for the different musical styles of composition, entitled *Specimens of various Styles of Music* (3 vols., folio). Only one work of his has created a sensation amongst the musical connoisseurs in England—his oratorio called *Palestine*. It is evident that Crotch has more capacity for acquiring than inventing.

CROTONA, also CROTO, in ancient geography; a Greek republic in Magna Græcia, or South Italy. Livy gives the circumference of the city of Crotona at 12,000 paces. This city was famous for producing the strongest *athletæ*. Milo, e. g., was born here. Under the Romans, Crotona was infamous for luxury and dissoluteness. The ruins of this place are still to be seen above Capo della Colonna.

CROTON OIL is expressed from the seeds of an East Indian plant, the *croton tiglium*, and is one of the most valuable of the late additions to the materia medica. It is so strongly purgative, that one drop is a full dose, and half a drop will sometimes produce a powerful effect. It is also found to produce the same effect when rubbed upon the tongue, or even upon the skin. It is so active, that it should never be used but under the direction of an experienced physician. In the hands of such, it is of great value, as its small bulk and insipid taste render it serviceable in cases in which no common medicine can be used, and its great power makes it operate when other medicines fail. It has been given to the extent of 8 or 10 drops, in a bad case of *ileus*, which

it cured, without producing any bad symptoms. It should, however, be used with great caution.

CROUP; a disease that mostly attacks infants, who are suddenly seized with a difficulty of breathing and a crouping noise; it is an inflammation of the mucous membrane of the windpipe, inducing the secretion of a very tenacious, coagulable lymph, which lines the air passages and impedes respiration. The croup does not appear to be contagious, whatever some physicians may think to the contrary; but it sometimes prevails epidemically. It seems, however, peculiar to some families; and a child, having once been attacked, is very liable to a return. It is confined to young children, and has never been known to attack a person arrived at the age of puberty. The application of cold seems to be the general cause which produces this disorder, and therefore it occurs more frequently in the winter and spring than in the other seasons. It has been said, that it is most prevalent near the sea-coast; but it is frequently met with in inland situations, and particularly those which are marshy. Some days previous to an attack of the disease, the child appears drowsy, inactive and fretful; the eyes are somewhat suffused and heavy; and there is a cough, which, from the first, has a peculiarly shrill sound; this, in the course of two days, becomes more violent and troublesome, and likewise more shrill. Every fit of coughing agitates the patient very much; the face is flushed and swelled, the eyes are protuberant, a general tremor takes place, and there is a kind of convulsive endeavor to renew respiration at the close of each fit. As the disease advances, a constant difficulty of breathing prevails, and the head is thrown back in the agony of attempting to escape suffocation. There is not only an unusual sound produced by the cough (something between the yelping and barking of a dog), but respiration is performed with a hissing noise, as if the windpipe was closed up by some slight, spongy substance. The cough is generally dry; but if any thing is spit up, it has either a purulent appearance, or seems to consist of films resembling portions of a membrane. Where great nausea and frequent retchings prevail, coagulated matter of the same nature is brought up. With these symptoms, there is much thirst, and an uneasy sense of heat over the whole body, a continual inclination to change from place to place, great restlessness, and frequency of the

pulse. In an advanced stage of the disease, respiration becomes more stridulous, and is performed with still greater difficulty, being repeated at longer periods, and with greater exertions, until, at last, it ceases entirely. The croup frequently proves fatal by suffocation, induced either by spasm affecting the glottis, or by a quantity of matter blocking up the air passages; but when it terminates in health, it is by a resolution of the inflammation, by a ceasing of the spasms, and by a free expectoration of the matter exuding from the trachea, or of the crusts formed there. The disease has, in a few instances, terminated fatally within 24 hours after its attack; but it more usually happens, that where it proves fatal, it runs on to the 4th or 5th day. Where considerable portions of the membranous films, formed on the surface of the trachea, are thrown up, life is sometimes protracted for a day or two longer than would otherwise have happened. Dissections of children, who have died of the croup, have mostly shown a preternatural membrane, lining the whole internal surface of the upper part of the trachea, which may always be easily separated from the proper membrane. There is likewise usually found a good deal of mucus, with a mixture of pus, in the wind-pipe and its ramifications. The treatment of this disease must be conducted on the strictly antiphlogistic plan. It will commonly be proper, where the patient is not very young, to begin by taking blood from the arm or the jugular vein; several leeches should be applied along the fore part of the neck. It will then be right to give a nauseating emetic, ipecacuanha with tartarized antimony, or with squill, in divided doses; this may be followed up by cathartics, diaphoretics, digitalis, &c. Large blisters ought to be applied near the affected part, and a discharge kept up by savin cerate, or other stimulant dressing. Mercury, carried speedily to salivation, has in several instances arrested the progress of the disease, when it appeared proceeding to a fatal termination. As the inflammation is declining, it is very important that free expectoration should take place. This may be promoted by nauseating medicines, by inhaling steam, and by stimulating gargles, for which the decoction of seneka is particularly recommended. Where there is much wheezing, an occasional emetic may relieve the patient considerably, and, under symptoms of threatening suffocation, the operation of bronchotomy has sometimes saved life. Should fits of spasmodic difficulty of

breathing occur in the latter periods of the disease, opium, joined with diaphoretics, would be most likely to do good. Napoleon, on the occasion of the death of his nephew, the prince of Holland, of this disease, offered a premium of 12,000 francs for the best treatise on the croup. Of 83 essays, which were presented to the committee of 12 members assembled for the examination at Paris, in 1811, two were acknowledged as the best, one by Jurine, in Geneva, and the other by Albers, of Bremen, between whom the prize was divided.

CROUSAZ, John Peter de, a celebrated mathematician and philosopher, was born at Lausanne, in 1660. He early distinguished himself by his progress in mathematics and philosophy, under able professors at Geneva and Lausanne, applying himself particularly to the writings of Descartes. In 1682, he went to the university of Leyden, and thence proceeded to Paris, where he became acquainted with the celebrated father Malebranche, who, with other celebrated men, vainly endeavored to convert him to the Catholic religion. On returning to his native country, he was ordained minister, appointed honorary professor, and remained pastor of the church at Lausanne. In 1699, he was made professor of Greek and of philosophy in the academy of Lausanne, appointed rector in 1706, and again in 1722. In 1724, he was chosen mathematical and philosophical professor at the university at Groningen. In 1732, he was nominated counsellor of embassies to the king of Sweden, and, in 1737, elected professor of philosophy and mathematics at Lausanne. His works are distinguished for learning, liberality and acuteness. The principal are, *A System of Reflections that may contribute to the Illustration and Extension of Knowledge*, or a new Essay on Logic (in 6 vols., 12mo., 1741); *Summa Logica* (1724); a Treatise on Education; *Examen du Pyrrhonisme ancien et moderne*; *Géométrie des Lignes et des Surfaces rectilignes et circulaires*; *Examen de l'Essai de M. Pope*; *Commentaire sur la Traduction de l'Essai de M. Pope, de l'Abbé du Resnel*; *Traité du Beau*; a Treatise on the Human Understanding.

CROW (*corvus*, L.); a genus of birds remarkable for their gregarious and predatory habits, distinguished by the following characters: The bill is straight, convex and compressed, being covered at its base by incumbent, bristly feathers; the upper mandible is curved at tip, the lower is a little shorter, carinated on both sides, and

slightly ascending at the extremity; the nostrils are placed on the base of the bill, and are patulous, though covered by the incumbent feathers; the tongue is short, cartilaginous, acute and bifid at tip; the tarsus scarcely exceeds the middle toe in length; the toes are separated almost to the base, and the middle one is the longest; the nails are moderate, pointed, hollow beneath, and sharp-edged, the hind one being generally longest; the wings are subelongated, acute, the first primary short, third or fourth longest; the tail consists of twelve feathers. Four species of this genus, as at present restricted, are found in North America—the raven (*C. corax*); the crow (*C. corone*); fish-crow (*C. ossifragus*); and Clark's crow (*C. columbianus*). These and other members of the genus are very extensively spread over the globe, and are almost equally distinguished for their remarkable sagacity, and the amount of mischief which they occasion where they are very numerous. The raven is by no means common in the Middle States of the Union, but is found in considerable numbers, in the vicinity of the northern lakes, and the interior of the Union. This is the largest species of its tribe, very little inferior in size to a common cock, being 26 inches in length, and more than 3 feet from the tip of one wing to that of the other. The plumage is of a very glossy black, with some reflections of bluish purple on the back. The female is less purely black than the male, and a little smaller. The raven, when on the ground, marches at a grave and stately pace: his favorite haunts are the vast solitudes of rocks and forests, whence he seldom emerges except called by hunger, and then never in large flocks, like the crows. The ordinary food of the raven, and that which he prefers, is putrefying animal matter, which this bird discovers, by the acuteness of his sense of smelling, at great distances, and flies to the feast with unerring precision. When carrion is not attainable, the raven feeds on various fruits, insects, dead fish, &c. Judging by the habits of the crow and other kindred species, there is no question but the raven, when pressed by hunger, will kill small birds or other animals coming within its reach. They have been known to pluck the eyes out of the heads of lambs and sick animals unable to drive them away. Birds so voracious and destructive cannot be regarded otherwise than injurious in a poor country, though in a rich one, their services, as scavengers and destroyers of the larves of noxious insects,

might more than counterbalance their mischief.* Like most of their tribe, ravens have a considerable talent for imitating sounds, and may be taught to pronounce words with remarkable distinctness. When domesticated, they become very bold and impudent, fearless of dogs or cats, and fighting fiercely with them when provoked: sometimes, indeed, their insolence renders them dangerous inmates, as they will wound children, and even grown persons, with their powerful bill. They also participate in the disposition common to most of their fraternity, to steal and hide pieces of money, plate, and other shining objects, which cannot be of the slightest use to the purloiner. The raven is a model of conjugal fidelity, having but one female, to whom he remains attached, most probably, for life. Observations were made on one pair by lord Ross, during 30 years, and there can be but little doubt, that the union was only interrupted by death. Their nests are commonly placed in chinks of rocks, lofty old walls, or the tops of tall, insulated trees, and are made externally of roots and branches of shrubs; a second layer is then formed of animal bones, or other hard materials, and this is covered with a bed of soft grass or moss. About the month of March, the female lays 5 or 6 pale-green and bluish eggs, speckled with very numerous spots and touches of a darker color. The incubation continues for 20 days, and both parents participate in it. The male also defends the nest courageously against the approach of hawks and other birds of prey, and provides for the subsistence of his companion. The young remain with the parents throughout the summer succeeding their hatching, and, when able to provide for themselves, are sent off to establish new colonies elsewhere. The flight of the raven is very lofty, and its power of wing great, so that it is able to pass over immense spaces in a short time.—Few birds are more numerous and annoying to the farmers of the Atlantic States than the common crow (*C. corone*), which, throughout a considerable part of the year, collects in astonishingly large flocks, and makes destructive descents upon newly-planted maize and other grain. In this species, it seems as if all the evil propensities of the race were united and augmented. Exceedingly cunning in de-

* In England, the rook (*C. frugilegus*) is not allowed to be killed, and a large rookery is considered a valuable appendage to an estate. The young are obtained from the nest, and considered very fine for the table.

fecting every contrivance intended for their destruction, they are rarely destroyed to any great extent, except in seasons of excessive and long-protracted cold weather. Then (as during the winter of 1828—9) vast numbers perish from starvation, since, the earth, brooks, rivers and bays being completely locked up, all their sources of supply are cut off. At such times, their hunger is so distressing as to force them to the most extraordinary exertions, and they devour substances, which nothing but excessive hunger could induce any animal to swallow. During the hard winter alluded to, immense flocks were observed passing from the direction of the famous roosting place in the vicinity of Bristol, Pa. (particularly noted by Wilson), towards the shores of the sea and bay, and returning regularly in the afternoon. Thousands upon thousands, for several hours, moved heavily along in a broad, irregular line; and, from the numbers found dead in the fields, it is most probable that, during the severest weather, but little benefit resulted from their long diurnal pilgrimage. The common crow is voracious at all times, and nearly, if not quite, as omnivorous as the brown rat. Grain of all sorts, but especially Indian corn, insects, carrion, eggs, fish, young birds, the young of various domestic fowls, and even young pigs, are sought for eagerly, and devoured with avidity. This species, from the peculiar excellence of its sight, smell and hearing, by which it is very early warned of approaching danger, is very audacious, frequently coming close to the farm-houses in search of prey, and persevering in efforts to rob the hens of their chickens, until successful. The writer has witnessed several times, in the state of Maryland, where crows are far too abundant, the pertinacity of one of these robbers in attempting to seize a young chicken, notwithstanding the fierce defence made by the hen. His approaches appeared to have in view the withdrawal of the hen to a little distance from the brood; then, taking advantage of his wings, he would fly suddenly over her, and seize the chick. The same attempts were frequently made upon the goose, with a view to seize her goslings, but the vigilant gander, though sorely fatigued by his struggles, never failed to defeat a single crow: it was otherwise, however, when two or more united for the purpose of feasting on the young. It is not an uncommon thing for farmers to be under the necessity of replanting corn several times in the spring, and, when it is just rising above the ground,

to be obliged to keep several persons continually on guard in the fields. When the corn has shot up an inch or two above the surface, a host of these black-coated plunderers invade the fields, and, having posted sentinels in several commanding situations, march regularly along the corn-rows, drawing up the grain, pulling skillfully by the shoot, and then swallowing the germinating corn. Among the most successful experiments made to prevent the crows from doing this mischief is that of coating the seed corn with a mixture of tar, oil, and a small quantity of slacked lime, in powder. The ingredients being mixed in a tub, the seed corn is stirred in it until each grain receives a thorough coating of the mixture. This preparation, as it necessarily keeps the grain from being readily affected by moisture, is found to retard the germination about three days. In the instance we witnessed of the trial of this preventive, it was fully successful; for, although the field was daily visited by hosts of crows, they were content with pulling up enough corn, in various places, to be satisfied that it was, throughout, equally unpalatable. During their breeding season, which is in the spring months, the flocks spread over a great extent of country, and build their nests of small sticks, lined with grass, in lofty trees, choosing the most remote and difficult of approach. The young, generally, are two in number, and, until fully fledged, are most solicitously protected by their parents. When the young crows first begin to receive lessons in flying, nothing is more remarkable and affecting than the efforts made to preserve them, by the parents, when a gunner approaches the vicinity. Every artifice is employed to call attention away from the young, which seem to comprehend the directions or calls of their parents, and remain perfectly silent and motionless. In the mean while, the father and mother fly towards the gunner, taking care not to remain an instant in one place, and, by the most vociferous outcries, deprecate his cruelty. These efforts being continued, their voluntary exposure, and the eagerness with which they fly about a particular spot, are almost always successful in withdrawing the sportsman from the place where the young actually are. As soon as they have succeeded in leading him to a sufficient distance, they cease their accents of distress, fly a little farther from their young, and from a lofty perch, which enables them to watch all around, utter an occasional cry, which one may readily im-

agine to be intended for the direction and encouragement of their offspring. The most successful mode of destroying crows, is that of invading them in their extensive dormitories during the night. When they have selected a pine thicket, or other dense piece of wood, for a roosting place, they repair thither with great regularity. Every evening, vast flocks come sailing to the retreat, and the trees are literally covered and bowed down. When the state of Maryland received crow scalps in payment of taxes, at three cents each, parties were frequently made to attack the crow roosts. Gunners were stationed at various parts, surrounding the roosts, and all those of one division fired at once; the slaughter was necessarily dreadful, and those remaining unhurt, bewildered by the darkness, the flashing and report of the guns, and the distressing cries of their companions, flew but to a little distance, and settled near another party of gunners. As soon as they were fairly at rest, the same tragedy was reacted and repeated, until the approach of day or the fatigue of their destroyers caused a cessation. The wounded were then despatched by knocking them on the head or wringing their necks, and the bill, with so much of the skull as passed for a scalp, was cut off and strung for the payment of the tax-gatherer. The poor people, who had no taxes to pay, disposed of their crow scalps to the *store-keepers*, who purchased them at rather a lower rate. This premium has long been discontinued, and the number of these marauders is, in many parts of that state, quite large enough to require its reestablishment.

CROWN. In the early ages, when men were fond of expressing all their feelings by outward signs, a wreath of flowers or leaves was naturally one of the first emblems of honor or of joy. Such was the ornament of the priest in the performance of sacrifice, of the hero on his return from victory, of the bride at her nuptials, and of the guests at a feast. The ancient mythology, which gave every thing a distinct beginning and a poetical origin, ascribes the invention of wreaths to Prometheus, who imitated, with flowers, the fetters which he had borne for his love to mankind, whom he had created. According to Pliny, wreaths were first made of ivy, and Bacchus first wore them. In process of time, they were made of very different materials. Those worn by the Greeks at feasts in honor of a divinity, were made of the flowers of the plant consecrated to the god. Wreaths of roses afterwards

became very common. In some cases, wreaths were even made of wool. Wreaths of ivy and amethyst were worn, by the Greeks, on the head, neck and breast, at entertainments, with a view to prevent drunkenness. Mnesitheus and Callimachus, two Greek physicians, wrote entire books on wreaths, and their medical virtues. Corpses were covered with wreaths and green branches. Lovers adorned with wreaths and flowers the doors of their mistresses, and even captives, who were to be sold as slaves, wore wreaths; hence the phrase *sub corona venire* or *vendere*. The beasts sacrificed to the gods were also crowned. Wreaths, in process of time, were made of metal, in imitation of flowers, or of the fillet which the priest wore round his head when he sacrificed, which was called *διόδημα*. This attribute of distinction was early adopted by the kings, when they united in their persons the temporal and spiritual power. Among the various crowns and wreaths in use among the Greeks and Romans, were the following:

Corona agonothetarum; the reward of the victor in the great gymnastic games.

Corona aurea (the golden crown); the reward of remarkable bravery.

Corona castrensis; given to him who first entered the camp of the enemy.

Corona civica (see *Civic Crown*); one of the highest military rewards. It was given to him who had saved the life of a citizen.

Corona convivalis; the wreath worn at feasts.

Corona muralis; given by the general to the soldier who first scaled the enemy's wall.

Corona natalitia; a wreath which parents hung up before the door at the birth of a child. It was made of olive-branches if the child was a boy, and of wool if a girl.

Corona navalis, the next in rank after the civic crown, was given to him who first boarded and took an enemy's vessel.

Corona nuptialis; a crown or wreath worn by brides. The bridegroom, also, and his relations, on the day of the wedding, adorned themselves with wreaths. At first, the *corona nuptialis* was of flowers; afterwards, of gold or silver and precious stones.

Corona obsidionalis; a reward given to him who delivered a besieged town, or a blockaded army. It was one of the highest military honors, and very seldom obtained. It was made of grass; if possible, of such as grew on the delivered place.

Corona triumphalis; a wreath of laurel

which was given, by the army, to the *imperator*. He wore it on his head at the celebration of his triumph. Another crown of gold, the material of which (*coronarium aurum*) was furnished by the conquered cities, was carried over the head of the general. The wreaths, conferred at the great games of Greece, were of different kinds; at the Olympic games, of wild olive; at the Pythian games, of laurel; at the Nemean games, first of olive, then of parsley; at the Isthmian games, a wreath of pine leaves, afterwards of parsley; subsequently pine leaves were resumed.

In the middle ages, crowns became exclusively appropriated to the royal and imperial dignity; the coronets of nobles were only borne in their coats of arms. (See *Coronet*, also *Tiara*.) From the Jewish king being called, in the Scriptures, *the anointed of the Lord*, a kind of religious mystery and awe became attached to crowned heads, which, in most countries, continues to the present day, though history has shown us abundantly that crowns often cover the heads of very weak or very wicked individuals, and that there is no great mystery about their origin; some having been obtained by purchase, some by crime, some by grants from a more powerful prince, some by contract, some by choice, but, on the whole, comparatively few in an honest way. The iron crown of Lombardy, preserved at Monza, in the territory of Milan, is a golden crown set with precious stones, with which in former times the Lombard kings were crowned, and, at a later period, the Roman-German emperors, when they wished to manifest their claims as kings of Lombardy. An iron circle, made, according to the legend, out of a nail of Christ's cross, which is fixed inside, gave rise to the name. Agilulf, king of Lombardy, was the first person crowned with it (in 590). Charlemagne was crowned with it in 774. Napoleon put it on his head in 1805, and established the order of the iron crown. In 1815, when Austria established the Lombardo-Venetian kingdom, the emperor admitted the order of the iron crown among those of the Austrian empire.—*Crown* is used, figuratively, for the royal power, in contradistinction either to the person of the monarch, or to the body of the nation, with its representatives, interests, &c. Thus, in modern times, the word *crown* is used, on the European continent, to express the rights and prerogatives of the monarch considered as a part of the state, which includes all powers—the

legislative, judicial, &c. Thus the crown domains are distinguished from the state or national domains. In France, a difference is even made between the crown domains and the private domains of the king; the former are inalienable, and belong to the reigning monarch, whilst the second may be treated like any other private property. The distinction between crown and state, of course, does not exist in perfectly arbitrary governments.—*Crown-officers* are certain officers at the courts of European sovereigns. Formerly, when the different branches of government were not accurately defined, they were often, or generally, also state officers, as in the old German empire, and still in Hungary. The offices were generally hereditary; but, of late years, they are almost exclusively attached to the court, the title, in a few cases, being connected with military dignities, as, for instance, in France, where civil and military grand officers of the crown have always existed. (See *Dignitaries*.)

Crown, in commerce; a common name for coins of several nations, which are about the value of a dollar. (See *Coins*, *Table of*.)

Crown, in an ecclesiastical sense, is used for the tonsure, the shaven spot on the head of the Roman Catholic priests, where they received the ointment of consecration. (See *Tonsure*.)

CROWN GLASS, the best kind of window-glass, the hardest and most colorless, is made almost entirely of sand and alkali and a little lime, without lead or any metallic oxide, except a very small quantity of manganese, and sometimes of cobalt. Crown glass is used, in connexion with flint glass, for dioptric instruments, in order to destroy the disagreeable effect of the aberration of colors. Both kinds of glass are now made, in the highest perfection, in Benedictbeurn (q. v.), where Reichenbach's famous manufactory of optical instruments is situated.

CROWN OFFICE. The court of king's bench is divided into the *plea side* and the *crown side*. In the plea side, it takes cognizance of civil causes; in the crown side, it takes cognizance of criminal causes, and is thereupon called the *crown office*. In the crown office are exhibited informations in the name of the king, of which there are two kinds: 1. those which are truly the king's own suits, and filed, *ex officio*, by his own immediate officer, the attorney-general; 2. those in which, though the king is the nominal prosecutor, yet some private person, as a common informer, is the real one: these

are filed by the king's coroner and attorney, usually called *master of the crown office*.

CROWN POINT; a post-town in Essex county, New York, on lake Champlain; 12 miles N. Ticonderoga, 96 N. Albany; population, in 1820, 1522; lat. 44° 3' N.; lon. 72° 29' W. This town received its name from a noted fortress, much celebrated in the history of the American wars. The fortress, which is now in ruins, is situated in the north-east part of the township, on a point of land projecting some distance into the lake, elevated 47 feet above the surface, and 15 miles north of fort Ticonderoga. It was an expensive and regular fortification, about 1500 yards square, surrounded by a deep and broad ditch, cut in rock, with immense labor. The walls were of wood and earth, 22 feet thick and 16 high, and are only partially decayed.

CROZAT, Joseph Antony, marquis du Châtel, born in 1696, at Toulouse, a great lover and collector of works of art, inherited a large fortune from his father (who was a financier during the last years of the reign of Louis XIV), was counselor of the parliament of Toulouse, and subsequently reader to the king. The whole of his life was dedicated to the works of art which he had collected, and to the artists who wished to profit by them. The sketches in his collection exceeded 19,000, and he had expended above 450,000 livres in this particular branch. During the 60 years which he employed in collecting, no cabinet was sold in any part of Europe, of which some part was not purchased by him. Crozat went to Italy, in 1714, for the purpose of increasing his collection. Corn. Vermeulen came yearly from Antwerp to Paris, to bring him the works of the artists of the Netherlands. He was also presented with several valuable collections. His cabinet of antiques and sculpture, particularly of gems, was equally valuable, and contained about 1400 pieces. This treasure became more famous from the description which Mariette gave of it, when in the possession of the duke of Orleans, in 1742. It is at present at St. Petersburg. On Crozat's death (1740), his collection came into the possession of his brother, the marquis du Châtel. Mariette's *Description sommaire des Collections de M. Crozat, avec des Réflexions sur la Manière de Dessiner des principaux Maîtres* (Paris, 1741), is the only account we now have of this great museum.

CRUISERS, in naval affairs; vessels, as the name imports, employed on a cruise.

The name is commonly given to small men of war, made use of to secure merchant ships and vessels from the enemy's small frigates and privateers. They are generally formed for fast sailing, and well manned.

CRUSADES are the wars which were carried on by the Christian nations of the West, from the end of the 11th to the end of the 13th century, for the conquest of Palestine. They were called *crusades* because all the warriors who followed the holy banner (*crusaders*), wore the sign of the cross. The Christian and Mohammedan nations had been, during a long period, in a state of war, not only in Asia, but also in Europe, where the Moors, Mohammedans by religion, had taken possession of part of the Spanish peninsula. The nations of the West were grieved that the Holy Land, where Jesus had lived, taught, and died for mankind, where pious pilgrims resorted to pour out their sorrows, and ask for aid from above, at the tomb of their Savior, should be in the power of unbelievers. The pilgrims, on their return, related the dangers they had encountered. The caliph Hakem was particularly described as a second Nero. Being the son of a Christian woman, he shed the blood of Christians without mercy, to prevent the suspicion of his being secretly attached to that religion. These representations kindled the religious zeal of Christian Europe into a flame, and a general ardor was awakened to deliver the sepulchre of Christ from the hands of the infidels. In order to understand this general excitement, we must remember that, at this period, the confusion and desolation, which had followed the irruption of the barbarians into the south and west of Europe, had ceased, and the dawn of civilization and intellectual cultivation had commenced. In this mental twilight, men were just in a state to receive a strong religious excitement. The idea of the Virgin, too, harmonized well with the Teutonic reverence for the female sex; and to fight in her cause was gratifying to the spirit of chivalry. The undisciplined minds of men were bent upon adventure, and their imaginations were easily roused by the reports of the riches of the East. The joys of paradise were the sure reward of all who fell in the holy cause. Thus a crowd of the strongest feelings, chivalrous devotion to the female sex, the hope of adventure, of wealth, of honor and of heaven, stirred up the spirit of Europe, and impelled her sons into the East. (See *Chiv-*

dry.) The pope considered the invasion of Asia as the means of promoting Christianity amongst the infidels, and of winning whole nations to the bosom of the church; monarchs expected victory and increase of dominion; the peasant, who, in the greater part of Europe, was struggling with wretchedness in the degrading condition of bondage, was ready to follow to a country which was pictured as a paradise. The East has always had a poetical charm for the people of the West, which has by no means ceased in our time. The crusades, and the ardor with which whole nations engaged in them, must be attributed to the above causes. Peter of Amiens, or Peter the Hermit, was the immediate cause of the first crusade. In 1093, he had joined other pilgrims on a journey to Jerusalem. On his return, he gave pope Urban II a description of the unhappy situation of Christians in the East, and presented a petition from the patriarch of Jerusalem, in which he anxiously entreated the assistance of the Western Christians for their suffering brethren. The pope disclosed to the council which was held at Piacenza, in 1095, in the open air, on account of the number of people assembled, the message which Christ had sent, through Peter the Hermit, caused the ambassadors of the Greek emperor Alexius to describe the condition of Christianity in the East, and induced many to promise their assistance for the relief of their oppressed brethren. The sensation which he produced at the council assembled at Clermont, in 1096, where ambassadors from all nations were present, was still greater; he inspired the whole assembly so completely in favor of his plan, that they unanimously exclaimed, after he had described the miserable condition of the Oriental Christians, and called upon the West for aid, *Deus vult* (It is God's will)! In the same year, numberless armies went forth in different divisions. This is considered the first crusade. Many of these armies, being ignorant of military discipline, and unprovided with the necessaries for such an expedition, were completely destroyed in the different countries through which they had to pass before reaching Constantinople, which had been chosen for their place of meeting. A superficial knowledge of these holy wars throws a false glare round the character of the crusading armies. They contained, indeed, some men of elevated character; but the greater part consisted of crazy fanatics and wretches bent on plunder. A well con-

ducted, regular army, however, of 80,000 men, was headed by Godfrey of Boulogne, duke of Lower Lorraine, Hugh, brother to Philip king of France, Baldwin, brother of Godfrey, Robert of Flanders, Raymond of Toulouse, Bohemond, Tancred of Apulia, and other heroes. With this army, the experienced commanders traversed Germany and Hungary, passed over the strait of Gallipoli, conquered Nice in 1097, Antioch and Edessa in 1098, and, lastly, Jerusalem in 1099. Godfrey of Boulogne was chosen king of Jerusalem, but died in 1100. The news of the conquest of Jerusalem renewed the zeal of the West. In 1102, an army of 260,000 men left Europe, which, however, perished partly on the march, and partly by the sword of the sultan of Iconium. The Genoese, and other commercial nations, undertook several expeditions by sea. The second great and regularly conducted crusade was occasioned by the loss of Edessa, which the Saracens conquered in 1142. The news of this loss produced great consternation in Europe, and it was apprehended that the other acquisitions, including Jerusalem, would fall again into the hands of the infidels. In consequence of these fears, pope Eugene III, assisted by St. Bernard of Clairvaux, exhorted the German emperor, Conrad III, and the king of France, Louis VII, to defend the cross. Both these monarchs obeyed the call in 1147, and led large bodies of forces to the East; but their enterprise was not successful, and they were compelled to withdraw, leaving the kingdom of Jerusalem in a much weaker condition than they had found it. When sultan Saladin, in 1187, took Jerusalem from the Christians, the zeal of the West became still more ardent than at the commencement of the crusades; and the monarchs of the three principal European countries—Frederic I, emperor of Germany, Philip Augustus, king of France, and Richard I, king of England—determined to lead their armies in person against the infidels (1189). This is regarded as the third crusade. Frederic's enterprise was unsuccessful; but the kings of France and England succeeded in gaining possession of Acre, or Ptolemais, which, until the entire termination of the crusades, remained the bulwark of the Christians in the East. The fourth crusade was conducted by the king of Hungary, Andrew II, in 1217, by sea. The emperor Frederic II, compelled by the pope, who wished for his destruction, to fulfil a promise made in early youth, undertook the fifth crusade, and

succeeded in regaining Jerusalem, although he could not secure the permanent possession of the country. The list of heroes who conducted the crusades is honorably closed with St. Louis, king of France (who conducted the sixth crusade, commencing in 1248), although fate frustrated his plan, which was ably conceived and bravely executed. While Louis was still in Egypt (for he proposed conquering the Holy Land by an invasion of Egypt, the seat, at that time, of the rulers of Palestine), a revolution broke out in that country, which proved decisive with regard to the possession of the Holy Land. The house of Saladin was dethroned, and the dominion of the Mamelukes and sultans established. These directed their efforts against the possessions of the Christians in Palestine. Tripoli, Tyre, Berytus, fell into their hands successively, and, on the fall of Acre, or Ptolemais, the last bulwark and the last remains of the Christian empire on the continent of Asia, were overthrown. By means of these joint enterprises, the European nations became more connected with each other, the class of citizens increased in influence, partly because the nobility suffered by extravagant contributions to the crusades, and partly because a commercial intercourse took place throughout Europe, and greatly augmented the wealth of the cities; the human mind expanded, and a number of arts and sciences, till then unknown in Europe, were introduced there. The present civilization of the European world is, in a great degree, the result of these crusades. It belongs to a history of poetry to describe how much contemporary poetry was affected by the crusades, and the extent to which they have given currency to a certain class of ideas that has prevailed ever since. Some of the best works on the crusades are Frederic Wilken's *Geschichte der Kreuzzüge nach morgenländischen und abendländischen Berichten*, Leipsic (the three first volumes appeared in 1807—19: volume 4, which treats of the period from 1188 to 1195, appeared in 1826); *Histoire des Croisades*, by De Michaud, a member of the French academy, fourth edition, Paris, 1825; Charles Mills's *History of the Crusades*, London, 1820; Heeren's *Versuch einer Entwicklung der Folgen der Kreuzzüge für Europa*, Göttingen, 1808.

CRUSADE, and CRUSADA. (See *cruzada*, old and new, in the article *Coins*, under the division *Portugal*.)

CRUSCA, ACADEMIA DELLA. (See *Academies*.)

CRUSTACEOUS ANIMALS, in natural history; those covered with shells, consisting of several pieces or scales, as crabs, lobsters, &c. Their shells are generally softer than the shells of the testaceous kind, which consist of but few pieces or valves, such as those of the oyster, scallop, cockle.

CRUZ, SANTA (Spanish; Holy Cross). Among the various places of this name, the most important are, 1. An island in the West Indies, belonging to Denmark, the most southerly of the Virgin isles; lat. $17^{\circ} 45' N.$; lon. $64^{\circ} 35' W.$ It is about 24 miles in length, with an area of 84 square miles, and contains 33,000 inhabitants, of which 30,000 are slaves. The country is mostly level, the climate unhealthy at certain seasons, the water scarce and bad. The soil is fertile, producing cotton, sugar-cane, some coffee and indigo, and tropical fruits. About 9,000,000 gallons of rum are annually exported. The best ports are Christianstadt and Frederickstadt. The former, situated on the northern coast of the island, is the capital of all the Danish West Indies. After having been successively in the hands of the Dutch, English, French, and Spaniards, Santa Cruz was ceded to Denmark in 1733. In 1807, it was taken by the English, but was restored to the Danes by the peace of Paris, in 1814. 2. A city on the island of Teneriffe; lat. $28^{\circ} 28' N.$; lon. $16^{\circ} 30' W.$ The road is much visited by European vessels, on their way to the Indies and to America, for water and provisions. The population is 8400. The principal article of export is Teneriffe wine. (See *Teneriffe*.)

CRUZADA (Spanish). A bull called the *bull of the crusade*, is a source of considerable revenue to the Spanish crown. Pope Calixtus III first issued this bull, during the reign of king Henry of Castile, in 1457, granting an absolution for past offences to all who would fight against infidels, or pay a certain sum (200 maravedis), to aid the crown in carrying on war against them; and, as this bull is granted only for five years, the king has the power of renewing it. It confers also certain immunities, such as the right to eat some kinds of prohibited food in Lent. It has not been customary to renew the grant since 1753. These bulls were formerly sold, in a printed form, by priests and monks, who very often abused their authority, and would not confess people, or give them extreme unction, unless they would buy the bulls. The revenue thus received by the crown was estimated, for Spain and

Spanish America, at \$1,500,000. Portugal also received such a bull in 1591, for the support of her fortifications in Africa. Mendoza, in one chapter of his *Vida de Lazarillo de Tormes*, describes the abuses by which the *bullarios*, or sellers of bulls, extorted money from the people.

CRYPT, in architecture; a hollow place or vault constructed under ground. The tombs of the Christian martyrs also were so called, where the early Christians met to perform their devotions, for fear of persecution. Hence *crypt* came to signify a church under ground, or the lower story, like that of St. Paul's, London, Lastingham priory, and many of the ancient ecclesiastical edifices of England, Germany and France. When crypts are on a large scale, like those of Rome, Naples and Paris, they are then called *catacombs*. (See *Catacombs*.) Bartoli and Bellori have published engravings of paintings found in the crypts of Rome, of which there are several editions. The one of 1738 is in Latin.

CRYPTO; a prefix from the Greek κρυπτος (secret), used in several compounds; for instance, *cryptography* (q. v.), *cryptogamy* (q. v.), *Crypto-Calvinists* (q. v.) When the Jesuits were dissolved by a papal bull, much was said of *Crypto-Jesuits*. In France, we hear sometimes of *crypto-republicans*, &c.

CRYPTO-CALVINISTS (*crypto* from the Greek κρυπτος, secret); a name given to the favorers of Calvinism in Saxony, on account of their secret attachment to the Genevan doctrine and discipline. (See *Concord, Form of*.)

CRYPTOGAMIA, in botany; the 24th and last class of the sexual system of Linnæus, including several very numerous families of plants, in which the parts essential to their fructification have not been sufficiently ascertained, or are too small to admit of their being accurately described and referred to any of the other classes.

CRYPTOGRAPHY (from the Greek κρυπτος, secret, and γραφειν, to write); the art of transmitting secret information by means of writing, which is intended to be illegible, except by the person for whom it is destined. The ancients sometimes shaved the head of a slave, and wrote upon the skin with some indelible coloring matter, and then sent him, after his hair had grown again, to the place of his destination. This is not, however, properly secret writing, but only a concealment of writing. Another sort, which corresponds better with the name, is the following, used

by the ancients. They took a small stick, and wound around it bark, or papyrus, upon which they wrote. The bark was then unrolled, and sent to the correspondent, who was furnished with a stick of the same size. He wound the bark again round this, and thus was enabled to read what had been written. This mode of concealment is evidently very imperfect. Cryptography properly consists in writing with signs, which are legible only to him for whom the writing is intended, or who has a key, or explanation of the signs. The most simple method is to choose for every letter of the alphabet some sign, or only another letter. But this sort of cryptography (*chiffre*) is also easy to be deciphered without a key. Hence many illusions are used. No separation is made between the words, or signs of no meaning are inserted among those of real meaning. Various keys likewise are used, according to rules before agreed upon. By this means, the deciphering of the writing becomes difficult for a third person, not initiated; but it is likewise extremely troublesome for the correspondents themselves; and a slight mistake often makes it illegible, even by them. Another mode of communicating intelligence secretly, viz., to agree upon some printed book, and mark the words out, is also troublesome, and not at all safe. The method of concealing the words which are to convey the information intended in matter of a very different character, in a long letter, which the correspondent is enabled to read, by applying a paper to it, with holes corresponding to the places of the significant words, is attended with many disadvantages: the paper may be lost; the repetition of certain words may lead to discovery; and the difficulty of connecting the important with the unimportant matter, so as to give the whole the appearance of an ordinary letter, is considerable. If this is effected, however, this mode has the advantage of concealing the fact that any secrecy is intended. Writing with sympathetic ink, or milk, lemon-juice, &c., is unsafe, because the agents to make the letters visible are too generally known. Hence the *chiffre quarré*, or *chiffre indéchiffable*, so called, has come very much into use, because it is easily applied, difficult to be deciphered, and the key may be preserved in the memory merely, and easily changed. It consists of a table, in which the letters of the alphabet, or any other signs agreed upon, are arranged under one another, thus:—

z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a
b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b
c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c
d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d
e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e
f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f
g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g
h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h
i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i
k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k
l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l
m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n
o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p
q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q
r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r
s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s
t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u
v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v
w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w
x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x
y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

Any word is now taken for a key; *Paris*, for example. This is a short word, and, for the sake of secrecy, it would be well to choose for the key some one or more words less striking. Suppose we wish to write in this cipher, with this key, the phrase "We lost a battle;" we must write *Paris* over the phrase, repeating it as often as is necessary, thus:—

ParisParisPar
We lost a battle.

We now take, as a cipher for *w*, the letter which we find in the square opposite *w* in the left marginal column, and under *p* on the top, which is *m*. Instead of *e*, we take the letter opposite *e* and under *a*, which is *f*; for *l*, the letter opposite *l* and under *r*, and so on. Proceeding thus, we should obtain the following series of letters:—

mfxlibtkmimw

The person who receives the epistle writes the key over the letters; as,

ParisParisPar
mfxlibtkmimw

He now goes down in the perpendicular line, at the top of which is *p*, until he

meets *m*, opposite to which, in the left marginal column, he finds *w*. Next, going in the line of *a* down to *f*, he finds on the left *e*. In the same way, *r* gives *l*, *i* gives *o*, and so on. Or you may reverse the process; begin with *p*, in the left marginal column, and look along horizontally till you find *m*, over which, in the top line, you will find *w*. It is easily seen, that the same letter is not always designated by the same cipher; thus, *e* and *a* occur twice in the phrase selected, and they are designated respectively by the ciphers *f* and *w*, *b* and *k*. Thus the possibility of finding out the secret writing is almost excluded. The key may be changed from time to time, and a different key may be used with each correspondent. The utmost accuracy is necessary, because one character, accidentally omitted, changes the whole cipher. The correspondent, however, may ascertain this with considerable trouble. (See *Deciphering*.)

CUBA; the largest and most westerly of the Antilles. Its configuration, extent, geographical position, great number of ports, fertility and climate, contribute to

render it one of the most interesting countries of America. Its length, from cape St. Antonio to point Maisi, in a direction from W. S. W. to E. N. E., and then from W. N. W. to E. S. E., is 257 leagues, and its greatest width, in the direction north to south, is 38 leagues. The learned geographer don Felipe Bausá calculated, in June, 1825, that the surface of Cuba contained 3615 square marine leagues (20 to a degree). Cuba is situated between lon. $73^{\circ} 56'$ and 85° W. and between lat. $19^{\circ} 48' 30''$ and $23^{\circ} 12' 45''$ N. It lies 14 leagues west from cape Nicolas, in the island of St. Domingo, 34 south from point Morant, in Jamaica, 27 east from cape Catoche, and 37 south from cape Florida. The gulf of Mexico, which is very nearly of a circular form, of more than 250 leagues in circumference, is closed by the island of Cuba, with the exception of two narrow passages, the one to the south, between cape Catoche and cape St. Antonio, and the other to the north, between Bahia Honda and the Florida shoals. Along the coast of Cuba are many keys and small islands, which are included in the same government with the large island. The navigation of the coast is very unsafe on account of the rocks and shoals which encompass it almost without interruption, and often extend from 2 to 3 miles into the sea. The broken outline of this vast extent of coast, however, affords more than 50 ports and anchoring places, which are equally safe and easy of access. The most remarkable, in a commercial point of view, are those of Havanna, Matanzas, Nuevitas, Jibara and Baracoa, on the north; St. Jago, Manzanillo, Trinidad, Jagua and Batabano, on the south side of the island. There is another port between Manzanillo and Trinidad, called *Santa Cruz*, which, in February, 1829, was declared a free port, and which, undoubtedly, will be much frequented, furnishing great facilities for trading with Puerto Principe (the second city in Cuba in point of population), being the only good harbor in its vicinity on the south side of the island, and distant from it but 20 leagues. The harbors of Bahia Honda, Nipe, Naranjo and Guantanamo also deserve to be mentioned, as they are very spacious, and have plenty of water for such large vessels as may be in want of a safe port. A ridge of mountains traverses the whole of the island, from the east to the west, dividing it into two parts. At the foot of these, the country opens into extensive savannas. A considerable number of small streams from

these heights water the island on both sides. These streams abound in fish of different kinds, and are said to bring down considerable quantities of gold. There are likewise many salt ponds, which furnish abundance of fish and game; also several springs of mineral water, which have proved very useful for the cure of many diseases. The most remarkable are those of St. Diego, 40 leagues west of Havana; those of Madruga, 14 leagues S. W. of the said city; those of the town of Guanabacoa; and those of Camugiro, $1\frac{1}{2}$ league from Puerto Principe. Those of St. Diego are the only ones which have been analysed. They consist of two wells (Tigre and Templado), and, according to the analysis of señor Esteves, a pound of the water contains 0.46 grains of sulphureted hydrogen gas, 10.5 of sulphate of lime, 1.0 of hydrochlorate of magnesia, and one grain of carbonate of magnesia. They are particularly useful in cases of scrofula, cutaneous diseases, &c. The island is very rich in minerals, particularly in copper, iron and loadstone. In 1813, some persons endeavored to work a mine which they found near the city of Trinidad, and from which they obtained good gold and silver. They were, however, obliged, from want of funds, to desist, though it was highly probable that, with a sufficient capital, it could have been made profitable. For the same reason, together with the want of protection from the government, a very rich mine of coal, which was opened in 1816, near Bacuranáo, was abandoned. In 1827, a silver mine was discovered, yielding 7.5 of pure silver to a quintal of ore. Iron seems to be abundant, as it shows itself in parts of the great cordillera of Sierra Maestra. Loadstone is found in the mountains of Paragua and on the northern coast. Marbles of various kinds, serpentine, chalcedony of excellent quality, quartz, mineral bitumen, &c., are likewise found in the island. Our knowledge of the geological and mineralogical structure of Cuba, however, is comparatively small, on account of the thickness of the forests and the asperity of the mountains, particularly on the eastern part. Most that we know on this subject is derived from the researches of Alexander von Humboldt. The soil of Cuba is so productive that it yields two, and even three crops of corn in a year. The fields, during the whole year, are covered with aromatic plants and trees in blossom. The climate is dry and warm. In the months of July and August, the thermometer

ranges from 28° to 29° Réaumur (95° to 97° Fahrenheit), and in those of December and January, which are the coldest, commonly between 17° and 21° of Réaumur (70° and 79° Fahrenheit.) It never freezes, not even on the highest mountains. The coasts of the island are well known to be unhealthy; but this is not the case with the mountains. Among the animals indigenous in the island or the surrounding sea, are the cayman or alligator (q. v.), the manati or sea cow, the iguana (a species of lizard), the turtle, &c. Many of the domestic animals of Europe have been introduced. A great number of swine, and also of bees, are raised. Lately, the breeding of mules has been carried on to a considerable extent. Birds are numerous in the forests. Among them are the canary-bird, the linnet, also a bird resembling the nightingale, the cardinal gross-beak, the bunting, &c. The rivers, though they have but a short course, and are deficient in water, abound, at certain seasons, with excellent fish. Reptiles are extremely numerous. Among the insects, of which there are very many, are the mosquitoes, *verdaderamente una plaga que infesta los cayos, costas y terrenos pantanosos*, to use the words of the *Cuadro Estadístico* mentioned below. They are divided into different species—mosquito proper, *coraci*, *zancudo*, *rodador*, *jagüey* and *lancetero*. In the rainy season, they follow men and beasts into the interior of the island. The *greden*, which is almost invisible, is exceedingly numerous and very troublesome. Among the spiders, the *peluda* is the most disagreeable in appearance, and its bite produces fever, yet without danger to life. There are other kinds particularly troublesome to particular animals. The vegetable kingdom of Cuba is extremely rich. Here are to be found the mahogany-tree, the cedar, *lignum-vitæ*, various kinds of ebony, besides numerous woods suitable for building houses, ships, &c.; also palm-trees, among which the *palma real* is remarkable for the utility of every part to man and various animals; sarsaparilla and many other plants useful in medicine; also the chestnut, the pine-apple, the annona or custard-apple, the medlar, plantain, orange, and various kinds of melons. Among the agricultural plants, maize is the most important; rice, beans, peas, *garbanzos* are also cultivated. The culture of wheat is abandoned. The true riches of the country consist in its great articles of export—sugar, coffee, tobacco, wax, cacao, molasses, rum, maize,

&c. According to a very recent and complete official publication—*Cuadro Estadístico de la siempre fiel Isla de Cuba correspondiente al año de 1827, formado por una Comision de Gefes y Oficiales de orden y bajo de la Direccion del Excelmo. Sr. Capitan General D. Fr. Dionisio Vives, Habana, 1829*—the export of sugar, in 1827, was 5,878,924½ arrobas (an arroba is equal to 25 pounds), or, including tare, &c., 6,300,000 arrobas. The whole amount produced was 8,091,837 arrobas; consumed on the island, 1,791,837. Of coffee, the export, in the same year, was 2,001,583½ arrobas, and the amount consumed in the island, 881,944½. Of tobacco, the amounts have not been so well ascertained. This article pays a duty of six per cent. to the king (ordinance of Oct. 8, 1827). In 1827, there were exported 61,898 cargoes, or about 500,000 arrobas, of which 79,106½ were *en rama* (in the leaf). Of wax, the export, in 1827, was 22,402½ arrobas; the whole production, 63,160. Of cotton, the export, in the same year, was 23,414 arrobas; whole quantity raised, 38,142. Of cacao, the export was only 1953 arrobas, while the whole quantity raised was 23,806 arrobas. Indigo began to be cultivated in 1795, but little has as yet been raised—in 1827, only 56 arrobas—and of wheat only 120 arrobas. The export of molasses, in 1827, was 74,083 *bocoyes* (hogsheads); of rum (*aguardiente de caña*), 2457 pipes. Rice is raised in large quantity, but not enough to supply the great home consumption. In 1827, 520,897 arrobas were produced on the island, and 590,820½ arrobas imported. Of maize, 1,617,806 *fanegas* were raised (a *fanega* is about 100 pounds), and yet there were imported 70,497 arrobas of the corn, and 4,952 barrels of the meal. Of beans (*frijolles*), there were produced, in 1827, 134,185 arrobas, and imported, 58,418½. Notwithstanding this great production, it is believed that only a seventh part of all the land suitable for cultivation is actually brought into use. The commerce of the country has increased lately very much. The island enjoys great privileges in comparison with other countries under the yoke of Spain. The trade of Cuba is carried on chiefly through Havanna, the capital. There have been times when the exports of the island amounted to \$12,000,000, and its imports were over \$15,000,000. In the year 1827, 17,352,854 dollars' worth of merchandise was imported, and 3,561,887 dollars' worth exported, making the consumption

amount to \$13,791,267, which, after the subtraction of articles of food imported for the slaves, leaves \$12,291,267 for the value of imported articles consumed by the 337,126 white and 106,494 colored free persons, which gives \$28 as the average consumption of each individual during the year. The total value of the produce of the island was lately estimated at \$44,634,343. In 1827, the commerce of Havanna contributed to the royal revenue \$4,383,262, whilst, in 1815, it paid only \$1,726,963½. The interior administrations furnished to the revenue, in 1827, \$2,272,808. The whole revenue of the island has been estimated at \$7,500,000, and the expenses of the government at \$6,500,000. According to the *Balanza Mercantil* of Havanna, for the year 1829, it appears, that the imports in American vessels from the U. States into Havanna, in 1829, amounted to the sum of . . \$4,086,230 69

From the U. States in {	610,797 12
Spanish vessels, {	
France, {	\$1,048,965 63
Hanseatic {	913,601 00
cities, {	
Denmark, {	12,962 75
England, {	1,548,779 37
Italy, {	29,773 12
Netherlands, {	289,758 88
Portugal, {	56,144 88
	<u>\$3,899,985 53</u>

Of which imports, one fourth, at least, was brought in American bottoms—say {	974,996 44
From Spain in foreign bottoms, \$3,097,590 38, of which two thirds, at least, were under the U. States' flag, {	2,065,060 24
Making a total of imports, in 1829, under the American flag, including the imports from the U. States in Spanish vessels, of {	<u>\$7,737,084 49</u>
The whole value of imports for 1829, into Havanna, {	14,925,414 50
Supplied by the U. States and by American vessels, {	<u>7,737,084 49</u>
Leaving, for all other flags, including the Spanish, {	<u>7,188,330 01</u>

The tonnage duty paid by {	\$234,922
American vessels was, {	
Thus, from the U. States alone (American tonnage) came {	67,664 tons.
One fourth of foreign tonnage from other countries, {	6,172
Two thirds of tonnage of foreign vessels from Spain, {	20,133
Total American tonnage, {	93,969 { ^{ts. at} 2.53, } \$234,922

From the above notes, it seems that the U. States and her ships have supplied more than 50 per cent. of the entire imports of Havanna for the last year.—The island is subject to the king of Spain, and, for the purposes of government, is divided into two political divisions. That on the west is under the immediate control of the captain-general residing in Havanna. The other is under a governor appointed by the king, but subject, in many respects, to the captain-general. It is also divided into two ecclesiastical jurisdictions, the one governed by an archbishop, who resides at St. Jago, the other one by a bishop, who resides at Havanna. These jurisdictions have their limits 20 leagues east of the town of Espiritu Santo. Since the beginning of 1826, the island has been divided, for the purpose of defence, into three military departments; these again into districts, and the districts into sections. The departments are commanded by a general officer. The eastern department embraces the districts of St. Jago, Baracoa, Holguin, Jibara, Jiguani, Cobre, Tiguabos, Manzanillo and Bayamo; the central, those of Puerto Principe, Nuevitas, Trinidad, Espiritu Santo, Villa de Santa Clara and St. Juan de los Remedios; the western, those of Havanna, St. Antonio de Compostela, St. Felipe, and St. Jago del Bejucal, St. Antonio Abad de los Baños, Guanajay, Guanabacoa, Filipina, Jaruco, Guines, Matanzas and Guamutas. These same divisions serve as limits for the jurisdictions of the three intendencies which are established for the collection and administration of the public revenue, and the heads of which reside at Havanna, Puerto Principe and St. Jago, the capital cities of the three departments. Education is in a very low state; but, according to Abbot's Letters on Cuba (Boston, 1829), it is improving. The morals of the people are loose; the

police is weak or inactive: murders are frequent. The laws are very numerous and contradictory, and much bribery and corruption prevail in the administration of justice. In 1821, the importation of slaves was prohibited by law; and, though it is yet carried on, and tolerated by the authorities of Cuba, in spite of the laws against it, there is no doubt that it has diminished a great deal, in consequence of the efforts and vigilance of the English cruisers. The emancipation of Colombia, Mexico, and the Spanish part of St. Domingo, has brought to Cuba almost all the Spaniards who were settled in those countries, together with many of the Creoles. The number of the aboriginal population cannot now be ascertained. The European and African population, in 1511, did not include more than 300 persons. Within the last 52 years, the population has more than quadrupled: the colored population has increased faster than the white. According to the census of 1827, given in the Spanish report mentioned above, the population then stood thus:

	Males.	Females.	Total.
Whites,	168,653	142,398	311,051
Free Mulattoes,	28,058	29,456	57,514
Free Negroes,	23,904	250,76	48,980
Mulatto and Negro slaves, }	183,290	103,652	286,942

Grand total, 704,487

of which 311,051 are white, and 393,436 are colored.

It is generally believed, that the inhabitants are not desirous of separating from the Spanish government, partly because Spain treats them tolerably well, and partly because of the distracted condition in which they behold those parts of Spanish America which have shaken off the Spanish yoke. A conspiracy was discovered, however, in 1830, the object of which was the independence of the island. A ridiculous expedition was sent from Cuba, in 1829, against Mexico, under general Barradas, who was forced to capitulate at Tampico, on September 11 of that year. The principal cities of the island are the capital, Havanna (*siempre fidelísima ciudad de S. Cristobal de la Habana*), with 237,828 inhabitants, St. Jago de Cuba, St. Salvador, St. Carlos de Matanzas, St. Maria de Puerto Principe, &c. (*See these articles.*)—For further information respecting the island, the reader is referred to Humboldt's *Personal Narrative*, and the *Cuadro Estadístico* already mentioned.

Cuba was discovered, in 1492, by Christopher Columbus. In 1511, don

Diego Velasquez sailed from St. Domingo, with four vessels and about 300 men, for the conquest of the island. He landed, on the 25th of July, near the bay of St. Jago, to which he gave its name. The natives, commanded by the cacique Hatuey, who had fled from St. Domingo, his native country, on account of the cruelties of the Spaniards, in vain endeavored to oppose the progress of the invaders. The noise of the fire-arms was sufficient to disperse the poor Indians. Hatuey was taken prisoner and condemned to be burned alive, which sentence was executed after he had refused to be baptized. This diabolical act filled all the other caciques with terror, and they hastened to pay homage to Velasquez, who met with no more opposition. The conquest of Cuba did not cost the Spaniards a single man. The conquerors, not finding the mines sufficiently rich to induce them to work them, gradually exterminated the natives, whom they could not employ. After the conquest of Cuba, more than two centuries elapsed without the occurrence of any memorable incident. In 1741, the English admiral Vernon sailed, in July, from Jamaica, and entered the bay of Guantnamo, which he named *Cumberland*. He landed his troops 20 miles up the river, where they remained in perfect inaction until November, when they went back to Jamaica. Notwithstanding the disastrous termination of this expedition, the English government did not relinquish the idea of taking possession of Cuba. In 1762, they sent from England a formidable expedition, which, after its junction with the naval force which had been already serving in the West Indies, consisted of 19 ships of the line, 18 small vessels of war, and 150 transports, which conveyed 12,000 troops. The whole of the fleet appeared off Havanna June 6. 4000 more troops went from North America, in July, to reinforce them. The Spaniards used every effort to defend the city. The English were several times repelled, but at last the Spaniards surrendered, August 13. The booty obtained by the English was great. About three millions of dollars in specie, and a large quantity of goods, fell into their hands, besides a great quantity of munitions of war, 9 ships of the line, and 4 frigates. In 1763, the conquerors, notwithstanding the high opinion that they had of the importance of Cuba, restored it to Spain, in exchange for the Floridas. Since then, Cuba has been a Spanish island, and has been so well fortified, that it is now not in much danger from

any attack that can be made upon it. The forces of the island consist of 9886 regular troops, and 14,560 militia. The navy contains 2 seventy-fours, 3 frigates of 50 guns, 1 of 40, 1 sloop of war, and 2 brigs of 22 guns each, 1 brig of 20, one of 16, and 6 schooners mounting 13 guns.

CUBATURE OF A SOLID, in geometry; the measuring of the space contained in it, or finding the solid content of it.

CUBE, in geometry; a solid body, consisting of six equal square sides. The solidity of any cube is found by multiplying the superficial area of one of the sides by the height. Cubes are to one another in the triplicate ratio of their diagonals; and a cube is supposed to be generated by the motion of a square plane along a line equal to one of its sides, and at right angles thereto; whence it follows, that the planes of all sections, parallel to the base, are squares equal thereto, and, consequently, to one another.

CUBE, or **CUBIC NUMBER**, in arithmetic; that which is produced by the multiplication of a square number by its root; thus 64 is a cube number, and arises by multiplying 16, the square of 4, by the root, 4.

CUBE, or **CUBIC QUANTITY**, in algebra; the third power in a series of geometrical proportionals continued; as, a is the root, $a a$ the square, and $a a a$ the cube.

CUBE ROOT of any number or quantity is a number or quantity, which, if multiplied into itself, and then again by the product thence arising, gives a product equal to the number or quantity whereof it is the cube root; as, 2 is the cube root of 8, because twice 2 are 4, and twice 4 are 8.

CUBIC FOOT of any substance; so much of it as is contained in a cube whose side is one foot. (See *Cube*.)

CUBIT, in the mensuration of the ancients; a long measure, equal to the length of a man's arm, from the elbow to the tip of the fingers. Doctor Arbuthnot makes the English cubit equal to 18 inches, the Roman cubit equal to 1 foot, 5.406 inches, and the cubit of scripture equal to 1 foot, 9.888 inches.

CUCKINGSTOOL; an ancient instrument of punishment, described, in Doomsday Book, as *cathedra stercoris*. Scolds, cheating bakers or brewers, and other petty offenders, were led to this stool, and immersed over head and ears in *stercore*, or stinking water.

CUCKOO (*cuculus*, Lin.); a genus of birds, characterized by a bill of moderate size, short tarsi, and tail composed of 10 feathers. The bill is compressed, and

slightly arched. The greater number of species belonging to this genus are found on the ancient continent. Only one species is a native of Great Britain, and very few belong to Europe. In America, no true cuckoos are found, for the genus *coccyzus* differs very essentially from them in its habits. The cuckoos are especially distinguished by their habit of laying their eggs in the nests of other, and, generally, much smaller birds. What is still more singular, it has been found, by very careful observations, that the young cuckoo, shortly after being hatched, throws out of the nest all the other young or eggs, and thus engrosses to itself the whole parental care of the bird in whose nest it has been lodged. The manner in which this ejection is effected is thus described by Jenner, in the second part of the Philosophical Transactions for 1788, article 14:—"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 burden by elevating its elbows, clambered backwards 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 extremity 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 or nestling before it began its operations; and the nice sensibility which these parts appeared to possess seemed sufficient to compensate the want of sight, which, as yet, it was destitute of. I afterwards put in an egg, and this, by a similar process, was conveyed to the edge of the nest, and thrown out. These experiments I have since repeated several times in different nests, and have always found the young cuckoo disposed to act in the same manner. In climbing up the nest, it sometimes drops its burden, and thus is foiled in its endeavors; but, after a little respite, the work is resumed, and goes on almost incessantly till it is effected. It is wonderful to see the extraordinary exertion of the young cuckoo, when it is only two or three days old, if a bird be put in 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 twelve days old; when, as far as I have seen, it ceases. Indeed, the disposi-

tion for throwing out the egg appears to cease a few days sooner; for I have frequently seen the young cuckoo, after it has been hatched 9 or 10 days, remove a nestling that had been placed in the nest with it, when it suffered an egg, put there at the same time, to remain unmolested. The singularity of its shape is well adapted to these purposes; for, different from other newly-hatched birds, its back, from the scapulæ downwards, is very broad, with a considerable depression in the middle. This depression seems formed by nature for the purpose of giving a more secure lodgment to the egg of the hedge-sparrow or its young one, when the young cuckoo is employed in removing either of them from the nest. When it is about 12 days old, this cavity is quite filled up, and then the back assumes the shape of nestling birds in general. A young cuckoo, that had been hatched by a hedge-sparrow about four hours, was confined in the nest in such a manner, that it could not possibly turn out the young hedge-sparrows, which were hatched at the same time, though it was almost incessantly making attempts to effect it. The consequence was, the old birds fed the whole alike, and appeared, in every respect, to pay the same attention to the young cuckoo as to their own young, until the 13th day, when the nest was unfortunately plundered. The smallness of the cuckoo's egg, in proportion to the size of the bird, is a circumstance that hitherto, I believe, has escaped the notice of the ornithologist. So great is the disproportion, that it is, in general, smaller than that of the house-sparrow; whereas, the difference in the size of the birds is nearly as five to one. I have used the term *in general*, because eggs produced at different times by the same bird, vary very much in size. I have found a cuckoo's egg so light, that it weighed only 43 grains, and one so heavy, that it weighed 55 grains. The color of the cuckoo's eggs is extremely variable. Some, both in ground and penciling, very much resemble the house-sparrow's; some are indistinctly covered with bran-colored spots; and others are marked with lines of black, resembling, in some measure, the eggs of the yellow-hammer." The cause of this singular habit of the common cuckoo of Europe (*cuculus canorus*) has been long a subject of discussion, without having been very satisfactorily determined. The opinion of the observer above cited appears to be as near the truth as we may hope to arrive. He attributes it to the short stay made by the bird in the coun-

try where it is under the necessity of propagating its species. Were it not to resort to some such expedient, it would be impossible that the species could be continued. The cuckoo first appears in England about the 17th of April. Its egg is not ready for incubation sooner than the middle of May. A fortnight is taken up by the sitting bird in hatching the egg. The bird generally continues three weeks in the nest before it flies. The foster parents feed it for more than five weeks after this period; so that, if the cuckoo took care of its own eggs and young, the newly-hatched bird would not be fit to provide for itself before its parent would be instinctively directed to seek a new residence, and be thus compelled to abandon its young one; for the old cuckoos take their final leave before the first week in July. The young cuckoos forsake the nest as soon as fully fledged, and capable of providing for themselves. Their migrations from Europe are thought to be chiefly directed towards Africa; thence they regularly return with the spring, and, from some dead tree or bare bough, the male pours forth his monotonous song, *cuckoo! cuckoo!*—In America, there is a bird of a very different genus, which resembles the cuckoo in depositing its egg in the nests of other birds, to be fostered by them. Comprehended under the term *Emberiza*.

CUCUMBER. The genus *cucumis*, to which the common cucumber belongs, contains 17 species, several of which are of considerable importance. *Cucumis colocynthis*, producing the medicine called *coloquintida*, is a native of Africa. *Cucumis anguria*, the round, prickly cucumber, is a native of the West Indies, where it is used, with other vegetables, in soups. *Cucumis melo*, the common melon, is supposed to be a native of Persia: it was cultivated in Europe in the 16th century. *Cucumis sativus*, the common cucumber, is a native of the East Indies. The varieties of this, as well as of the melon, are easily produced. Those with the smoothest rind and fewest seeds are most esteemed. *Cucumis anguinus*, the snake cucumber, bears fruit sometimes from three to four feet long. It is only raised as a curiosity, the flavor being bitter. Several other species produce fruits that are eaten by the inhabitants of the countries of which they are natives. The cucumber was one of the luxuries of which Tiberius was particularly fond; and, by the dexterous management of his beds, he procured one every day, at all seasons of the year.—The common cucumber (*cu-*

cumis sativus) is an oblong, rough and cooling fruit, supposed to have been originally imported into Europe from some part of the Levant. It belongs to the 22d class of Linnæus, and is a trailing and climbing plant. The fruit is generally eaten cut in slices, with vinegar, pepper, &c. Some people think it unwholesome. Sometimes cucumbers are eaten stewed. When young, they are pickled (in England under the name of *gerkins*, which is connected with the German *gurken*), with vinegar and spices, or preserved in sirup as a sweetmeat. It is better to lay the fruit on slate or tiles than upon the bare ground. Cucumbers are raised in England in very great quantity. The village of Sandy, in Bedfordshire, has been known to furnish 10,000 bushels of pickling cucumbers in one week. In March, cucumbers have been known to fetch, in the London market, a guinea a dozen; in August and September, one penny a dozen.

CUCUTA (*Rosario de Cucutà*), a town in Colombia, 40 miles north of Pamplona, known by the congress which assembled here May 1st, 1821, and finished its sittings in October of the same year. It was this body which framed the constitution of Colombia; and it is considered as the first Colombian congress, being the first convened under the fundamental law for uniting Venezuela and New Grenada into a single republic.

CUDWORTH, Ralph, a learned English divine and philosopher, was born at Aller, in Somersetshire, of which parish his father was rector, in 1617. He was admitted a pensioner of Emanuel college, Cambridge, at the age of 13. His diligence as an academical student was very great; and, in 1639, he took the degree of M. A., and was elected fellow of his college. He became so eminent as a tutor, that the number of his pupils exceeded all precedent, and in due time he was presented, by his college, to the rectory of North Cadbury, in Somersetshire. In the year 1642, he published a Discourse concerning the true Nature of the Lord's Supper, and The Union of Christ and the Church shadowed, or in a Shadow. The first of these productions, which maintained that the Lord's supper is a feast upon a sacrifice, produced considerable controversy long after the author's death. In 1644, he took the degree of B. D., and was chosen master of Clare-hall, and, in the following year, was made regius professor of Hebrew. In 1651, he was made D. D., and in 1654, chosen master of Christ's college, Cambridge; where, having taken a wife,

he spent the remainder of his days. In 1678, he published his grand work, entitled *The true Intellectual System of the Universe*; the First Part, wherein all the Reason and Philosophy of Atheism is confuted, and its Impossibility demonstrated (folio). This work, which is an immense storehouse of ancient learning, was intended, in the first instance, to be an essay against the doctrine of necessity only; but perceiving that this doctrine was maintained by several persons upon different principles, he distributed their opinions under three different heads, which he intended to treat of in three books; but his Intellectual System relates only to the first, viz. "The material Necessity of all Things without a God, or absolute Atheism." It is a work of great power and erudition, although the attachment of the author to the Platonism of the Alexandrian school has led him to advance some opinions which border on incomprehensibility and mysticism. The moral as well as intellectual character of this eminent scholar stood very high; and he died universally respected, in 1688, in the 71st year of his age.

CUENZA (anciently *Canca*); a city of Spain, in New Castile, capital of a province; 28 leagues E. S. E. Madrid; lon. 2° 16' W.; lat. 40° 10' N.; population, 6000. It is a bishop's see. It contains a cathedral, 13 parishes, 6 monasteries, an hospital, a seminary, and 3 colleges. It was built by the Moors, on a high and craggy hill, between the rivers Xucar and Huescar, which makes it naturally strong. Here the painter Salmeron, and the famous Jesuit Molina, were born. The north and east part of the province is mountainous, and fit only for sheep pasture; the other parts are fertile, producing corn, hemp, fruit, &c. Population of the province, 296,650; square miles, 11,884.

CUENZA, or BAMBA; a town of Colombia, in Quito, capital of a province; 150 miles S. Quito; lon. 79° 13' W.; lat. 2° 55' S.; population, 15 or 20,000. The streets are straight and broad, and the houses mostly of *adobes*, or unburnt bricks. The environs are very fertile and pleasant. The town contains 3 churches, 4 convents, 2 nunneries, an hospital, a chamber of finance, &c.

CUENZA, Sierra de; a chain of mountains which runs through the province of the same name. (See *Cuenza*.)

CUEVA, John de la; a poet, born in Seville, about the middle of the 16th century. A great facility in the composition of verses, in which Ovid was his model,

determined him to apply himself to the dramatic art, in which Torres Naharro had successfully resisted the attempts of some learned theatrical amateurs to force the Greek and Latin drama upon the people. In connexion with Naharro, Lope de Rueda, and Christopher de Castillejo, he confirmed the old division into *comedias divinas y humanas*, while he made his pieces more interesting than those of his predecessors, by introducing greater variety in the *dramatis personæ*, by more finished verses, and by the division into three *jornadas*, or acts. His works, which are now rare in Spain, may be found in the *Parnaso Español* (vol. 8. 16). The earliest of his compositions are *Poesias Lyricas* (Seville, 1582), of the same character with the *Coro febeo de Romances historiales* (Seville, 1588). His heroic poem, *La Conquista de la Betica*, in 20 cantos (Seville, 1602, also in Fernandez's collection, vols. 14—15), has beauties enough in the execution to make amends for the defects of the plan. The *Comedias y Tragedias*, published at Seville, in 1588, were received with applause, in their time, in this poetical city, but offended, even then, by the introduction of allegorical personages in the action. In the *Parnaso Español* there is a work of Cueva's, written in terzets, on the art of poetry, which contains many interesting facts with regard to the old Spanish drama. Cueva died at the commencement of the 17th century.

CUFIC WRITING AND CUFIC COINS. The written characters of which the Arabians now make use, and with which we meet in printed works, viz., the Neskhi characters, are an invention of the 4th century of the Hegira. Before this time, the *Cufic characters*, so called from the town of Cufa, where they are said to have been invented, were in use. These old characters have so much resemblance to the ancient Syriac writing, the Estrangel, that it hardly admits of a doubt, that the Arabians borrowed them from the inhabitants of Syria. Historical traditions confirm this supposition. The Cufic characters, and, perhaps, others at an earlier date, which essentially resembled them, were probably first introduced among the Arabians a short time before Mohammed. Although we are, at present, ignorant of the characters which were previously in use among them, and although the imperfect accounts of the Mussulman writers throw very little light upon the subject, yet it is scarcely credible that the Arabians remained destitute of a written character

until the 6th century of the Christian era. Perhaps traces of the earlier character are to be found in the Palmyrene and Phœnician inscriptions, and also on the coins of the Sassanides. We find the transition of the Cufic to the Neskhi on the ruins of Chilminar. The influence which the school of Cufa exerted on Islamism caused the use of the character which proceeded from it; and when the others had fallen into oblivion, *Cufic writing* was the name commonly applied to all kinds of Arabic writing, previous to the change made by Ebn Mokla. A knowledge of it is important on account of the many monuments in which it is preserved; especially the coins inscribed with Cufic characters and made in the first centuries of the Hegira. Under the name of *Cufic coins* are comprehended the ancient coins of the Mohammedan princes, generally without emblems, inscribed and circumscribed on both sides, which have been found, in modern times, to be important documents for illustrating the history, languages and religions of the East. The little art displayed in the impression of these coins, is the reason why the earlier travellers through the East too often overlooked them. These coins are some of gold (*dinar*), others of silver (*dirhem*), and others of brass (*fuls*). The silver coins, however, are the most frequent, and the discovery of large treasures of them on the shores of the Baltic has particularly attracted to them the attention of learned men. Their form was borrowed by the Arabian caliphs from that of the Byzantine and Chosroean silver and copper coins. They are to be considered as the earliest of this class of coins, now daily increasing. Agreeably to Adler's suggestion, who first accurately investigated these coins (*Museum Cuficum Borgianum*), they are divided, according to the dynasties under which they were made, into 12 classes, in which, without any reference to the country to which they belong, every thing which ought to be connected with them is combined. In the countries around the Baltic, as well as in the central provinces of European Russia, the silver coins most frequently found are those of the caliphs, the Omniades as well as the Abbassides; then those of the emirs of the Soffarides, the Buwaihides, &c., but especially of the dynasty of the Samanides, which were struck between the middle of the 7th century of the Christian era, and the beginning of the 11th. Those of the 10th century are the most common. This fact has not been satisfactorily explained.

Amber, girls for the haram, as well as costly furs, which the Russians at that time brought for sale to the Wolga, according to Fossilan's account of a journey at the beginning of the 10th century of the Christian era, appear to have been most frequently exchanged for them. Gold, in this commerce, was used only in bars; and, in order to make payments, in their transactions, with greater facility, or in order to have a medium of exchange for things of little value, the coins were broken, of which we have abundant evidence. By accurate investigations in the countries where this money is found, the diligence and learning of the Orientalists Adler, Reiske, Ol. Tychsen, Silv. de Sacy, Hallenberg, Malmström, Rasmussen, Frähn, Castiglioni (who has published a valuable work upon the Cufic coins of the imperial museum at Milan), Münter and Th. Tychsen, have succeeded in arranging a tolerably perfect series of the several dynasties. Th. Tychsen's treatise *De Defectibus Rei Numariæ Muhammedanor.* (in the 5th volume of the *Comment. Soc. Gott. recentior.*), will enable the student to understand the deficiencies of this science. Frähn, of Petersburg, now counsellor of state (author of a commentary upon the cabinet of the Mohammedan coins in the Asiatic museum at Petersburg), has been reputed to be the most thorough judge of this department, having had at his disposal the collections of the imperial academy, as well as those of private individuals, much exceeding in richness any to be found elsewhere. In connexion with these coins are to be considered the small pieces of glass, which were introduced, particularly in Sicily, under the dominion of the Mohammedans, instead of money, or, perhaps, under the sanction of public authority, obtained currency as standards of the weight of coins. Among Cufic coins, those are particularly sought for which bear images, because the forms represented upon them appear to be opposed to the precepts of the Koran. But their commerce with the Greeks may, at first, have made the engravers of the Mohammedan coins less strict; and, in the course of time, they ventured to give them figures agreeable to the peculiarities of the Oriental taste; in doing which, they were aided by the armorial bearings (*tamghas*) of the princes of the Turkish family. Finally, they marked them with zodiacal and planetary figures, to which they attributed the power of amulets. (This reminds us of the renowned Nurmaharupees.) The original use of these coins is

made still more manifest from inscriptions in many languages; even Russian-Arabic coins are found in rich cabinets. Every day adds to our information in this department. Ol. Tychsen's *Introductio in Rem Numar. Muhammedanor.* (Rost., 1794), has, therefore, ceased to be complete. The abbé Reinaud, in the *Journal Asiatique* (1823), has communicated many excellent observations concerning the study of Arabic coins. A work by him, concerning this branch of numismatics, with a historical explanation of the coins in the cabinet of the duke of Blacas, and in the royal French collections, has also appeared.

CUIRASS; an article of defensive armor, protecting the body both before and behind. Meyrick, in his dissertation on ancient armor, has thus distinguished the cuirasses of different nations:—1. Leathern, with a belt of the same material, worn by the Medes and Persians, before the reign of Cyrus the Great. 2. Plumated or scaled *loricæ* of steel, of which the forepart covered the breast, the front of the thighs, and foreparts of the hands and legs; the posterior part, the back, neck, and whole of the head; both parts being united by *fibulæ* on the sides: these belonged to the Parthian cavalry. 3. Scales made of horses' hoofs, sewed together with the sinews of oxen, were worn by the Sarmatians. 4. The *μτρη*, padded with wool, covered with flat rings or square pieces of brass, fastened at the sides, and cut round at the loins; the *θωραξ*, or gorget; the *ζωστήρ*, or girdle, to which was appended the *ζωμα*, a kind of petticoat,—belonged to the Homeric chiefs. 5. The Etruscans wore plain, scaled, laminated, ringed or quilted cuishes, with straps depending from them, either of leather solely, or plated with metal; and these straps, as well as the cuirasses, were adopted by the Romans, who termed them *loricæ*. On the Trajan column, the *loricæ* of the *hastati* and *principes* (the two first ranks) consist of several metal bands wrapped half round the body, and fastened before and behind, over a leathern or quilted tunic. Sometimes the Roman cuirass was enriched with embossed figures. The *loricæ* of the *triarii* (the third rank) were of leather only. Domitian, according to Martial, adopted the Sarmatian cuirass, which he made of the hoofs of boars. The Roman cavalry of the early period did not wear *loricæ*; but even before the *cataphractes* of Constantine (who wore flexible armor of scales and plates and rings, held together by hooks and chains, the *lorica hamata* of Virgil—*Loricam con-*

sertam hamis auroque trilecem, Æn. iii. 467), we read of horsemen who were *loricati*. Among the moderns, the Anglo-Saxons wore leathern cuirasses (*coriæ*), which, towards the end of the 9th century, were formed of hides fitted close to the body, and jagged or cut into the shape of leaves below. The leathern cuirass, covered with rings, was appropriated to the blood royal, or chiefs of high rank: it was borrowed from the Gauls, and called *mael*, whence our coat of *mail*. The cuirass appears to have been disused in England in the time of Charles II, when bullet-proof silk was introduced. The lance having, of late years, again become an offensive weapon, the cuirass has been revived among the European cavalry. The finest part of Napoleon's cavalry were cuirassiers; and the weight of these heavily-armed soldiers gave great momentum to their charge. The cuirass leaves many vulnerable parts exposed, but, as it protects almost all the trunk, it materially diminishes the chance of wounds, and gives confidence to the soldier.

CUJAS, Jacques, or CUJACIUS; son of Cujaus, a tanner in Toulouse; born in 1520. While yet a student of law under Arnould Ferrier, he attracted attention by his industry and talents. After having delivered private lectures at Toulouse, he received an invitation to be professor of law at Cahors in 1554; but he had been there only a year, when Margaret de Valois invited him, through her chancellor l'Hopital, to Bourges, where he lectured till 1567. He then went to Valence, and gave great reputation to the university of that place by his instructions. On account of the civil commotions in France, he returned to Bourges in 1575, and remained there, after a short stay at Paris, as teacher of the law, notwithstanding the most advantageous invitations to Bologna. Cujas owed his great reputation to his profound study of the original works on the Roman law, of which he had collected more than 500 manuscripts. The corrections which he made in ancient works on the law (to say nothing of a great many Greek and Latin works on other subjects) were remarkable for number and acuteness. In fact, he may be considered as the founder of scientific jurisprudence. He made himself popular, also, by the interest which he took in the personal fortunes of his disciples, by his prudence in regard to the theological quarrels of his time (*Nihil hoc ad edictum prætoris* was his maxim), and his faithful adherence to the cause of Henry IV. His grief for the

afflictions of his country is said to have accelerated his death (Oct. 4, 1590). He was in the habit of studying and writing lying on the ground. The booksellers at Lyons purchased his manuscripts for waste paper. The edition of his works, which he published himself in 1577, is correct, but incomplete; that by Fabrot (Paris, 1658, 10 vols. folio) is complete. The *Promptuarium Operum Jac. Cujacii, auctore Dom. Albinensi* (Naples, 1763, 2 vols. folio), is of great assistance in the study of this collection. His children by two marriages acquired a sort of celebrity by their immorality. (See *Cujas and his Contemporaries*, by E. Spangenberg.)

CULDEES; a religious order, which, at one period, had considerable establishments in almost every part of Great Britain and Ireland. The name is of uncertain etymology; some derive it from the Latin *cultor Dei* (a worshipper of God), while others think they discover its origin in the Gaelic *kyldee* (from *cylle*, a cell, and *dee*, a house), a building composed of cells. The history of the Culdees has acquired a factitious importance in the quarrels of the Episcopalians and Presbyterians; the latter asserting that they were of very great antiquity, and were Presbyterians in their ecclesiastical policy; the former maintaining that neither of these positions is correct, that there is no mention of them in the early British writers, but that they are first spoken of subsequent to the year 854, and that they then appear in the attitude of maintaining their right to confirm the election of the bishops of the several sees where they had establishments. Their origin is, by some, attributed to St. Columba, in the middle of the 6th century. After having exercised a great influence throughout the country, they are said to have been overthrown by the increase of the papal power, and the institution of monasteries more congenial to the aspiring views of the see of Rome.

CULLEN (William), a celebrated physician and medical writer, was born in the county of Lanark, in Scotland, in 1712. He was apprenticed to a surgeon and apothecary at Glasgow, after which he made some voyages to the West Indies as surgeon to a merchant vessel. He subsequently settled as a medical practitioner at Hamilton, where he formed a partnership with William Hunter, who afterwards became so distinguished. The object of their connexion was not so much present emolument as professional improvement. Each, therefore, in turn, was allowed to

attend metropolitan lectures, whilst the other prosecuted the business for their joint benefit. In 1740, Cullen took the degree of M. D., and, settling at Glasgow, he was, in 1746, appointed lecturer on chemistry at the university there. In 1751, he was chosen regius professor of medicine. In 1756, he was invited to take the chemical professorship in the university of Edinburgh. In 1760, he was made lecturer on the *materia medica* there, and subsequently resigned the chemical chair to his pupil, doctor Black. From 1766 to 1773, he gave, alternately with doctor Gregory, annual courses of lectures on the theory and practice of physic—an arrangement which continued till the death of doctor Gregory, in 1773, left his rival in complete possession of the medical chair. As a lecturer on medicine, doctor Cullen exercised a great influence over the state of opinion relative to the mystery of that science. He successfully combated the specious doctrines of Boerhaave, depending on the humoral pathology; though he has not been equally successful in establishing his own system, which is founded on an enlarged view of the principles of Frederic Hoffmann. His death took place Feb. 5, 1790. His principal works are *Lectures on the Materia Medica*; *Synopsis Nosologia Practica*; and *First Lines of the Practice of Physic*, which must be considered as his *magnum opus*, and which, amidst all the recent fluctuations of opinion on medical theory, has retained its value.

CULLODEN MUIR; a heath in Scotland, 4 miles east of Inverness. It is celebrated for a victory obtained in the year 1746, by the duke of Cumberland, over the partisans of the house of Stuart. The battle of Culloden was the last battle fought on British soil, and the termination of the attempts of the Stuart family to recover the throne of England. (See *Edward, Charles, Great Britain, and James III.*) The son of James III, Charles Edward, in his daring expedition in 1745, had contended, with various success, against the English, and, indeed, was at one time only about 100 miles from London, where terror and consternation prevailed. But, by a combination of unfavorable circumstances, he was compelled to retreat to Scotland, where fortune again seemed to smile on him at the battle of Falkirk. But the duke of Cumberland, marching against him, baffled the whole enterprise by the decisive victory of Culloden, April 27 (16th, O. S.), 1746. Edward's army was deficient in subordination. Though his

troops were faint with fatigue and hunger when the battle began, they fought with spirit. The impetuous bravery of the Highlanders, however, at length yielded to the well-served artillery of the English. The victors massacred the wounded Scots on the field of battle. Charles Edward was exposed, in his flight, to a thousand dangers, but at length escaped. His followers suffered the vengeance of the victors. The most distinguished of them died on the scaffold, and the districts which had been the theatre of the rebellion were laid waste. The English government henceforward took measures to prevent the recurrence of similar attempts. Finding that the attachment of the Highlanders to the old royal line arose principally from the peculiarity of their customs and mode of life, they resolved to abolish their institutions. Since that period, the primitive Scottish manners and usages have been continually dwindling away and disappearing.

CULM; a village in Bohemia, 3 leagues east of the well-known watering-place of Teplitz, and near the frontier of Saxony; famous on account of the battle of Aug. 30, 1813, in which the French, under Vandamme, were beaten by the Prussians and Russians. Vandamme was taken prisoner, with 3 generals and 10,000 men. The battle was one of the bloodiest in the whole war. The allies had, a few days previous (Aug. 26), been repulsed by Napoleon in their attack on Dresden. On the 29th, a bloody battle took place between Vandamme and the allies, who defended the frontiers of Bohemia, to cover the retreat of the Russians. The night put an end to the battle. On the 30th, it was renewed with fury, and ended with the victory of Culm. This victory was decisive; for the allies were enabled to save Bohemia, on which Napoleon was pressing with all his might. A few days before (Aug. 26), on the same day with the battle at Dresden, the French had been beaten by Blücher on the Katzbach; and from this time, the series of disasters is to be dated, which ended with the dethronement of the French emperor.

CULMINATION, in astronomy; the passing of a star through the meridian, because it has at that moment reached the highest point (*culmen*) of its path, with reference to the observer. Hence *culmination* is used, metaphorically, for the condition of any person or thing arrived at the most brilliant or important point of its progress.

CUMA, or **CYME**; the largest and most important city of Æolis (Asia Minor), and,

at the same time, one of the most ancient places on the *Ægean* sea. From this place the Cumæan Sibyl took her name. Hesiod was born here. According to Strabo, the inhabitants of Cuma were considered as somewhat deficient in talent.

CUMÆ, a very ancient city in Campania, and the oldest colony of the Greeks in Italy, was founded about 1030 B. C. by Chalcis of Eubœa, and peopled by Asiatic Cumæans and by Phocians. The common belief of the inhabitants made it the residence of the Cumæan sibyl, though her home was really in Asia. (See the preceding article.) The Grotto of Truth was situated in the wood sacred to the goddess Trivia, and in its neighborhood was the Acherusian lake. In this region Cicero had a country-seat. Cumæ had a considerable territory, and a naval force in her port, Puteoli. She founded Naples (Neapolis), and, in Sicily, Zancle or Messina. In 420 B. C., Cumæ was taken by the Campanians, and came with them under the power of Rome (345 B. C.). It was destroyed A. D. 1207.

CUMANA; a province of Colombia, bounded N. and E. by the Caribbean sea, S. by the Orinoco. In the western part, towards the coast, the soil is tolerably fertile. The eastern part is dry and sandy, affording nothing but an inexhaustible mine of marine and mineral salt. On the Orinoco, the country is fit only for pasturage: other parts are exceedingly fertile. In the interior is a range of mountains, of which Tumeriquisi, the most elevated, is 5900 feet high.

CUMANA, or NEW CORDOVA; a town of Colombia, and capital of a province of the same name; lon. 64° 10' W.; lat 10° 28' N.: population, estimated by Humboldt at 18 or 19,000; by Depons, at 24,000. It is situated near the mouth of the gulf of Cariaco, about a mile from the sea, on an arid, sandy plain. The climate is hot, earthquakes are frequent, and the houses low, and lightly built. On the 14th Dec., 1797, more than three fourths of them were destroyed by an earthquake. The inhabitants carry on a considerable trade in cacao, and other productions of the country. The road is commodious for its depth, and of a semicircular form, which defends it from the violence of the winds.

CUMBERLAND, duke of; second son of George II of England; born in 1721, and died Oct. 30, 1765. At the battle of Dettingen, he was wounded, when fighting at the side of his father. At Fontenoy, he was compelled to yield to the superior experience of marshal Saxe; but rose in

reputation by subduing the insurrection in Scotland, caused by the landing of Charles Edward Stuart (see *Culloden* and *Edward*), 1745; which, however, was more in consequence of the discord and irresolution prevailing in the camp of his brave antagonists, than from any distinguished talent exhibited by him. Charles Edward, when only two days' march from London, commenced his retreat into Scotland from Carlisle (January, 1746), and was completely defeated (April, 1746) at Culloden. (q. v.) The duke obscured his fame by the cruel abuse which he made, or suffered his soldiers to make, of the victory; which was the more dishonorable, as the followers of the pretender, on their march through the Scotch Lowlands and in England, had evinced the greatest humanity and forbearance. In 1747, Cumberland was defeated by marshal Saxe, at Lafeld. In 1757, he lost the battle of Hastenbeck, against D'Estrées, and, Sept. 8, concluded the convention at Closter-Seven, upon which he was recalled, and Ferdinand, duke of Brunswick, received the command of the allied army.

CUMBERLAND (Ernest Augustus), duke of, brother to George IV, king of England, fourth son of George III, was born June 5, 1771. The duke has almost always lived abroad, and is little known in England, except for his unsuccessful attempt to obtain an addition to his stipend, after he had married Frederica Sophia Carolina, daughter of the duke of Mecklenburg-Strelitz, and widow of the prince of Solms. He generally resides at Berlin, where he leads a dissipated life. His son, George Frederic Alexander Charles Ernest Augustus, was born May 27, 1819. When the duke was in England, in 1815, his wife was not admitted at court.

CUMBERLAND, Richard, a dramatic and miscellaneous writer, son of the reverend Denison Cumberland, bishop of Clonfert, by the daughter of doctor Bentley, was born in the master's lodge, in Trinity college, Cambridge, Feb. 19, 1732. He received his early education at Westminster, and, in his 14th year, was admitted of Trinity college, where he studied very closely, and obtained his bachelor's degree at the age of 18, and soon after was elected fellow. He became private secretary to lord Halifax, and made his first offering to the press in a small poem, entitled an *Elegy* written on St. Mark's Eve, which obtained but little notice. His tragedy entitled the *Banishment of Cicero* was rejected by Garrick, and printed by the author in 1761. In 1769, he was married,

and, his patron being made lord-lieutenant of Ireland, he accompanied him to that kingdom. When lord Halifax became secretary of state, he procured nothing better for Cumberland than the clerkship of reports in the office of trade and plantations. In the course of the next two or three years, he wrote an opera, entitled the *Summer's Tale*, and his comedy of the *Brothers*. His *West Indian*, which was brought out by Garrick in 1771, proved eminently successful. The *Fashionable Lover* not obtaining the success of the *West Indian*, he exhibited that soreness of character which exposed him to the satire of Sheridan, in his sketch of *Sir Fretful Plagiary*, and which induced Garrick to call him the *man without a skin*. The *Choleric Man*, the *Note of Hand*, and the *Battle of Hastings*, were his next productions. On the accession of lord George Germaine to office, he was made secretary to the board of trade. In 1780, he was employed on a confidential mission to the courts of Lisbon and Madrid, which, owing to some dissatisfaction on the part of the ministry, involved him in great distress, as they withheld the reimbursement of his expenses to the amount of £5000, which rendered it necessary for him to dispose of the whole of his hereditary property. To add to his misfortune, the board of trade was broken up, and he retired with a very inadequate pension, and devoted himself entirely to literature. The first works which he published, after his return from Spain, were his entertaining *Anecdotes of Spanish Painters*, and the most distinguished of his collection of essays, entitled the *Observer*. To these may be added the novels of *Arundel*, *Henry*, and *John de Lancaster*, the poem of *Calvary*, the *Exodiad* (in conjunction with sir James Bland Burgess), and, lastly, a poem called *Retrospection*, and the *Memoirs of his own Life*. He also edited the *London Review*, in which the critics gave their names, and which soon expired. His latter days were chiefly spent in London, where he died, May 7, 1811. The comic drama was his forte; and, although he wrote much, even of comedy, that was very indifferent, the merit of the *West Indian*, the *Fashionable Lover*, the *Jew*, and the *Wheel of Fortune*, is of no common description. His *Observer*, since his acknowledgment of his obligations to doctor Bentley's manuscripts, no longer supports his reputation as a Greek critic; and as a poet, he was never more than a versifier.

CUMBERLAND; a post-town, and capital

of Alleghany county, Maryland, on the Potomac, at the junction of Will's creek, 70 miles W. Hagerstown, 130 E. S. E. Wheeling, 150 W. by N. Baltimore. It is a considerable town, and contains a courthouse, a jail, a market-house, a bank, and four houses of public worship—one for Lutherans, one for Roman Catholics, one for Methodists, and one built jointly by the Presbyterians and Episcopalians. The mountains in the vicinity abound in stone-coal, great quantities of which are transported down the Potomac in flat and keel boats. The Cumberland or Great Western road extends from this town to the banks of the Ohio at Wheeling. It was made by the government of the U. States, at the expense of \$1,800,000; and a survey has been made from thence to the Mississippi, 600 miles farther.

CUMBERLAND MOUNTAINS, in Tennessee. The range commences in the S. W. part of Pennsylvania, and, in Virginia, it takes the name of *Laurel mountain*, passes through the S. E. part of Kentucky, and terminates in Tennessee, 80 miles S. E. Nashville. A considerable portion of this mountain in Tennessee is composed of stupendous piles of craggy rocks. It is thinly covered with trees, and has springs impregnated with alum. Lime-stone is found on both sides of it.

CUMBERLAND; a river which rises in the Cumberland mountains, Virginia, and runs through Kentucky and Tennessee into the Ohio, 60 miles from the Mississippi. It is navigable for steam-boats to Nashville, near 200 miles, and for boats of 15 tons, 300 miles farther. At certain seasons, vessels of 400 tons may descend 400 miles, to the Ohio.

CUMMAZEE, or COOMASSIE; a town of Africa, capital of Ashantee; 120 miles N. N. W. Cape Coast Castle; lon. 2° 6' W.; lat. 6° 30' N.: population estimated by Mr. Bowdich, in 1818, at 15,000; stated by the inhabitants at 100,000. It is situated in a vale, surrounded by an unbroken mass of the deepest verdure. Four of the principal streets are half a mile long, and from 50 to 100 yards broad. The houses are low and small, of a square or oblong form, composed of canes wattled together, and plastered with clay and sand. The town has considerable trade. The king's harem is said to contain 3333 women!

CUNDINAMARCA; the northern part of New Grenada. It forms a department of the republic of Colombia, and comprehends the provinces of Bogotá, Antioquia, Mariquita and Neiva, with 371,000 inhabitants. The chief place is Santa Fe de Bogotá.

CUNERSDORF; a village near Frankfort on the Oder, known on account of the bloody battle in which Frederic the Great was defeated, Aug. 12, 1759. It is only about 50 miles distant from Berlin, his capital. Opposed to him were the Russians under Soltikoff, and the Austrians under Laudon. Victory seemed, at first, likely to declare in favor of Frederic, but, eventually, he lost all his artillery and 20,000 men. (See *Seven Years' War*.) The king at first gave up all hope, but soon recovered his spirits, when Soltikoff, with inconceivable tardiness, neglected to follow up his victory.

CUPEL; a shallow earthen vessel, somewhat resembling a cup, from which it derives its name. It is formed of bone-ashes, and is extremely porous. It is used in assays, to separate the precious metals from their alloys. The process of *cupellation* consists in fusing an alloy of a precious metal, along with a quantity of lead, in a cupel. The lead is extremely susceptible of oxidation, and, at the same time, it promotes the oxidation of other metals, and vitrifies with their oxides. The foreign metals are thus removed; the vitrified matter is absorbed by the cupel, or is driven off by the blast of the bellows, as it collects on the surface; and the precious metal at length remains nearly pure.

CUPELLATION. (See *Cupel*.)

CUPICA; a seaport and bay of Colombia, on the S. E. side of Panama, following the coast of the Pacific ocean, from cape St. Miguel to cape Corrientes. This is thought by Humboldt the most favorable point for connecting the Atlantic and Pacific oceans by a canal. From the bay of Cupica, there is a passage of only 15 or 18 miles, over a country quite level, and suited to a canal, to the head of navigation of the river Naipi, a branch of the river Atrato, which flows into the Atlantic. Gogueneche, a Biscayan pilot, is said to have first pointed out this spot as almost the only place where the chain of the Andes is completely interrupted, and a canal thus made practicable.

CUPID; a celebrated deity among the ancients; the god of love, and love itself. There are different traditions concerning his parents. Cicero mentions three Cupids; one, son of Mercury and Diana; another, son of Mercury and Venus; and the third, son of Mars and Venus. Plato mentions two. Hesiod, the most ancient theogonist, speaks only of one, who, as he says, was produced at the same time as Chaos and the Earth. There are, accord-

ing to the more received opinions, two Cupids, one of whom is a lively, ingenious youth, son of Jupiter and Venus, whilst the other, son of Nox and Erebus, is distinguished by his debauchery and riotous disposition. Cupid is represented as a winged infant, naked, armed with a bow, and a quiver full of arrows. On gems and all other antiques, he is represented as amusing himself with some childish diversion. Sometimes he appears driving a hoop, throwing a quoit, playing with a nymph, catching a butterfly, or with a lighted torch in his hand. At other times, he plays upon a horn before his mother, or closely embraces a swan, or, with one foot raised in the air, he, in a musing posture, seems to meditate some trick. Sometimes, like a conqueror, he marches triumphantly, with a helmet on his head, a spear on his shoulder, and a buckler on his arm, intimating that even Mars himself owns the superiority of love. His power was generally shown by his riding on the back of a lion, or on a dolphin, or breaking to pieces the thunder-bolts of Jupiter. Among the ancients, he was worshipped with the same solemnity as his mother, Venus, and his influence was extended over the heavens, the sea, and the earth, and even the empire of the dead. His divinity was universally acknowledged, and vows, prayers and sacrifices were daily offered to him. According to some accounts, the union of Cupid with Chaos gave birth to men, and all the animals which inhabit the earth; and even the gods themselves were the offspring of love, before the foundation of the world. (See *Amor*.)

CUPOLA (*Ital.*), in architecture; a hemispherical roof, often used as the summit of a building. The Italian word *cupola* signifies a hemispherical roof, which covers a circular building, like the Pantheon at Rome, and the round temple at Tivoli. Many of the ancient Roman temples were circular; and the most natural form for a roof for such a building was that of a half globe, or a cup reversed. The invention, or at least the first use, of the cupola belongs to the Romans; and it has never been used with greater effect than by them. The greater part of modern cupolas (unlike those of the ancients, which are mostly hemispherical) are semi-elliptical, cut through their shortest diameter. The ancients seldom had any other opening than a large circle in the centre, called the *eye* of the cupola; while the moderns elevate lanterns on their top, and perforate them with luthern and dormant win-

dows, and other disfigurements. The ancients constructed their cupolas of stone; the moderns, of timber, covered with lead or copper. Of cupolas, the finest, without any comparison, ancient or modern, is that of the Rotundo or Pantheon at Rome. Of modern constructions, some of the handsomest are the cupola on the bank of England, that of St. Peter's at Rome, those of St. Paul's, London, the Hotel des Invalides, and the church of St. Genevieve at Paris, Santa Maria da Fiori at Florence, and St. Sophia at Constantinople.

CURAÇAO; an island in the Caribbean sea, about 75 miles from the continent of South America, belonging to the Netherlands; 30 miles long, and 10 broad; producing sugar and tobacco, also large and small cattle; but not generally fertile. It has several good ports, particularly one on the southern coast, called *St. Barbara*, where a great trade was formerly carried on by the Dutch in African slaves. Lon. $69^{\circ} 26' W.$; lat. $12^{\circ} N.$; population, 8500. The principal towns are Curaçao and Williamstadt. The city of Curaçao is well situated, and elegantly built. It is full of storehouses, and provided with every species of merchandise. Williamstadt is considered the capital.

CURASSOA ORANGES (*aurantia curassaventia*), or small oranges fallen from the tree long before their maturity, have properties similar to those of the orange-peel: they are, however, more bitter and acrid. They are used in the U. States and in England for the same purposes as the orange-peel, and also as issue peas.

CURDS; a wandering people, divided into many tribes, and dwelling in the country which lies between the foot of mount Caucasus and the Black sea, and stretches to the sources of the Tigris and Euphrates. Their incursions into the Russian territories have been checked by the troops on the frontier, and they have preferred to leave Persia rather than to become settled and tributary to the shah. They are Mohammedans, but neither of the Turkish nor Persian sect. The most unprincipled part of the Curds are the Yezides, who esteem the plunder of caravans, murder, theft and incest lawful. There are no Armenian Christians among this people, who, in spite of the repeated demands of the pacha, have never paid to the Porte either poll-tax or taxes on their property (*miri*). They, however, sometimes propose to the Porte the persons whom they wish as pachas and beys, and the Porte has never failed to comply with their request. It is said that the Curds

are descended from the Usbeck Tartars or from the Mongols; but their external appearance is very unlike that of the Tartars. The Curds wear a cloak of black goatskin, and, instead of a turban, a high, red cap. The Turkish dress is never worn, because they consider that it would mark them as vassals of the sultan. The young men wear mustachios; the old men suffer their beards to grow. The Curd is a good rider, and uses his lance with skill. He is fond of music, and sings in ballads the exploits of his nation. There are some of this people settled in the plains of Armenia, but no branch acknowledges itself tributary to the Porte. If the winter among the highlands proves too cold for the wild mountain Curd, he descends to these plains, and lives in low tents of dark, coarse linen. An enclosure made of reeds, near his tent, surrounds the place where he keeps his cattle, which he has brought from the mountains. This people, who live by plunder, respect the rights of hospitality, and usually make their guest some present when he departs. The patriarchal authority of parents is very great. A son never marries without their consent. Although otherwise so deficient in moral principle, they believe that no one can refuse the request of an unfortunate man without being punished by God. Mithridates, king of Pontus, took advantage of this belief to supply the losses of his army in his wars with the Romans. The more wonderful the escapes of the unfortunate individual, the more confident are they that he will experience a change of fortune. On this account, these mountains are the refuge of the enemies of the Turkish pachas; and they often return from them more formidable than they were before. Pottage, milk and honey form the principal food of the Curds. They drive annually to Constantinople alone 1,500,000 sheep, and goats in flocks of 1500—2000, the shepherds being from 15 to 18 months on the road, in going and returning. Northern Kurdistan produces grain, sulphur and alum: the southern and warmer parts of the country produce corn, rice, sesamum, fruits, cotton, tobacco, honey, wax, manna and gall-nuts, exported by the way of Smyrna. Kurdistan has sanghiacks at Bayazid, Mouch, Van, Julamerk, Amadia, Suleihmanieh, Kara-Djioian and Zahou. Of all these sanghiacks, the Porte appoints only that of Van. Each sanghiack governs a number of the tribes of his nation, who obey his commands in war, but are wholly independent of him in time of peace. The Chris-

tians, who constitute the principal population of the plains of Armenia, suffer every year from the incursions of the Curds, and, the Porte being unable to protect them, they are compelled continually to remove farther to the south, where they are also liable to be plundered by the Bedouins or Wechabites. Their only hope is in the increasing power of the Russian army on the Turkish, Curdish and Persian frontiers, and in the expectation that the Russians will at last put an end to the robberies of the Turks and the oppression of the pachas.

CURETES. (See *Corybantes*.)

CURIA, PAPAL, is a collective appellation of all the authorities in Rome, which exercise the rights and privileges which the pope enjoys as first bishop, superintendent and pastor of Roman Catholic Christendom. The right to grant or confirm ecclesiastical appointments is exercised by the *dataria*. (q. v.) This body receives petitions, draws up answers, and collects the revenues of the pope for the *pallia*, *spolia*, benefices, *annates*, &c. It is a lucrative branch of the papal government, and part of the receipts go to the apostolic chamber. There is more difficulty attending the business of the *rota* (q. v.), the high court of appeal. In former times, the cardinal grand penitentiary, as president of the *penitenzieria*, had a very great influence. He issues all dispensations and absolutions in respect to vows, penances, fasts, &c., in regard to which the pope has reserved to himself the dispensing power; also with respect to marriages within the degrees prohibited to Catholics. Besides these authorities, whose powers extend over all Catholic Christendom, there are, in Rome, several others, occupied only with the government of the Roman state; as the *sagra consulta*, the chief criminal court, in which the cardinal secretary of state presides; the *signatura di giustizia*, a court for civil cases, consisting of 12 prelates, over which the cardinal-provveditore, or minister of justice of the pope, presides, and with which the *signatura di grazia* concurs; the apostolic chamber, in which 12 prelates are employed, under the *cardinale camerlingo*, administering the property of the church and the papal domains, and receiving the revenue which belongs to the pope as temporal and spiritual sovereign of the Roman state; also that which he derives from other countries which stand immediately under him, and are his fiefs. Besides these, there is a number of governors, prefects, *procuratori*, &c., in the different

branches of the administration. The drawing up of bulls, answers and decrees, which are issued by the pope himself, or by these authorities, is done by the papal chancery, consisting of a vice-chancellor and 12 *abbreviatori* (q. v.), assisted by several hundred secretaries: the *breves* only are excepted, and are drawn up by a particular cardinal. All these offices are filled by clergymen; and many of them are so lucrative, that considerable sums are paid for them, somewhat in the same manner as commissions are purchased in the English army. At the death of Sixtus V, there existed 4000 venal offices of this kind; but this number has since been diminished, and many abuses have been abolished. The highest council of the pope, corresponding, in some measure, to the privy council of a monarch, is the college of the cardinals, convened whenever the pope thinks fit. The sessions of this senate, which presides over all the other authorities in Rome, are called *consistories*. They are of three different kinds. The secret consistory is held, generally, twice a month, after the pope has given private audience to every cardinal. In these sessions, bishops are elected, *pallia* granted, ecclesiastical and political affairs of importance transacted, and resolutions adopted on the reports of the congregations delegated by the consistory: beatifications and canonizations also originate in this body. Different from the secret consistories are the semi-secret ones, whose deliberations relate principally to political affairs, and the results of them are communicated to the ambassadors of foreign powers. The public consistories are seldom held, and are, principally, ceremonial assemblies: in these the pope receives ambassadors, and makes known important resolutions, canonizations, establishments of orders, &c. According to rule, all cardinals residing in Rome should take part in the consistories; but, in point of fact, no one appears without being especially summoned by the pope. The pope, if able to do so, always presides in person, and the cardinal secretary of state (who is minister of the interior and of foreign affairs) is always present, as are likewise the cardinals presidents of the authorities. At present, there are 22 congregations of cardinals at Rome: 1. the holy Roman and general inquisition, or holy office (*santo officio*); 2. *visita apostolica*; 3. *consistoriale*; 4. *vescovi regolari*; 5. *de concilio (tridentino)*; 6. *residenza di vescovi*; 7. *immunita ecclesiastica*; 8. *propaganda*; 9. *indici* (of prohibited books); 10. *sagri riti*

(of the holy rites); 11. *ceremoniale*; 12. *disciplina regolare* (orders of monks); 13. *indulgenze e sagre reliquie*; 14. *esame dei vescovi*; 15. *correzioni dei libri della chiesa Orientale*; 16. *fabbrica di S. Pietro* (who have charge of the repairs of St. Peter's); 17. *consulta*; 18. *Buongoverno*; 19. *Loretto*; 20. hydraulic works and the Pontine marshes; 21. *economica*; 22. extraordinary ecclesiastical affairs. Few, however, of these congregations, are fully supplied with officers.

CURIAE; certain divisions of the Roman people, which Romulus is said to have established. According to Liv. i. 13, he divided Rome into 30 *curia*, and assigned to each a separate place, where they might celebrate their feasts, under their particular priest (*curio*). At the *comitia*, the people assembled in *curia*, to vote on important matters. The whole Roman people were divided by Romulus (*Dionys. Halic.* ii. c. 62) into three tribes, each tribe into 10 *curia*, each *curia* into 10 *decuria*. To vote *curiatim*, therefore, is to vote by *curia*. The division into *curia* was founded on locality, and therefore contradistinguished from the division according to tribes (a number of families of the same descent). Niebuhr, in his Roman History, treats this subject with uncommon erudition and perspicuity in vol. i, chapter *The Patrician Houses and the Curia*.—*Curia* also signified a public building; as, *curia municipalis*, &c.

CURIATH. (See *Horatii*.)

CURIUS DENTATUS, Marcus Annii; an illustrious Roman, who was three times consul, and twice obtained the honors of a triumph. He vanquished the Samnites, Sabines and Lucanians, and defeated Pyrrhus, near Tarentum, B. C. 272. When the deputies of the Samnites appeared before him for the purpose of concluding a peace, they found him on his farm, boiling vegetables in an earthen pot. They attempted to purchase his favor by offering him vessels of gold, but the noble Roman disdainfully refused their offers. "I prefer," said he, "my earthen pots to your vases of gold. I have no desire for wealth, and am satisfied to live in poverty, and rule over the rich."

CURLEW (*numenius*, Briss.); a genus of birds belonging to the order *grallæ*, or waders, and family *limicolæ*, whose most remarkable characteristic is, that the bill is wholly or partially covered by a soft, sensitive skin, which enables them to obtain their food from the mud with facility, though unable to discover it by sight. The genus is characterized by a very long,

slender, almost cylindrical, compressed and arcuated bill, having the upper mandible longer than the lower, furrowed for three fourths of its length, and dilated and rounded towards the tip. The nostrils are situated in the furrow, at the base, and are lateral, longitudinal and oblong. The tongue is very short and acute. The feet are rather long, slender, and four-toed; the tarsus is one half longer than the middle toe. The fore toes are connected, at the base, by a short membrane, to the first joint. The nails are compressed, curved, acute, and the cutting edge of the middle one is entire. The first primary is the longest; the tail, which is somewhat rounded, consists of 12 feathers. The plumage of the curlew is generally dull, being grayish-brown, rusty-white and blackish, in both sexes, which are similar in size. The young bird also differs very little from the parents, except that the bill is much shorter and straighter. Their favorite resorts are marshy and muddy places, in the vicinity of water, over which they run with great quickness. They feed on various worms, small fishes, insects and molluscous animals, and are very shy, wary and vigilant of the approach of man. They are monogamous, and pass most of their time separate from the rest of their species. Their nests are built on tufts or tussocks in the marshes, and, during incubation, both parents assiduously devote themselves to their charge. The eggs are usually four, being much larger at one end than the other, or pyriform in shape. The young, as soon as hatched, leave the nest to seek their own subsistence. At the period of migration, the curlews unite to form large flocks, and their flight is high, rapid and protracted. They utter a loud, whistling note, easily recognised when once heard, but not easy to be characterized by description. Three species of curlew are inhabitants of this continent—the long-billed curlew (*N. longirostris*, Wils.), the Esquimaux curlew (*N. Hudsonicus*, Lath.) and the boreal curlew (*N. borealis*, Lath.). The two first are common in spring and autumn, in the Middle States of the Union: the last is rare in the U. States.

CURRAN, John Philpot, a celebrated Irish advocate, of humble origin, was born at Newmarket, near Cork, in 1750. He was educated at Trinity college, Dublin, after which he repaired to London, and studied at one of the inns of court. In due time, he was called to the bar; shortly after which he married Miss O'Dell, an Irish lady of a very respectable family.

By the influence of his talents, he gradually rose to great reputation; and, during the administration of the duke of Portland, he obtained a silk gown. In 1784, he was chosen a member of the Irish house of commons. His abilities now displayed themselves to advantage, and he became the most popular advocate of his age and country. During the distracted state of Ireland, towards the close of the last century, it was often his lot to defend persons accused of political offences, when Mr. Fitzgibbon (afterwards lord Clare), then attorney-general, was his opponent. The professional rivalry of these gentlemen degenerated into personal rancor, which at length occasioned a duel, the result of which was not fatal to either party. On a change of ministry during the vice-royalty of the duke of Bedford, Mr. Curran's patriotism was rewarded with the office of master of the rolls. This situation he held till 1814, when he resigned it, and obtained a pension of £3000 a year. With this he retired to England, and resided chiefly in the neighborhood of London. He died in consequence of a paralytic attack, at Brompton, Nov. 13, 1817, at the age of 67.—Curran possessed talents of the highest order: his wit, his drollery, his eloquence, his pathos, were irresistible; and the splendid and daring style of his oratory formed a striking contrast with his personal appearance, which was mean and diminutive. As a companion, he could be extremely agreeable; and his conversation was often highly fascinating. In his domestic relations, he was very unfortunate; and he seems to have laid himself open to censure. The infidelity of his wife, which was established by a legal verdict, is said to have been a subject on which he chose to display his wit, in a manner that betrayed a strange insensibility to one of the sharpest miseries which a man can suffer. Mr. Curran appears never to have committed any thing to the press, but he is said to have produced some poetical pieces of considerable merit. A collection of his forensic speeches was published in 1805 (1 vol. 8vo.). Memoirs of his life have been published by his son, by Mr. Charles Phillips, and by Mr. O'Regan.

CURRANTS. Red currants, black currants and gooseberries are the fruit of well known shrubs, which are cultivated in gardens, and which also grow wild, in woods or thickets, in various parts of Europe and America. The utility of all these fruits in domestic economy has long been established. The juice of the red species,

if boiled with an equal weight of loaf sugar, forms an agreeable substance, called *currant jelly*, which is much employed in sauces and for other culinary purposes, and also in the cure of sore throats and colds. The French frequently mix it with sugar and water, and thus form an agreeable beverage. The juice of currants is a valuable remedy in obstructions of the bowels; and, in febrile complaints, it is useful, on account of its readily quenching thirst, and for its cooling effect on the stomach. This juice, fermented with a proper quantity of sugar, becomes a palatable wine, which is much improved by keeping, and which, with care, may be kept for 20 years. The inner bark of all the species, boiled with water, is a popular remedy in jaundice, and, by some medical men, has been administered in dropsical complaints. White and flesh-colored currants have, in every respect, the same qualities as the red species. The berries of the black currant are larger than those of the red, and, in some parts of Siberia, are even said to attain the size of a hazel-nut. They are occasionally made into wine, jelly, rob, or sirup. The two latter are frequently employed in the cure of sore throats; and, from the great use of black currants in quinsies, they have sometimes been denominated *quinancy*, or *quinsy berries*. The leaves are fragrant, and have been recommended for their medicinal virtues. An infusion of them in the manner of tea is very grateful, and, by many persons, is preferred to tea. The tender leaves tinge common spirits so as to resemble brandy; and an infusion of the young roots is useful in fevers of the eruptive kind. The dried currants of the shops do not belong to this family, but are a small kind of grape. None of these fruits are so much esteemed for the table as gooseberries. For culinary purposes, gooseberries are generally employed before they are ripe; but this is founded on erroneous notions of their chemical properties, since, either for sauces or wine, though they are more cool and refreshing, they do not possess the delicate flavor and rich saccharine qualities which belong to the ripe fruit. Wine made of gooseberries has great resemblance to Champagne. The skins of the fruit, after the juice has been expressed, afford, by distillation, a spirit somewhat resembling brandy. Vinegar may be made from gooseberries. Some of the kinds are bottled while green, and kept for winter use; and others are, for the same purpose, preserved with sugar.

Gooseberries vary much in color, size and quality. Some are smooth, and others hairy. Some are red, others green, and others yellow or amber-colored. Wild gooseberries are greatly inferior in size to those which are cultivated in gardens.

CURRENCY. (See *Circulating Medium*.)

CURRENTS, in the ocean, are continual movements of its waters in a particular direction. In lat. 39° N., lon. $13^{\circ} 40'$ W., we begin to feel the effects of the current which flows from the Azores to the straits of Gibraltar and the Canaries. Between the tropics, from Senegal to the Caribbean sea, the general current, and that longest known, flows from east to west. Its average rapidity is from 9 to 10 nautical miles in 42 hours. It is this current which is known by the name of *equatorial current*. It appears to be caused by the impulse which the trade-winds give to the surface of the water. In the channel which the Atlantic has hollowed between Guiana and Guinea, under the meridian of 18° or 21° W., from 8° or 9° to 2° or 3° N. lat., where the trade-winds are often interrupted by winds which blow from the south and south-west, the equatorial current is less uniform in its direction. Near the coast of Africa, vessels are often drawn to the south-east, whilst, near the bay of All Saints and cape St. Augustine, upon the coast of America, the general direction of the waters is interrupted by a particular current, the effects of which extend from cape St. Roche to Trinity island. It flows towards the north-west, at the rate of one foot, or one foot five inches, a second. The equatorial current is felt, although slightly, even beyond the tropic, in latitude 28° north. In the basin of the Atlantic ocean, 6 or 700 leagues from the coast of Africa, vessels, whose course is from Europe to the West Indies, find their progress accelerated before they arrive at the torrid zone. Farther north, between the parallels of Teneriffe and Ceuta, in longitude 44° to 46° W., no uniform motion is observed. A zone of 140 leagues separates the equatorial current from that great mass of water flowing to the east, which is distinguished by its elevated temperature, and of which we shall now speak particularly. The equatorial current impels the waters of the Atlantic ocean towards the Musquito shore and the coast of Honduras, in the Caribbean sea. The new continent opposes this current; the waters flow to the north-west, and, passing into the gulf of Mexico, by the strait which is formed by cape Catoche (Yucatan) and cape St. An-

toine (Cuba), they follow the windings of the American coast to the shallows west of the southern extremity of Florida. Then the current turns again to the north, flowing into the Bahama channel. In the month of May, 1804, A. von Humboldt observed in it a rapidity of 5 feet a second, although the north wind blew violently. Under the parallel of cape Canaveral, the current flows to the north-east. Its rapidity is then sometimes five nautical miles an hour. This current, called the *gulf stream*, is known by the elevated temperature of its waters, by their great saltness, by their indigo-blue color, by the train of sea-weed which covers their surface, and by the heat of the surrounding atmosphere, which is very perceptible in winter. Its rapidity diminishes towards the north, at the same time that its breadth increases. Near the Bahama bank, the breadth is 15 leagues; in lat. $28^{\circ} 30'$ N. it is 17 leagues, and, under the parallel of Charleston, from 40 to 50 leagues. To the east of the port of Boston, and under the meridian of Halifax, the current is almost 80 marine leagues in breadth. There it turns suddenly to the east, and grazes the southern extremity of the great bank of Newfoundland. The waters of this bank have a temperature of from $8^{\circ} 7'$ to 10° centigrade (7° to 8° R., 16° to 18° Fahr.), which offers a striking contrast to the waters of the torrid zone, impelled to the north by the gulf stream, and the temperature of which is from 21° to $22^{\circ} 5'$ (17° to 18° R., 38° to $40\frac{1}{2}^{\circ}$ Fahr.). The waters of the bank are $16^{\circ} 9'$ Fahr. colder than those of the neighboring ocean, and these are $5^{\circ} 4'$ Fahr. colder than those of the current. They cannot be equalised, because each has a cause of heat or cold which is peculiar to it, and of which the influence is permanent. From the bank of Newfoundland to the Azores, the gulf stream flows to the E. or E. S. E. The waters still preserve there a part of the impulse received in the strait of Florida. Under the meridian of the islands of Corvo and Flores, the current has a breadth of 160 leagues. In lat. 33° , the equatorial current approaches very near the gulf stream. From the Azores, the current flows towards Gibraltar, the island of Madeira and the Canaries. South of that island, the current flows to the S. E. and S. S. E., towards the coast of Africa. In lat. 25° and 26° , the current flows first S., then S. W. Cape Blanc appears to influence this direction, and in its latitude the waters mingle with the great current of the tropics. Blagden, Benjamin Franklin and Jonathan Williams first made

known the elevated temperature of the gulf stream, and the coldness of the shallows, where the lower strata unite with the upper, upon the borders or edges of the bank. A. von Humboldt collected much information, to enable him to trace, upon his chart of the Atlantic ocean, the course of this current. The gulf stream changes its place and direction according to the season. Its force and its direction are modified, in high latitudes, by the variable winds of the temperate zone, and the collection of ice at the north pole. A drop of water of the current would take 2 years and 10 months, to return to the place from which it should depart. A boat, not acted on by the wind, would go from the Canaries to the coast of Caracas in 13 months; in 10 months, would make the tour of the gulf of Mexico; and, in 40 or 50 days, would go from Florida to the bank of Newfoundland. The gulf stream furnished to Christopher Columbus indications of the existence of land to the west. This current had carried upon the Azores the bodies of two men of an unknown race, and pieces of bamboo of enormous size. In lat. 45° or 50° , near Bonnet Flamand, an arm of the gulf stream flows from the S. W. to the N. E., towards the coast of Europe. It deposits upon the coasts of Ireland and Norway trees and fruits belonging to the torrid zone. Remains of a vessel (the *Tilbury*), burnt at Jamaica, were found on the coast of Scotland. It is likewise this river of the Atlantic, which annually throws the fruits of the West Indies upon the shore of Norway.—The causes of currents are very numerous. The waters may be put in motion by an external impulse, by a difference of heat and saltness, by the inequality of evaporation in different latitudes, and by the change in the pressure at different points of the surface of the ocean. The existence of cold strata, which have been met with at great depths in low latitudes, proves the existence of a lower current, which runs from the pole to the equator. It proves, likewise, that saline substances are distributed in the ocean, in a manner not to destroy the effect produced by different temperatures. The polar currents, in the two hemispheres, tend to the east, probably on account of the uniformity of west winds in high latitudes. It is very probable that there may be, in some places, a double local current; the one above, near the surface of the water, the other at the bottom. Several facts seem to confirm this hypothesis, which was first proved by the celebrated

Halley. In the West Indian seas, there are some places where a vessel may moor herself in the midst of a current by dropping a cable, with a sounding lead attached, to a certain known depth. At that depth, there must, unquestionably, be a current contrary to the one at the surface of the water. Similar circumstances have been observed in the Sound. There is reason to believe, that the Mediterranean discharges its waters by an inferior or concealed current. Such a mass of ocean water, flowing constantly from the torrid zone towards the northern pole, and, at any given latitude, heated many degrees above the temperature of the adjacent ocean, must exert great influence on the atmosphere. An interesting table, in Darby's View of the U. States, Philadelphia, 1828 (page 364), shows this influence in a striking way. (See Malte-Brun's *Geography*, vol. i, and Humboldt's *Personal Narrative*.)

CURRYING is the art of dressing cow-hides, calves'-skins, seal-skins, &c., principally for shoes; and this is done either upon the flesh or the grain. In dressing leather for shoes upon the flesh, the first operation is soaking the leather in water until it is thoroughly wet; then the flesh side is shaved on a beam about seven or eight inches broad, with a knife of a peculiar construction, to a proper substance, according to the custom of the country and the uses to which it is to be applied. This is one of the most curious and laborious operations in the whole business of currying. The knife used for this purpose is of a rectangular form, with two handles, one at each end, and a double edge. After the leather is properly shaved, it is thrown into the water again, and scoured upon a board or stone commonly appropriated to that use. Scouring is performed by rubbing the grain or hair side with a piece of pumice stone, or with some other stone of a good grit. These stones force out of the leather a white substance, called *the bloom*, produced by the oak bark in tanning. The hide or skin is then conveyed to the shade or drying place, where the oily substances are applied, termed *stuffing* or *dubbing*. When it is thoroughly dry, an instrument, with teeth on the under side, called a *graining-board*, is first applied to the flesh-side, which is called *graining*; then to the grain-side, called *bruising*. The whole of this operation is intended to soften the leather to which it is applied. Whitening, or paring, succeeds, which is performed with a fine edge to the knife

already described, and used in taking off the grease from the flesh. It is then boarded up, or grained again, by applying the graining-board first to the grain, and then to the flesh. It is now fit for waxing, which is performed first by coloring. This is effected by rubbing, with a brush dipped in a composition of oil and lamp-black, on the flesh, till it be thoroughly black: it is then sized, called *black-sizing*, with a brush or sponge, dried and tallowed; and, when dry, this sort of leather, called *waxed*, or *black on the flesh*, is curried. The currying leather on the hair or grain side, called *black on the grain*, is the same with currying on the flesh, until we come to the operation of scouring. Then the first black is applied to it while wet; which black is a solution of the sulphate of iron called *copperas*, in fair water, or in the water in which the skins, as they come from the tanner, have been soaked. This is first put upon the grain after it has been rubbed with a stone; then rubbed over with a brush dipped in stale urine; the skin is then stuffed, and, when dry, it is seasoned, that is, rubbed over with a brush dipped in copperas water, on the grain, till it is perfectly black. After this, the grain is raised with a fine graining-board. When it is thoroughly dry, it is whitened, bruised again, and grained in two or three different ways, and, when oiled upon the grain, with a mixture of oil and tallow, it is finished.

CURRY-POWDER. (See *Turmeric*.)

CURTIVS, Marcus; a noble Roman youth, known by the heroic manner in which, according to tradition, he sacrificed himself for the good of his country. In the year of Rome 392 (B. C. 362), it is said, a chasm opened in the Roman forum, from which issued pestilential vapors. The oracle declared that the chasm would close whenever that which constituted the glory of Rome should be thrown into it. Curtius asked if any thing in Rome was more precious than arms and valor; and, being answered in the negative, he arrayed himself in armor, mounted a horse splendidly equipped, solemnly devoted himself to death, in presence of the Roman people, and sprang into the abyss, which instantly closed over him.

CURTIVS RUFUS, Quintus, the author of a History of Alexander the Great, in ten books, the two first of which are lost, has been supposed to be the son of a gladiator. He recommended himself by his knowledge to Tiberius, and, during his reign, received the pretorship; under Claudius, the consulship, also the emperor's

consent to celebrate a triumph, and finally the proconsulship of Africa. He died in Africa, A. D. 69, at an advanced age. We should have had more complete accounts concerning him, if the first books of his work had been preserved. Curtius deserves no great praise as a historian. His style is florid, and his narratives have more of romance than of historical certainty. The lost parts have been supplied by Christopher Bruno, a Bavarian monk, in a short and dry manner; by Freinsheimius, in a diffuse style; and by Christopher Cellarius, in a style which forms a medium between the two. The best edition is by Snakenburg (Leyden, 1724, 4to.). Among the new editions are that by Schmieder (Göttingen, 1814). Buttmann, Hirt, and Niebuhr (the Roman historian), have written treatises on his life. The last named gentleman read, in 1821, before the academy of Berlin, a disquisition on the period of Curtius—a performance distinguished for critical acumen and erudition. Niebuhr thinks that the work was written under Severus, and not under Vespasian. The essay is to be found in his *Kleine historische und philologische Schriften, erste Sammlung* (Bonn, 1828).

CURVES (from the Latin *curvus*, crooked, bent), in geometry. The simplest objects are the most difficult to be defined, and mathematicians have never succeeded in giving a definition, satisfactory to themselves, of a line. It is equally difficult to give a satisfactory definition of a curve. Perhaps the simplest explanation of it is, *a line which is not a straight line, nor made up of straight lines*. This definition, however, is deficient in mathematical precision. Since Descartes' application of algebra to geometry, the theory of the curves has received a considerable extension. The study of the curves known to the ancients has become much easier, and new ones have been investigated. Curves form, at present, one of the most interesting and most important subjects of geometry. Such as have not all their parts in the same plane, are called *curves of a double curvature*. The simplest of all curves is the circle. The spiral of Archimedes, the conchoid of Nicomedes, the cissoid of Diocles, the quadratrix of Dinostratus, &c., are celebrated curves.

CUSCO, or Cuzco; a city of Peru, capital of an intendency of the same name, the ancient capital of the Peruvian empire; 550 miles E. S. E. Lima; lon. 71° 4' W.; lat. 13° 42' S.; population stated from 20 to 32,000. It is a bishop's see. It was founded, according to tradition, in

1043, by Manco Capac, the first inca of Peru, on a rough and unequal plain, formed by the skirts of various mountains, which are washed by the small river Guatanay. The wall was of an extraordinary height, and built of stone, with astonishing neatness. The Spaniards, in 1534, found the houses built of stone; among them a temple of the sun, and a great number of magnificent palaces, whose principal ornaments were of gold and silver, which glittered on the walls. Cusco is, at present, a large city: the houses are built of stone, and covered with red tiles; the apartments are well distributed; the mouldings of the doors are gilt, and the furniture not less magnificent. The cathedral church is large, built of stone, and of an elegant and noble architecture. About three fourths of the inhabitants are Indians.

CUSHING, Thomas, was born at Boston, in 1725, and finished his education at the college of Cambridge (New England), in 1744. Both his grandfather and father had spent a considerable portion of their lives in the public service, the latter having been, for several years previous to his death, speaker of the house of representatives in Massachusetts. He engaged early in political life, and was sent, by the city of Boston, as its representative to the general court, where he displayed such qualifications for the despatch of business, that, when governor Bernard, in 1763, negatived James Otis, the father, as speaker, he was chosen in his place, and continued in the station for many consecutive years. Whilst he was in the chair, he had frequent opportunities of evincing his patriotism and aversion to the arbitrary course of the English government; and, as his name was signed to all the public documents, in consequence of his office, he acquired great celebrity, and was generally supposed to exert a much greater influence in affairs than he actually did. This circumstance led doctor Johnson, in his pamphlet *Taxation no Tyranny*, to make this foolish remark—"One object of the Americans is said to be, to adorn the brows of Mr. Cushing with a diadem." Though decidedly patriotic in his principles, Mr. Cushing was moderate and conciliatory in his conduct, by which he was enabled to effect a great deal of good as a mediator between the two contending parties. He was an active and efficient member of the two first continental congresses, and, on his return to his state, was chosen a member of the council. He was also appointed judge of the courts of common pleas and of probate in the

county of Suffolk, which stations he occupied until the present constitution was adopted, when he was elected lieutenant-governor of the state, and continued so until his death, which took place Feb. 19, 1788, in the 63d year of his age, in consequence of gout.

CUSTINE, Adam Philip, count of, born at Metz, 1740, served as captain in the seven years' war. (q. v.) Through the influence of the duke of Choiseul, he obtained, in 1762, a regiment of dragoons, which was called by his name. In 1780, he exchanged this for the regiment of Saintonge, which was on the point of going to America, to the aid of the North American colonies. On his return, he was appointed *maréchal de camp*. In 1789, he was deputy of the nobility of Metz, and was one of the first who declared for the popular party. He subsequently entered the army of the North, and, in May, 1792, made himself master of the pass of Porentruy. In June, he received the command of the army of the Lower Rhine, and opened the campaign by taking possession of Spire, Sept. 29. Meeting with feeble opposition, he took Worms, and, Oct. 21, the fortress of Mentz capitulated. On the 23d, he took possession of Frankfurt on the Maine, on which he laid heavy contributions. Thence, escaping the pursuit of the Prussians, he threw himself into Mentz, which he caused to be fortified. With the opening of the campaign of 1793, he left Mentz, which the allies were besieging, and retired to Alsace. He was now denounced, and, in April, received his dismissal; but the convention, in May, invested him with the command of the northern army. But he had hardly time to visit the posts. Marat and Varennes were unceasing in their accusations against him, and at last prevailed on the committee of safety to recall him to Paris. The revolutionary tribunal began his trial Aug. 15. He made a spirited defence; but his death was determined upon. He was condemned Aug. 27, and guillotined on the 28th.

CUSTOMS. (See *Revenue*.)

CUSTOS ROTULORUM; an officer, in England, who has the custody of the rolls and records of the sessions of the peace, and also of the commission of the peace itself. He is usually a nobleman, and always a justice of the peace, of the quorum in the county where he is appointed. He may execute his office by a deputy, and is empowered to appoint the clerk of the peace; but he is prohibited from selling his office under divers penalties.

CUSTRIN (in German, *Küstrin*); a fortress in the province of Brandenburg, Prussia, at the confluence of the Warthe and Oder, containing 460 houses and 6000 inhabitants. In 1806, it was disgracefully surrendered to the French, and garrisoned by them until 1814, when it surrendered to the Prussians.

CUTICLE (from *cuticula*, the Latin diminutive of *cutis*, skin) is a thin, pellucid, insensible membrane, of a white color, that covers and defends the true skin, with which it is connected by the hairs, exhaling and inhaling vessels, and the *rete mucosum*.

CUTLASS; a short sword used by seamen. The art of fencing with it is different from that with the small sword or broad sword. A guard over the hand is an advantage. It is, if well understood, a very effectual weapon in close contest: on account of its shortness, it can be handled easily, and yet is long enough to protect a skilful swordsman.

CUTLER, Timothy, president of Yale college, was the son of major John Cutler, of Charlestown, Massachusetts. He was graduated at Harvard college in 1701, and in January, 1709, was ordained minister of Stratford, Conn., where he acquired the reputation of being the most eloquent preacher of the province. After remaining in that situation during ten years, he was elected, in 1719, successor to Mr. Pierson, as president of Yale college. In the interval between the death of his predecessor and his own accession, the college had been removed to New Haven. For this station he was eminently qualified by his profound and extensive learning, his dignified appearance, and the high respect which his character was calculated to inspire. In 1722, having renounced the communion of the Congregational churches, the trustees of the college passed a resolve dispensing with his services, and requiring of future rectors satisfactory evidence of their faith in opposition to Arminian and prelatical corruptions. A short time subsequently, he went to England, where he was ordained priest, and received the degree of doctor of divinity from Oxford. In July, 1763, he returned to Boston, where he soon after became rector of Christ church, and in that station died, Aug. 17, 1765, in the 82d year of his age. Doctor Cutler was particularly distinguished for his knowledge of the Oriental languages and literature. He also spoke Latin with great fluency, and was well versed in moral philosophy and theology. He published two sermons.

CUTLERY. Though cutlery, in the general sense, comprises all those articles denominated *edge tools*, it is more particularly confined to the manufacture of knives, forks, scissors, penknives, razors and swords. Damascus was anciently famed for its razors, sabres and swords. The latter are said to possess all the advantages of flexibility, elasticity and hardness. These united distinctions are said to have been effected by blending alternate portions of iron and steel in such a manner, that the softness and tenacity of the former could prevent the breaking of the latter. All those articles of cutlery which do not require a fine polish, and are of low price, are made from blistered steel. Those articles which require the edge to possess great tenacity, at the same time that superior hardness is not required, are made from sheer steel. The finer kinds of cutlery are made from steel which has been in a state of fusion, and which is termed *cast steel*, no other kinds being susceptible of a fine polish. (See the article *Steel*.) Table knives are mostly made of sheer steel; forks are made almost altogether by the aid of the stamp and appropriate dies; the prongs only are hardened and tempered. Almost all razors are made of cast steel, the quality of which should be very good, the edge of a razor requiring the combined advantages of great hardness and tenacity. After the razor blade is forged, it is hardened, by gradually heating it to bright red heat, and plunging it into cold water. It is tempered by heating it afterwards till a brightened part appears of a straw color. Though this is generally performed by placing them upon the open fire, it would be more equally effected by sand, or, what is still better, in hot oil, or fusible mixture, consisting of 8 parts of bismuth, 5 of lead and 3 of tin; a thermometer being placed in the liquid at the time the razors are immersed, for the purpose of indicating the proper temperature, which is about 500° of Fahrenheit. Razors are ground crosswise, upon stones from 4 to 7 inches in diameter, a small stone being necessary to make the sides concave. They are afterwards smoothed and polished. The handles of high-priced razors are made of ivory and tortoise-shell, but in general they are of polished horn, which is preferred on account of its cheapness and durability. The horn is cut into pieces, and placed between two corresponding dies, having a recess of the shape of the handle. The dies are previously heated to about 500° of Fahrenheit, and placed,

with the horn, in a press of such power, that, allowing a man's strength to be 200 pounds, it will be equal to 43,000 pounds. By this process, the horn receives considerable extension. If the horn is not previously black, the handles are dyed black by means of a bath of logwood and green vitriol. The clear horn handles are sometimes stained so as to imitate the tortoise-shell.—The manufacture of penknives is divided into three departments: the first is the forging of the blades, the spring and the iron scales; the second, the grinding and polishing of the blades; and the third, the handling, which consists in fitting up all the parts, and finishing the knife. The blades are made of the best cast steel, and hardened and tempered to about the same degree with that of razors. In grinding, they are made a little more concave on one side than the other: in other respects, they are treated in a similar way to razors. The handles are covered with horn, ivory, and sometimes wood; but the most durable covering is stag-horn. The most general fault in penknives is that of being too soft. The temper ought to be not higher than a straw color, as it seldom happens that a penknife is so hard as to snap on the edge.—The beauty and elegance of polished steel is nowhere displayed to more advantage than in the manufacture of the finer kinds of scissors. The steel employed for the more valuable scissors should be cast steel of the choicest qualities: it must possess hardness and uniformity of texture, for the sake of assuming a fine polish; and great tenacity when hot, for the purpose of forming the bow or ring of the scissors, which requires to be extended from a solid piece, having a hole previously punched through it. It ought also to be very tenacious when cold, to allow that delicacy of form observed in those scissors termed *ladies' scissors*. After the scissors are forged as near to the same size as the eye of the workman can ascertain, they are paired, and the two sides fitted together. The bows and some other parts are filed to their intended form; the blades are also roughly ground, and the two sides properly adjusted to each other, after being bound together with wire, and hardened up to the bows. They are afterwards heated till they become of a purple color, which indicates their proper temper. Almost all the remaining part of the work is performed at the grinding mill, with the stone, the lap, the polisher and the brush. The very large scissors are partly of iron and partly of steel, the shanks and bows

being of the former. These, as well as those all of steel, which are not hardened all over, cannot be polished: an inferior sort of lustre, however, is given to them by means of a burnish of hardened, polished steel, which is very easily distinguished from the real polish by the irregularity of the surface. (For swords, see *Sword*.)

CUTTER; a small vessel, furnished with one mast, and rigged as a sloop. Many of these fast-sailing vessels are used by smugglers, and are also employed for the purpose of apprehending them. In the latter case, they are called *revenue cutters*. The *clippers*—a kind of vessels built at Baltimore—are particularly adapted for fast sailing, but require great skill in navigating them, to avoid being upset. (See *Boat, Ship*.)

CUTTY-STOOL; a low stool; the stool of repentance; a small gallery in the Scottish kirks, placed near the roof, and painted black, in which offenders against chastity sit during service, professing repentance, and listening to the minister's rebukes.

CUT-WATER; the sharp part of the head of a ship below the beak, so called because it cuts or divides the water before it comes to the bow, that it may not come too suddenly to the breadth of the ship, which would retard it.

CUVIER, George Leopold Christian Frederic Dagobert, baron of; born Aug. 25, 1769, at Montbéliard, then belonging to the duchy of Würtemberg. His brilliant talents very early excited great expectations. His father was an officer. As the son's health was too feeble to allow him to become a soldier, he resolved to be a clergyman. He was obliged to pass an examination for the stipend, by the help of which he expected to study at Tübingen. A malicious examiner rejected him. The affair, however, was marked by so much injustice, that prince Frederic, brother of the duke, and governor of the district, thought it his duty to compensate Cuvier by a place in the Charles academy at Stuttgart. Here he gave up his intention of becoming a clergyman. In Stuttgart, he studied at first the science of law, though he was particularly fond of natural history. To this period of his life he is indebted for his accurate knowledge of the German language and literature. The narrow circumstances of his parents compelled him to accept the office of private instructor in the family of count D'Hericy, in Normandy. Here he was at liberty to devote his leisure to natural science. Cu-

vier soon perceived that zoölogy was far from that perfection to which Linnæus had carried botany, and to which mineralogy had been carried by the united labors of the philosophers of Germany and France. The first desideratum was a careful observation of all the organs of animals, in order to ascertain their mutual dependence, and their influence on animal life; then a confutation of the fanciful systems which had obscured rather than illustrated the study. Examinations of the marine productions, with which the neighboring ocean abundantly supplied him, served him as a suitable preparation. A natural classification of the numerous classes of *vermes* (Linn.) was his first labor, and the clearness with which he gave an account of his observations and ingenious views, procured him an acquaintance with all the naturalists of Paris. Geoffry St. Hilaire invited him to Paris, opened to him the collections of natural history, over which he presided, took part with him in the publication of several works on the classification of the *mammalia*, and placed him at the central school in Paris, May, 1795. The institute, being reestablished the same year, received him as a member of the first class. For the use of the central school, he wrote his *Tableau Élémentaire de l'Histoire Naturelle des Animaux* (1798), by which he laid the foundation of his future fame. From this time, he was considered one of the first zoölogists of Europe. He soon after displayed his brilliant talents as professor of comparative anatomy. His profound knowledge was not less remarkable than his elevated views, and the elegance with which he illustrated them before a mixed audience. In the lecture-room of the *Lycée*, where he lectured several years on natural history, was assembled all the accomplished society of Paris, attracted by the ingenuity of his classifications, and by his extensive surveys of all the kingdoms of nature. In January, 1800, he justly received the place formerly occupied by D'Aubenton, in the *collège de France*. His merits did not escape the sagacity of Napoleon. In the department of public instruction, in which, one after another, he filled the most important offices, he exercised much influence by his useful improvements and indefatigable activity. He delivered a report very honorable to Germany, in 1811, when he returned from a journey in Holland and Germany, as superintendent of instruction. He was accompanied, in this journey, by Noël. In 1813, the emperor appointed him *maître des requêtes* to the

council of state, and committed to his care the most important affairs in Mentz. Louis XVIII confirmed him in his former offices, and raised him to the rank of counsellor. As such, he belonged at first to the committee of legislation, and afterwards to that of the interior. As a politician, he drew upon himself the reproaches of the liberals. In general, the political course of Cuvier forms such a contrast with his scientific one, and is, besides, of so little importance, that we are very willing to pass it by in silence. The measures of the abbé Frayssinous, then chancellor of the university of Paris, determined him to resign the office of university-counsellor, in December, 1822. Notwithstanding his political engagements, Cuvier devoted himself continually to the study of natural history, which he has extended by his discoveries. We mention only his *Recherches sur les Ossements Fossiles*, 1821—24; 3d edition, 1826, 5 vols., 4to., with plates (the classical introduction to this work is printed separately); *Discours sur les Révolutions de la Surface du Globe, et sur les Changemens qu'elles ont produit dans le Règne animal* (3d edition, Paris, 1825); also, *Le Règne animal* (1817, 4 vols.); *Leçons d'Anatomie Comparée, recueillies par Duméril et Duvernoy* (1805, 5 vols.); *Recherches anatomiques sur les Reptiles regardés encore comme douteux* (1807, 4to.); *Mémoires pour servir à l'Histoire de l'Anatomie des Mollusques* (1816, 4to.). As perpetual secretary, &c., of the academy, in the class of physical sciences, he has pronounced *éloges* on the deceased members of the institute. The *Recueil d'Éloges Historiques* (Paris, 1819, 2 vols.) contains models worthy of imitation. The French academy received him, in consequence, among their 40 members. Almost all the learned societies of the world have sent him honorary diplomas. France is indebted to him for the establishment of a cabinet of comparative anatomy, which is the finest osteological collection in Europe.

CUXHAVEN; a village in Rützebüttel, a bailiwick of Hamburg, at the mouth of the river Elbe. It is important for all navigators going to Bremen or Hamburg. Its lighthouse is 8° 43' 1" E. lon., and 53° 52' 51" N. lat., 61 miles W.N.W. of Hamburg. The harbor is large and commodious, one of the safest on the coast, and is resorted to in cases of danger. Here vessels generally take pilots to go up the river to Hamburg, &c. These pilots are privileged, and, by their statutes, are compelled always to keep a yacht out at sea,

near the outermost buoy, called the *red buoy*, with men ready to conduct any vessel which may demand assistance. These pilots very often go as far as the channel, and even through it, to meet vessels. From this village, there is a regular packet line, maintained by the English government, to Harwich. Here is also a quarantine, where vessels are often subjected to much unnecessary delay; sent to Norway, for instance, to take an airing, when they are bound to Hamburg. A bathing-house has been established here, with many other improvements, by the senator Abendroth. In the middle ages, a family named Lappen were in the habit of sailing from this place for the commission of piracy. Hamburg conquered it in the 14th century. With this city, it came under the French dominion, and, in 1814, was again declared a province of Hamburg. The whole bailiwick of Rützebüttel is subject to, not a component part of, Hamburg.

CUYABA, or **JESUS DE CUYABA**; a town of Brazil, capital of Matto Grosso, on the river Cuyaba, nearly 300 miles above its entrance into the Paraguay; 280 miles W. Villa Rica; population, 30,000. In the neighborhood of this town are the most western mining stations in Brazil, long celebrated for the quantity of gold they produce. The town is well provided with meat, fruits and vegetables, and the surrounding country is fruitful.

CYANOGEN. (See *Prussic Acid*.)

CYBELE was originally a particular goddess of the Phrygians, like Isis, the symbol of the moon, and, what is nearly connected with this, of the fruitfulness of the earth; for which reason she is confounded with Rhea, whose worship originated in Crete, and in whom personified nature was revered. When the worship of Cybele was introduced among the Greeks, the goddess was already surrounded with a cloud of mythological traditions. According to Diodorus, Cybele was the daughter of the Phrygian king Mæon, and his wife Dindyma. At her birth, her father, vexed that the child was not a boy, exposed her upon mount Cybelus, where she was nursed by lions and panthers, and afterwards found and brought up by the wives of the herdsmen. She invented fifes and drums, with which she cured the diseases of beasts and children, became intimate with Marsyas, and fell violently in love with Atys. (See *Atys*.) She was afterwards recognised and received by her parents. Her father, discovering her love for Atys, had him seized and ex-

ecuted, and left his body unburied. The grief of Cybele, on this occasion, deranged her understanding. She wandered about, in search of Atys, with dishevelled hair, escorted, by the sound of the drums and fifes which she had invented, through various countries, even to the Hyperboreans, the most distant inhabitants of the North. During her absence, a famine arose in Phrygia, which did not cease until divine honors were paid to Cybele, by the command of the oracle, and the statue of Atys interred, as his body could not be found. Some traditions say that Atys, in a fit of insanity, emasculated himself. Other traditions give a different account of the cause of his misfortune. In memory of him, the priests of Cybele were eunuchs. Her worship was celebrated with a violent noise of instruments, and rambling through fields and woods. In Crete, she was confounded with Rhea. She was also blended with the old Latin goddess Ops. Her original statue was nothing but a dark, quadrangular stone. Afterwards she was represented as a matron, with a mural crown on her head, in reference to the improved condition of men, arising from agriculture, and their union into cities. A common attribute of the goddess is the veil about her head, which refers to the mysterious and incomprehensible in nature. In her right hand she often holds a staff, as an emblem of her power, and, in her left, a Phrygian drum. Sometimes a few ears of corn stand near her. The sun, also, is sometimes represented in her right hand, and the crescent of the moon in her left. We sometimes see her in a chariot, drawn by lions; or else she sits upon a lion, and, as omnipotent nature, she holds a thunderbolt; or a lion lies near her. (See *Atalanta*.) These symbols are all representations of her dominion, and of the introduction of civilization, by her means, in the period of barbarism.

CYCLADES, in ancient geography; a group of islands in the Archipelago, S. E. of Eubœa and Attica, inhabited mostly by Greeks. Nearly in the middle lies the largest island, Naxos. (q. v.) The most southerly is Melos. (q. v.) Paros (q. v.) also is one of this fertile and charming group.

CYCLE (Greek κύκλος, a circle) is used for every uniformly returning succession of the same events. On such successions or cycles of years rests all chronology, particularly the calendar. Our common solar year, determined by the periodical return of the sun to the same point in the

ecliptic, every body knows, contains 52 weeks and 1 day, and leap-year a day more. Consequently, in different years, the same day of the year cannot fall upon the same day of the week; but, as, for example, the year 1814 began with Saturday, 1815 with Sunday, 1816 with Monday; but 1817, because preceded by a leap-year, began, not with Tuesday, but with Wednesday. If we count only common years, it is manifest that, from seven years to seven years, every year would begin again with the same day of the week as the seventh year before; or, to express the same in other words, after seven years, the dominical letter (q. v.) would return in the same order. But as every fourth year, instead of a common year, is a leap-year, this can only take place after 4×7 , or 28 years. Such a period of 28 years is called a *solar cycle*, and serves to show the day of the week falling on the first day of January in every year. For this purpose, it is only requisite to know with what day of the week a particular year began, and then to prepare a table for the first days of the 27 following years. It is the custom now to fix the beginning of the solar cycle at the ninth year B. C., which was a leap-year, and began with Monday. If you wish to know what day of the week the new-year's day of any year of our reckoning is, you have only to add nine to the number of the year, and then, after dividing this sum by 28, the quotient gives, of course, the number of complete cycles, and the remainder shows what year of the solar period the given year is, of which the table above-mentioned gives the day of the week with which it begins. But this reckoning is only adapted to the Julian calendar. In the Gregorian, it is interrupted by the circumstance that, in 400 years, the last year of the century is three times a common year. Hence this reckoning will not give the day of the week for the first day of the year; but, from 1582 (the commencement of the Gregorian calendar) to 1700, for the 11th, from 1700 to 1800 for the 12th, in the 19th century for the 13th day of the year, and so on, from which we must then reckon back to the new-year's day. Hence it is far more convenient to prepare a table for the beginning of a century (for example, for 1801, which began with Thursday), and divide by 28 the number of years from that to the given year, and, with the remainder, seek in the table the day of the week for the first day of the year. Besides this, another cycle is necessary for the determination of festival days,

by the aid of which the feast of Easter, by which all the movable feasts are regulated, is to be reckoned. Easter depends on the first full moon after the vernal equinox. (See *Calendar*.) The lunar cycle is a period of 19 years, after which the new moon falls again on the same day of the month. January 2, 1813, there was a new moon; January 2, 1832, there will be a new moon again. As the time from one new moon to another, as astronomy teaches, is about $29\frac{1}{2}$ days, a table of the new moons for 19 years may be very easily prepared. It is only necessary to observe that this lunar cycle always begins with a year, of which the first new moon falls on the first of January, and that this was the case the first year B. C. Divide by 19 the number of the year plus 1, and the remainder will show what year in the lunar period the given year is. The number of the year is called the *golden number*. (See *Calendar*, and *Epact*.) Besides these two cycles, which are indispensable for the calculations of the calendar, there are some others, several of them known by the name of *periods*. (See the accounts given under the heads *Calendar* and *Era*.)—The Germans make much use of the word *Cyclus* in science, meaning by it any series of events, works, observations, &c., which forms a whole in itself, and reminds us of a circle; thus they speak of the *Cyclus* of works in a certain science, and *Cyclus* of discoveries by a philosopher, &c., wherever the series forms a well-connected whole.

CYCLIC POETS. (See *Greek Literature*.)

CYCLOID; the line described by a moving wheel. Imagine a circle which is rolled perpendicularly along a straight line, till the point first at rest is brought to rest again, after an entire revolution. The curve, thus described by this point, is called a *cycloid*, because every point in the circumference of a revolving wheel describes a similar curve. The circle is called the *generating circle*; the line on which it is described, the *base of the cycloid*. The length of the cycloid is always four times the diameter of the generating circle, and its area three times the area of this circle. This line is very important in the higher branches of mechanics. Imagine a pendulum suspended by a thread, in such a way that, in the swinging of the pendulum between two plates, each of which is bent in the form of a cycloid, the thread rolls and unrolls itself. Then the longest vibrations will be performed in the same time as the shortest, producing an isochronism, and the cycloid is hence called an *iso-*

chrone or *tautochrone*. The name of *brachystochrone* has also been given to the cycloid, because it is the line in which a heavy body, falling in a direction oblique to the horizon, would pass in the shortest time between two points.

CYCLOPEDIA. (See *Encyclopædia*.)

CYCLOPEAN WORKS, in ancient architecture; masonry performed with huge blocks of stone, much of which is to be seen in Sicily, said, by the ignorant, to be the works of an ancient and fabulous gigantic race of people; as Stonehenge is said by the country people to have been built by the devil. Some of these works, called *Cyclopean*, were the walls of Argos and Sicyone. Near to Nauplea, in Argolis, there were caverns which, according to Strabo, were called *Cyclopean*. As servants of Vulcan, the Cyclops were celebrated in mythology and fabulous history for their marvellous works. (See *Cyclops*.)

CYCLOPS; the name of celebrated giants in the mythology of Greece. They are of two kinds: the former are the sons of Neptune, and the latter the sons of Uranus and Gaia (Heaven and Earth). The latter, three in number, Arges, Brontes, Steropes (Thunder and Lightning), were those powerful giants who forged thunderbolts for Jupiter, in the workshop of Vulcan, for which Apollo killed them. Wholly different from these are the sons of Neptune, of whom some enumerate 7; others, near 100. The most distinguished of them is Polyphemus. With him is connected the whole nation of the Cyclops, who are described in the *Odyssey* (ix, 106 et seq.) as wandering savages, uncouth giants, without agriculture or civil union, dwelling in mountain caves, and supporting themselves by the breeding of cattle. According to Homer, they resided on the west side of Sicily, near the dark Cimmeria. As geographical knowledge increased, the region of Cimmerian darkness was placed at a greater distance, and this nation was described as dwelling on the Riphæan mountains, rich in beds of metal. The one-eyed people, sometimes called *Cyclops*, sometimes *Arimaspians*, dug up the Riphæan ores, and wrought them, though disturbed by the griffins which watched the gold. From this time, the two classes of Cyclops are confounded. A part of these Cyclops forged Jupiter's thunderbolts; another part went on an adventure to Greece, where they left several buildings, as monuments of Cyclopean art. (O. Müller understands, by the Cyclops, whole nations, united under an ecclesiastical government. This wall-build-

ing people might have been humble peasants in the Pelasgian plains of Argos (which is especially called the *Cyclopean* region), tributary to the Achæans.) When men's acquaintance with the surface of the earth became still more increased, the fabled Riphæan hills were carried still farther into the undiscovered night of the North; and here the history of the one-eyed nation is wrapped in confusion. Some authors place them still on the Riphæan hills to the North: most writers, however, treat them as dwelling again in Sicily, engaged in the service of Vulcan, but working under Ætna, or among the flaming crags of the Lipari islands. The mountains emitting fire were their forges; and the roaring within them, the sound of their hammers. How they acquired the character of being one-eyed is unknown, as their name only attributes to them *round eyes*. Polyphemus, in many figures, is represented with two eyes. Among the Greek pastoral poets, we find the Cyclops exhibited in a rustic and natural character.—*Cyclops* is likewise a name which zoölogists give to a certain minute aquatic animal.

CYDER. (See *Cider*.)

CYLINDER; the name of a geometrical solid, formed by two parallel circular surfaces, called the superior base and the inferior base, and a convex surface terminated by them. There is a distinction between rectangular cylinders and oblique cylinders. In the first case, the axis, that is, the straight line joining the centre of the two opposite bases, must be perpendicular; in the second, the axis must form an angle with the inferior base. The solidity of a cylinder is equal to the product of the base by the altitude. Archimedes found that the solidity of a sphere inscribed in an equilateral cylinder, that is, of a sphere whose diameter is equal to the height, and also to the diameter of the base of the cylinder, is equal to two thirds of the solidity of the cylinder. The cylinder is one of those figures which are constantly in use for the most various purposes.

CYLINDER GLASS. (See *Glass*.)

CYMBALS, among the ancients; musical instruments consisting of two hollow basins of brass, which emitted a ringing sound when struck together. The brazen instruments which are now used in military music, and have been borrowed by Europeans from the East, seem to have taken their rise from these. The invention of them, according to some writers, must be referred to the worship of Cybele,

CYNICS. After the Greeks had explored, with unparalleled rapidity, all the regions of philosophy, and sects of the most various kinds had formed themselves, it was not unnatural that a school should arise which condemned speculation, and devoted itself to the moral reformation of society. The Cynics were founded by Antisthenes, a scholar of Socrates, at Athens, about 380 B. C. The character of this philosophy for the most part remained true to the Socratic, particularly in making practical morals its chief, or rather its only object, and in despising all speculation. There were some noble features in the doctrines of the Cynics. They made virtue to consist in self-denial and independence of external circumstances, by which, as they thought, man assimilates himself to God. This simplicity of life, however, was soon carried so far by the Cynics, that it degenerated into carelessness, and even neglect of decency. In their attempts at living conformably to nature, they brought themselves down to the level of savages, and even of brutes. No wonder, then, that the Cynics soon became objects of contempt. The most famous of their number were, besides their founder, the ingenious zealot Diogenes of Sinope, Crates of Thebes, with his wife Hipparchia, and Menippus, who was the last of them. After him, this philosophy merged in the Stoic, a more worthy and honorable sect.—The word *cynicism* is still used to mark an uncommon contempt or neglect of all external things.

CYNOSURA; a nymph of mount Ida, who educated Jupiter, and was afterwards placed in the constellation of the Little Bear. By this star, the Phœnicians directed their course in their voyages.—*Cynosure*, in a figurative sense, is hence used as synonymous with *pole-star*, or *guide*.

CYNTHIUS; a surname of Apollo, from mount Cynthus, on the island of Delos, at the foot of which he had a temple, and on which he was born. Diana, his sister, is called Cynthia, from the same mountain, because it was also her birth-place.

CYPRESS. The cypress-tree (*cupressus sempervirens*) is a dark-colored evergreen, a native of the Levant, the leaves of which are extremely small, and entirely cover the slender branches, lying close upon them, so as to give them a somewhat quadrangular shape. In some of the trees, the branches diminish gradually in length, from the bottom to the top, in such a manner as to form a nearly pyramidal shape. In many of the old gardens in

Europe, cypress-trees are still to be found; but their generally sombre and gloomy appearance has caused them, of late years, to be much neglected. They are, however, very valuable, on account of their wood, which is hard, compact and durable, of a pale or reddish color, with deep veins and a pleasant smell. We are informed by Pliny, that the doors of the famous temple of Diana, at Ephesus, were of cypress-wood, and, though 400 years old at the time that he wrote, appeared to be nearly as fresh as when new. Indeed, this wood was so much esteemed by the ancients, that the image of Jupiter, in the capitol, was made of it. The gates of St. Peter's church, at Rome, are stated to have been of cypress, and to have lasted more than 1000 years, from the time of the emperor Constantine until that of pope Eugenius IV, when gates of brass were erected in their stead. As this wood, in addition to its other qualities, takes a fine polish, and is not liable to the attacks of insects, it was formerly much esteemed for cabinet furniture. By the Greeks, in the time of Thucydides, it was used for the coffins of eminent warriors; and many of the chests which enclose Egyptian mummies are made of it. The latter afford very decisive proof of its almost incorruptible nature. The name of this tree is derived from the island of Cyprus, in the Mediterranean, where it still grows in great luxuriance. Its gloomy hue caused it to be consecrated, by the ancients, to Pluto, and to be used at the funerals of people of eminence. Pliny states that, in his time, it was customary to place branches of cypress-tree before those houses in which any person lay dead. Its perpetual verdure served the poets as the image of eternity, as its dark and silent leaf, unmoved by gentle breezes, is, perhaps, a proper symbol of melancholy. Large collections of cypresses, as they are often seen surrounding Turkish minarets, have a gloomy and interesting appearance. In the western parts of the U. States, upon the Mississippi and other rivers, the cypress constitutes large forests of a most sombre and peculiar character. The dark, dense nature of their foliage, the shade, impenetrable to the sun, which they form, render them the fit abode of wild beasts and reptiles, and almost inaccessible to man. They cover tracts hundreds of miles in extent, and are visited only by the traveller and the wood-cutter.

CYPRIANS; a term used for courtesans, like that of Corinthians (q. v.), because

Venus, the Cyprian goddess, was particularly worshipped on the island of Cyprus.

CYPRIAN, St., born A. D. 200, at Carthage, was descended from a respectable family, and was a teacher of rhetoric there. In 246, he was converted to Christianity, distributed his property among the poor, and lived in the greatest abstinence. The church, in Carthage, soon chose him presbyter, and, in 248, he was made bishop. He was the light of the clergy, and the comfort of the people. During the persecution under the emperor Decius, he fled, but constantly exhorted his church to continue firm in the Christian faith. In 251, he summoned a council, at Carthage, to decide concerning those who had abandoned their faith during the persecution, but desired to be readmitted through penance. When the persecution of the Christians was renewed, A. D. 257, he was banished to Curubis, 12 leagues from Carthage. Sept. 14, 258, he was beheaded, at Carthage, because, in opposition to the orders of the government, he had preached the gospel in his gardens, near Carthage. Lactantius calls him one of the first eloquent Christian authors. His style, however, retained something of the hardness of his teacher, Tertullian. We have from him an explanation of the Lord's prayer, and 81 letters, affording valuable illustrations of the ecclesiastical history of his time. Baluze published his works complete (Paris, 1726, fol.).

CYPRIS (*Cypria*); a surname of Venus, from the island of Cyprus, where was her first temple.

CYPRUS; an island in the Mediterranean, between Asia Minor and Syria, famous, in antiquity, for its uncommon fertility and its mild climate. It contains 7264 square miles, and 120,000 inhabitants, of whom 40,000 are Greeks. Cyprus is the native place of the cauliflower. Wine, oil, honey, wool, &c., are still, as formerly, the principal productions. The country is distinguished by remarkable places and mountains; as Paphos, Amathusia, Salamis and Olympus, once adorned with a rich temple of Venus. Venus was particularly venerated here, because, according to tradition, the delightful shores of Cyprus received her when she emerged from the foam of the sea. The oldest history of this island is lost in the darkness of antiquity. When Amasis brought it under the Egyptian yoke, 550 B. C., Ionian and Phœnician colonists had formed several small states in the island. It remained an Egyptian

province till 58 B. C., when it was conquered by the Romans. After the division of the Roman territories, Cyprus continued subject to the Eastern empire, and was ruled by its own governors of royal blood, of whom Comnenus I made himself independent, and his family sat upon the throne till 1191, when Richard of England rewarded the family of Lusignan with the sceptre. After the extinction of the legitimate male line of Lusignan, James, an illegitimate descendant, came to the government. His wife was a Venetian (Catharine Cornaro, q. v.), and, as she had no children at his death, the Venetians took advantage of this circumstance to make themselves masters of the island (1473). They enjoyed the undisturbed possession of it till 1571, when Amurath III, notwithstanding the bravest resistance on the part of Marco Antonio Bragadino, who defended Famagusta 11 months, conquered Cyprus, and joined it to the empire of Turkey. Nicosia, the chief city, is the seat of the Turkish governor, a Greek archbishop and an Armenian bishop. The wines of Cyprus are red when they first come from the press; but after five or six years, they grow pale. Only the Muscatel wine is white at first; and even this, as it grows older, becomes redder, till, after a few years, it attains the thickness of sirup. It is very sweet. The wines of Cyprus are not equally agreeable at all seasons of the year: they are best in spring and summer. Excessive cold injures them, and destroys their flavor and color. They are put up at first in leather bags covered with pitch, whence they acquire a strong pitchy flavor which is several years in escaping. They are brought to the continent in casks, but cannot be kept unless drawn off after some time into bottles. The best is distinguished by the name of *Commandery*. (See *Venus*).

CYR, St.; a French village in the department of the Seine-and-Oise, one league west of Versailles (population, 1000), famous for the seminary which Louis XIV founded here, at the persuasion of madame Maintenon, in 1686. Here 250 noble ladies were educated, free of expense, until their 20th year. Forty females of the order of St. Augustine instructed the scholars. Madame Maintenon gave all her attention to this establishment. She is buried at St. Cyr. During the revolution, this institution was overturned, and a military preparatory school was founded by Napoleon, which survived his fall, and educates 300 pupils. Napoleon established *la maison impériale d'Écouen*, an in-

stitution similar to the one at St. Cyr, and placed madame Campan at the head of it.

CYRENAICA (originally a Phœnician colony), once a powerful Greek state in the north of Africa, west of Egypt, comprising five cities (Pentapolis), among which was Cyrene, a Spartan colony, is at present a vast, but unexplored field of antiquities. The ancient site of Cyrene is now called *Grenne* or *Cayron*, in the country of Barca, in the dominion of Tripoli. Till the fifth century, Cyrenaica was the seat of the Gnostics. (q. v.) The antiquities there are described by the physician P. Della Cella, in his work *Viaggio da Tripoli di Barbarie alle Frontiere Occidentali dell' Egitto, fatto nel 1817* (Genoa, 1819, 8vo.). J. R. Pacho, who has travelled over Africa since 1819, made many observations, likewise, in Cyrenaica, for which he received the geographical prize of 3000 francs, on his return to Paris, in 1826. (*Voyage de M. Pacho dans la Cyrenaïque*.) Of the famous inscription found among the ruins of Cyrene, and brought to Malta, some account has been given by Gesenius (Halle, 1825, 4to.), and Hamacker, professor at Leyden (Leyden, 1825, 4to.). At present, the country is called, by the Arabians, *Djebel Akhdar*, or *Green Highland*. Surrounded by sterile and dry countries, Cyrenaica itself is very fertile and well watered. Its hills are covered with wood, and exhibit many melancholy traces of former cultivation. In ancient times, the inhabitants suffered much from the attacks of the people of the interior and the Carthaginians. The ruins of Cyrene have given rise among the present inhabitants, to a belief in a petrified city. There are at present about 40,000 people in Djebel Akhdar.

CYRENAÏCS; a philosophical sect, whose founder was Aristippus (q. v.), born in Cyrene, a pupil of Socrates. (See *Aristippus*.) The most distinguished of his followers were Hegesias, Anniceris, Theodore the Atheist, who, for his denial of the existence of virtue and the Deity, was banished from Athens.

CYRENE. (See *Cyrenaica*.)

CYRIL. Ecclesiastical history mentions three saints of this name:—1. Cyril of Jerusalem, born there about the year 315, was ordained presbyter in 345, and, after the death of St. Maximus, in 350, became patriarch of Jerusalem. Being a zealous Catholic, he engaged in a warm controversy with Acacius, the Arian bishop of Cæsarea. In addition to their dispute upon doctrinal points, Acacius accused

him of having sold some valuable church ornaments, which he had indeed done, but for the laudable purpose of supporting the needy during a famine. A council assembled at Cæsarea, by Acacius, in 357, deposed Cyril; but the council of Seleucia, in 359, restored him and deposed his persecutor. Acacius, by his artifices, succeeded in depriving him again of his dignity the next year, and, after the emperor Constantius, on his accession to the throne, had once more recalled him, he was a third time deposed by the emperor Valens, after whose death he finally returned to Jerusalem. In 381, the council of Constantinople confirmed him. He died in 386. We have 23 catecheses composed by him, in a clear and simple style, which are esteemed the oldest and best outline of the Christian dogmas (Paris, 1720, folio.)—2. Cyril of Alexandria was educated by his uncle Theophilus, patriarch of Alexandria; spent five years in the monasteries of Nitria, where he was instructed by the abbot Serapion. He then went to Alexandria, where his graceful form and pleasing delivery gained him so many adherents, that, after his uncle's death, in 412, he succeeded him in the patriarchal dignity. Full of zeal and ambition, he was not satisfied with ecclesiastical honor alone, but exercised secular dominion also. To punish the Jews, by whom Christian blood had been shed, during an insurrection, he assailed them, at the head of the populace, destroyed their houses and their furniture, and drove them out of the city. Orestes, the prefect of Egypt, who complained of such lawless violence, so inconsistent with the character of a bishop, was soon after attacked in the streets by 500 furious monks, one of whom, having wounded Orestes, was apprehended, condemned to death, and expired under the blows of the lictors. Cyril caused his body to be carried in a solemn procession to the cathedral, gave him the name of *Thaumasius*, and extolled him as a martyr and a saint. The assassination of Hypatia, the learned daughter of Theon, the mathematician, who had excited the envy of Cyril, by the applause which she had gained by her knowledge of geometry and philosophy, took place at his instigation. In the notorious synod of 403, in concurrence with his uncle, he had planned the condemnation of St. Chrysostom, and it was only after an obstinate resistance, that he was persuaded to submit to the decrees of the Catholic church, in respect to that prelate. Still more fierce were his disputes with Nestorius, the suc-

cessor of Chrysostom, who distinguished between the divine and human nature of Christ, acknowledging Mary as the mother of Christ, but refusing to her the appellation of *mother of God*. Cyril contended long and violently against these doctrines, and appointed pope Celestine umpire, who immediately condemned them. He drew up 12 anathemas, directed against John, patriarch of Antioch, which, in the opinion even of theologians, are not wholly free from heresy, and called upon Nestorius to subscribe them. To settle the dispute between these two prelates, the council of Ephesus was summoned. Both parties appeared with a great number of adherents and servants, between whom innumerable disputes arose. Cyril opened the council before the arrival of the patriarch of Antioch; and, although Nestorius refused to recognise his enemies as judges; although 68 bishops were in his favor, and a magistrate, in the name of the emperor, demanded a delay of four days; yet, in a single day, Nestorius was condemned, deposed, and declared to be a second Judas. Soon after, the patriarch of Antioch arrived, and held a synod of 50 bishops, who, with equal haste, condemned Cyril as guilty of heresy, and declared him a monster born for the ruin of the church. Both parties rushed to arms: the streets of the city, and the cathedral itself, became the theatre of their fury, and were polluted with blood. The emperor Theodosius sent troops to Ephesus, to disperse this pugnacious council. This measure, however, only changed the theatre of the war; for it was continued three years longer, between John of Antioch and Cyril. Soon after, Nestorius, not less violent than Cyril, obtained from the emperor a command for Cyril to appear again before a council at Ephesus. Both parties appeared, with their adherents, in arms. Cyril was maltreated, and even imprisoned. He escaped from his keepers, however, and fled to Alexandria. From that place, he contrived, by distributing bribes, to excite an insurrection in Constantinople, which struck terror into the timid emperor. Negotiations were begun: Cyril was prevailed upon to mitigate his anathema, and, against his will, to acknowledge a twofold nature in Christ. But Nestorius, as he was determined never to renounce his opinions, was compelled to lay down his offices, and to retire to a monastery. He was afterwards banished to Thebais. In 339 or 340, he died. Cyril closed his restless career in 344. His opinions prevailed both in the Eastern and Western

empire, and the church gave him a place among the saints. The best edition of his works, in which there is neither clearness nor accuracy of style, is that of 1638, in folio.—3. St. Cyril, a native of Thessalonica, by way of distinction, was called *Constantine*, and, at Constantinople, where he studied, received the name of the *Philosopher*. At the recommendation of St. Ignatius, the emperor Michael III sent him to the Chazars—a people of the stock of the Huns. He converted the khan, after whose example the whole nation were baptized. He then preached the gospel, with Methodicus, to the Bulgarians, and baptized their king Bojaris, A. D. 860. They had the same success in Moravia and Bohemia. Still later, they went to Rome, where they both died. According to Dobrowsky, Cyril died in 868: according to Xav. Richter, he died in 871 or 872. The two apostles were both declared saints. The Greeks and Russians celebrate the festival of St. Cyril on Feb. 14. He was the inventor of the Cyrillian Letters (q. v.), which took their name from him, and is probably the author of the Apologies which bear his name.

CYRILLIAN LETTERS; characters called, in Slavonic, *Czuraliza*; one of the modes of writing the Slavonic language, of which there are three:—1. Roman or German letters, used by the people of Poland, Bohemia and Lusatia; 2. *Cyrillian*, so called from their inventor, Cyrillus. They are much used by the Russians. 3. From these Cyrillian characters, probably through the artifices of calligraphy, a peculiar alphabet was formed, which is sometimes used in printed books, but no where in common life.

CYRUS; a celebrated conqueror. The only two original authorities concerning him—Herodotus and Xenophon—differ so greatly, that they cannot be reconciled. According to Herodotus, he was the son of Cambyses, a distinguished Persian, and of Mandane, daughter of the Median king Astyages. He founded the Persian monarchy. (See *Assyria*.) A short time before his birth, the soothsayers at the court of Astyages divined from a dream of his, that his future grandson was to dethrone him. Upon this, he gave orders that Cyrus should be destroyed immediately after his birth. For this purpose, he was delivered to a herdsman, who, moved with compassion, brought him up, and named him *Cyrus*. His courage and spirit betrayed his descent to the king. On one occasion, playing with other boys, being chosen king by his companions, he caused

the son of one of the first men in the nation to be beaten. The father of the boy complained to Astyages, who reprimanded young Cyrus. But he appealed to his right as king of his companions, and replied with so much boldness and good sense, that Astyages became interested in him, and instituted inquiries, which led to the discovery of his birth. The magi having succeeded in quieting the uneasiness which the discovery occasioned him, he sent Cyrus to his parents in Persia, with marks of his favor. But the young man soon drew together a formidable army of Persians, and conquered his grandfather, B. C. 560. A similar fate befell Cræsus, the rich and powerful king of Lydia, and Nabonadius, king of Babylon, whose capital he took, after a siege of two years. He also subdued Phœnicia and Palestine, to which he caused the Jews to return from the Babylonish captivity. While Asia, from the Hellespont to the Indies, was under his dominion, he engaged in an unjust war against the Massagetæ—a people of Scythia, north-east of the Caspian sea, beyond the Araxes, then ruled by a queen named *Tomyris*. In the first battle, he conquered by stratagem; but, in the second, he experienced a total defeat, and was himself slain, B. C. 529, after a reign of 29 years. He was succeeded by his son Cambyses. The stories related by Xenophon (q. v.), in the *Cyropædia* (Account of the Life and remarkable Traits in the Character of Cyrus), that he received a splendid education at the court of Astyages, inherited his kingdom, and ruled like a genuine philosopher, are either mere romance, deserving not the least historical credit (Xenophon's design being to represent the model of a king, without regard to historical truth, and, in this way, perhaps, to exhibit to his countrymen the advantages of a monarchy), or else the two accounts are founded on different traditions, perhaps of two different persons named *Cyrus*.—Another Cyrus was the youngest son of Darius Nothus, or Ochus, who lived nearly 150 years later than the former. In the 16th year of his age, he obtained the supreme power over all the provinces of Asia Minor. His ambition early displayed itself; and when, after his father's death, his eldest brother, Artaxerxes Mnemon, ascended the throne, Cyrus formed a conspiracy against him, which was, however, discovered before it came to maturity. Instead of causing the sentence of death to be executed upon him, his brother kindly released him, and made him governor of Asia Minor. Here

Cyrus assembled a numerous army, to make war upon Artaxerxes, and dethrone him. Among his forces were 13,000 Greek auxiliaries, who were ignorant, however, of the object of the expedition. Being informed of his brother's design, Artaxerxes marched against him with a much larger army. In the plains of Cynaxa, in the province of Babylon, the two armies encountered each other. After a brave resistance, especially on the part of the Greeks, the army of Cyrus was overcome, and he himself slain by the hand of Artaxerxes.

CYTHERA (now *Cerigo*; population, 8000), one of the seven Ionian islands, separated by a narrow strait from the south shore of Laconia, was particularly celebrated for the worship of Venus Urania, whose temple in Cythera, the chief city, was the oldest and most splendid of her temples in Greece. The ancient Cythera is now demolished, and exhibits nothing but a few ruins. On the shore of this island, according to one tradition, Venus first ascended from the sea, and took possession of the land; i. e., Phœnician navigators here first introduced the worship of Venus into Greece. The island is rocky and unfruitful. From this place, Venus has her name *Cytherea*.

CZAR, ZAR, or ZAAR; a title of the autocrat of Russia. The word is of old Slavonic origin, and is nearly equivalent to *king*. The emperor is called, in the same language, *kessar*. Until the 16th century, the rulers of the several Russian provinces were called *grand-princes* (*veliki knaes*). Thus there were grand-princes of Wladimir, Kiev, Moscow, &c. The grand-prince Wasilie first received, in 1505, the title of *samodersheta*, which is equivalent to the Greek word *autocrat*. (q. v.) The son of Wasilie, Ivan II, adopted, in 1579, the title of *Czar of Moscow*, which his descendants bore for a long time. In 1721, the senate and clergy conferred on Peter I, in the name of the nation, the title of *emperor of Russia*, for which, in Russia, the Latin word *imperator* is used. Several European powers declined to acknowledge this title, until the middle of the last century. The eldest son and presumptive heir of the czar was called *czareviz* (czar's son); but, with the unfortunate Alexis, son of Peter I, this title ceased, and all the princes of the imperial house have been since called *grand-princes*. The emperor Paul I renewed the title *czareviz*, or *czarewitch*, in 1799, for his second son, Constantine. (q. v.) The rulers of Georgia and Imiretta, now under

the Russian sceptre, called themselves *czars*.

CZENSTOCHOW, or CZENSTOCHOWA; a fortified monastery, belonging to the order of St. Paul the Hermit, in Poland, province of Kalisch, near the Wartha and the frontiers of Silesia. In this fortification, well provided with artillery, the monks formerly had their own garrison, and chose commandants from their own number. In the diet of 1765, however, it was determined to occupy this place with a secular

force. Frequent pilgrimages are made to the miraculous image of the Virgin, in the church of the monastery. At the foot of the mountain lies New Czenstochow, with a population of 1300, and, a few miles distant, Old Czenstochow, with a population of 1700. In 1812, Czenstochow was occupied by a garrison of French soldiers, who were compelled to surrender to the Russians in January, 1813.

CZERNY GEORGE. (See *Servia*.)

CZIRKNITZ. (See *Zirknitz*.)

D.

D; the fourth letter in our alphabet, of the order of mutes. (See *Consonant*.) According to M. Champollion's recent discoveries, the *d*, in the hieroglyphic writing of the old Egyptians, corresponding to the *dau* of the Copts, is a segment of a circle, similar to a \cap . The Greek delta was a triangle, Δ , from which the Roman D has been borrowed. D, as an initial letter on medals, indicates the names of countries, cities and persons, as *Decius*; also the words *devotus*, *designatus*, *divus*, *dominus*, &c.; D. M., *diis manibus*; D. O. M., *Deo optimo maximo*. The Greek Δ represented the number four. Among Roman numerals, D signifies 500, but was not used as a numerical designation until 1500 years after Christ. The Romans designated a thousand in this way,—CICD. The early printers, it is said, thought it best to express 500 by half the character of 1000; and therefore introduced IC, which soon grew into D. If a line was marked over it, it signified 5000. In inscriptions and manuscripts, D is very often found in the place of B and L; *des* for *bes*, *dachrumæ* for *lachrumæ*. In dedications, D., thrice repeated, signifies *Dat*, *Donat*, *Dicat*, or *Dat*, *Dicat*, *Dedicat*. As an abbreviation of the jurists, D signifies the pandects (*Digesta*). D stands for *doctor* in M. D.; in D. T., *doctor of theology*; LL. D., *doctor of laws*, &c. D., on French coins, signifies *Lyons*; on Prussian, *Aurich*; on Austrian, *Grätz*. In music, D designates the second note in the natural diatonic scale of C, to which Guido applied the monosyllable *re*.

DA CAPO (*Ital.*; from the head or beginning); an expression written at the end of a movement, to acquaint the performer

that he is to return to, and end with, the first strain. It is also a call or acclamation to the singer or musician, in theatres or concerts, to repeat a piece which he has just finished—a request very often made mercilessly by the public, without regard to the fatigue caused by a performance.

DACCA JELALPORE; an extensive and rich district of Bengal, situated principally between 23° and 24° of N. lat. It is intersected by the Ganges and Brahmapootra, two of the largest rivers in India, which, with their various branches, form a complete inland navigation, extending to every part of the country; so that, every town having its river or canal, the general mode of travelling or conveying goods is by water.

DACCA; a large city, capital of the above-named district, and, for 80 years, the capital of Bengal. It is situated on the northern bank of a deep and broad river, called the *Boor Gunga* (Old Ganges), at the distance of 100 miles from the sea. In this city, or its vicinity, are manufactured beautiful muslins, which are exported to every part of the civilized world. It has also an extensive manufacture of shell bracelets, much worn by the Hindoo women. The neighborhood of the city abounds with game of all sorts, from the tiger to the quail, and is, on this account, a great resort of Europeans, during the three cold months. 180 miles from Calcutta by land; lon. 90° 17' E.; lat. 23° 42' N.

DACH, Simon, a German poet of the 17th century, born at Memel, July 29, 1605, lived in an humble condition, until he was appointed professor of poetry in

the university of Königsberg. He remained in this office until his death, April 15, 1659. His secular songs are lively and natural. His sacred songs are distinguished for deep and quiet feeling.

DACIA. The country which anciently bore this name, according to Ptolemy's description, comprised the present Banat, a part of Lower Hungary, as far as the Carpathian mountains on the west, Transylvania, Moldavia, Walachia and Bessarabia. Some include Bulgaria and Servia, with Bosnia, or the ancient Upper and Lower Mœsia. The inhabitants of this country, called *Daci*, also *Davi*, made themselves, for a long time, terrible to the Romans. When Trajan conquered Dacia, in the second century, he divided it into, 1. *Dacia Riparia* or *Ripensis* (the present Banat, and a part of Hungary), so called because it was bounded on the west by the Theiss, and on the east by the Danube; 2. *Dacia Mediterranea* (now *Transylvania*), so called, because it was situated between the two others; and, 3. *Dacia Transalpina* (now *Walachia, Moldavia* and *Bessarabia*), or that part of Dacia lying beyond the Carpathian mountains. He governed each of these three provinces by a prefect, established colonies in them, and sent colonists from other parts of the Roman empire, to people them, and supply cultivators of the soil. When Constantine the Great divided the Roman empire anew, Dacia became a part of the Illyrian prefecture, and was divided into five provinces or districts. Upon the fall of the Roman empire, it was gradually overrun by the Goths, Huns, Gepidæ and Avars. Since that time, the history of this country, which then lost the name of *Dacia*, is to be sought for in that of the provinces of which it formerly consisted.

DACIER, André, born at Castres, in Upper Languedoc, 1651, of Protestant parents, studied at Saumur, under Tanneguy-Lefèvre, whose daughter Anna was associated in his studies. After the death of Lefèvre, in 1672, he went to Paris. The duke of Montausier, to whom his learning was known, intrusted him with the editing of Pompeius Festus (*in usum delphini*). The intimacy growing out of their mutual love of literature led to a marriage between him and Anna Lefèvre, in 1683, and, two years after, they both embraced the Catholic religion. They received from the king considerable pensions. In 1695, Dacier was elected a member of the academy of inscriptions, and of the French academy: of the latter he was afterwards perpetual secretary.

The care of the cabinet in the Louvre was intrusted to him. He died in 1722. Dacier wrote several indifferent translations of the Greek and Latin authors. Besides the edition of Pompeius Festus, and the *Œuvres d'Horace, en Latin et en Français*, with the *Nouveaux Éclaircissemens sur les Œuvres d'Horace*, and the *Nouvelle Traduction d'Horace*, with critical annotations, he prepared an edition of Valerius Flaccus, a translation of Marcus Antoninus, of Epictetus, of Aristotle's Art of Poetry, with annotations, of the Lives of Plutarch, of the *Cedipus* and *Electra* of Sophocles, of the works of Hippocrates, and of several dialogues of Plato.

DACIER, Anna Lefèvre; wife of the preceding; born at Saumur, in 1651. After the death of her learned father, who had instructed her, and cultivated her talents, she went to Paris, where she displayed her learning by an edition of Callimachus (1675), which she inscribed to Huet, the under tutor of the dauphin. The duke of Montausier, in consequence, intrusted her with the care of several editions of the classics (*in usum delphini*). She first edited Florus (q. v.), with a commentary. Her learned works were not interrupted by her marriage. Her feeble translation of Homer attracted a good deal of attention, and led to a dispute between her and Lamotte, in which it appeared that madame Dacier understood much less of logic, than Lamotte of the Greek language. In her *Considérations sur les Causes de la Corruption du Goût*, she defended Homer with the acuteness of a profound commentator, and Lamotte replied with a great deal of wit and elegance; on which account it was said, Lamotte wrote like an ingenious woman, madame Dacier like a learned man. Lamotte introduced her to the notice of queen Christina, who persuaded her to embrace the Catholic religion. In her *Homère défendu*, she showed little mercy to Hardouin, who had written a satirical eulogy of this poet. On this occasion, she was said to have uttered more invectives against the reviler of Homer, than the poet himself had placed in the mouths of all his heroes. She translated Terence, and three pieces of Plautus, in the prologue of which she treats of the origin, the cultivation and changes of dramatic poetry with acuteness. Her translation of the *Plutus* and the *Clouds* of Aristophanes, deserves indulgence, as the first translation of the Greek comic poet. Her translation of Anacreon and Sappho, with a defence of the latter, met with success. She also wrote annotations

on the Bible, but did not publish them. Her life was entirely devoted to literature, and her domestic duties. She died in 1720. Equally estimable for her character and her talents, she gained as many admirers by her virtue, her constancy and her equanimity, as by her works. She was chosen member of several academies.

DACTYLE. (See *Rhythm*.)

DACTYLIOTHECA (*Greek*); a collection of engraved gems. The art of engraving gems was no where carried to greater perfection than in Greece, where they were worn not only in rings (from which the name of *δακτύλιος*, ring), but in seals, and were much used for other ornamental purposes. The Romans were far behind the Greeks in this art; but they were the first who made collections of precious stones. Scaurus, the son-in-law of Sylla, introduced the custom (Pliny, *Hist. Nat.*, 37, 5). Pompey the Great transferred the collection of Mithridates to Rome, and placed it in the capitol. A much larger collection was exhibited by Caesar in the temple of Venus Genitrix, and, afterwards, under Augustus, by M. Marcellus, in the temple of Apollo Palatinus. In modern times, the princes of Italy vied with each other in collecting these treasures of art. The family of Gonzaga established the first *dactylitheca*, and was followed by the family of Este at Modena, that of Farnese, and by Lorenzo de' Medici in Florence. The gems collected by him are marked with *Lor.*, or *Lor. de' M.*, or with *M.* alone. His collection was divided and scattered, but the Medici established a new one, the foundation of the present *D. Florentina*, the most important existing, as it contains about 4000 gems. In Rome, collections of no great value were made under Julius II and Leo X. Maria Piccolomini, a Roman prelate, had the best in that city; and Lucio Odescalchi, afterwards duke of Bragiani, inherited that of Christina queen of Sweden. Rome afterwards received the collections of the Vatican (formed more at random than on any connected plan), of the Barberini, and of the Strozzi (containing some masterpieces of the art, now in St. Petersburg). The *D. Ludovisia*, belonging to the prince of Piombino, and that of the cardinal Borgia at Velletri, famous for its Egyptian gems and *scarabæi*, are still celebrated. Naples has beautiful gems in the cabinet at Portici and at Capo di Monte. The prince Piscari formed a collection at Catanea, in Sicily, consisting entirely of gems found in Sicily. In France, the first collection was begun by Francis I, but was dispersed

in the civil war. In the reign of Louis XIV, Louvois laid the foundation of the present fine collection of antiques in the royal library. The collection of the duke of Orleans, which he inherited from the Palatinate, was celebrated. Besides these, there were several private collections of value. The most celebrated in England are those of the dukes of Devonshire, Bedford and Marlborough, and the earls of Carlisle and Desborough. Germany also has collections. In the palace of Sans Souci, at Potsdam, near Berlin, several are united, among which is that of Muzel Stosch, rendered famous by the description of Winckelmann. Vienna has a separate cabinet of gems. The collection of Dresden is good. The city library of Leipsic possesses some good gems. The collection at Cassel is extensive, but not very valuable. Munich has some beautiful pieces. There are also many private collections. In the Netherlands, the cabinet of the king is valuable. In the royal palace at Copenhagen, there are some vases inlaid with gems; and Petersburg has, besides the imperial collection, the foundation of which was that of the engraver Natter, the rich collection of count Poniatowski. To multiply elegant and ingenious or remarkable designs on gems, engravings or casts are taken. Thus not only single designs, but all those of the same class, or those of a whole cabinet, are represented by engravings. The impressions of various classes of gems have been collected. Bellori collected the portraits of philosophers and others; Chifflet, abraxas stones (see *Abraxas*, and *Gnosis*); Gori, gems engraved with stars; Ficoroni, gems with inscriptions; Stosch, gems bearing the names of the artists. Representations of whole collections have been given; as, by Gori, of those contained in the *Museum Florentinum*; by Wicar and Mongez, of those in the gallery of Florence; by Mariette, of the former French collections; by Leblond and Lachaux, of that of the duke of Orleans; by Eckhel, of that of Vienna. We might also mention the copies of the *Museum d'Odescalchi*, of the cabinets of Gravelle, Stosch, Bossi, and the duke of Marlborough. But, although some of these impressions are very beautiful, the preference ought to be given to the casts. The collections of such casts are also called *dactylithecae*; for instance, the *dactylitheca* of Lippert, consisting of 3000 pieces. Tassie, in London, has executed the largest collection of casts yet known, amounting to 15,000. These are important aids in the study of

the branch of antiquities with which they are connected.

DACTYLIOMANCY (from *δακτύλιος*, a ring, and *μαντεία*, divination); the pretended art of divining by means of rings.

DACTYLOLOGY, or **DACTYLONOMY** (from *δάκτυλος*, the finger), is the art of numbering with the fingers; or, in a wider sense, of expressing one's thoughts in general with the fingers. It is usually taught in institutions for the education of the deaf and dumb.

DADUCHUS (Latin; *Δαδῦχος*, Greek); literally a torch-bearer, but applied as an epithet to many of the ancient divinities, who were always represented as bearing a torch or flambeau. Daduchi were also those persons, who, in certain ceremonies and religious processions, carried the flambeaus or sacred torches. The Daduchic deities are Ceres, when represented as searching for her lost daughter Proserpine; Diana, Luna, Hecate and Sol, when in their cars, employed in the business of lighting the earth; Venus, Cupid and Hymen, when bearing the torch of love; Rhea or Cybele, and Vesta, in the temples where the vestals guarded the sacred fire of those goddesses; Vulcan, in whose honor, conjointly with Prometheus and Pallas as Daduchi, the Athenians instituted a festival, which they called *Lampadephoria*, *Λαμπαδήφορία* (see *Lampadephoria*); Bellona, the Furies, Aurora, Hymen, Peace (on a medal of Vespasian); Comus (in an ancient painting described by Philostratus); Night, Sleep, and Death, or Thanatus, (*Θάνατος*).

DÆDALUS (*Δαίδαλος*). The name of *Dædali* is given to full-length figures or images, with the feet in an advancing posture. But whence this appellation is derived, is a contested point. Winckelmann, following Palæphatus and Diodorus, says, "Dædalus began to separate the lower part of the Hermes into legs; and the first statues are said to have received from him the name of *Dædali*." The common opinion is, that Dædalus first separated the legs of the statues in an advancing posture, which explains the saying that his statues moved, since all previous sculptors formed their statues with the arms hanging down, not divided from the body, and the legs not separated, like the mummy-shaped figures of the Egyptians. According to Pausanias, Dædalus received his name from the statues (the name of which is said to have been derived from *δαίδαλλον*, to work with skill). Böttiger (in his *Lectures on Archaeology*, Dresden, 1806) supposes that

Dædalus is not a proper name, but the common appellation of all the first architects, metallurgists and sculptors in Grecian antiquity; also, in general, an artist, as *dædalic* signifies *artificial, skilful*. In early periods, every art is confined to the family and friends of the inventor, and the disciples are called *sons*. Thus the ancients speak of the Dædalian family of artists, including Talos, Perdix, Diopœnos, Scyllis and others. According to the common opinion, Dædalus lived three generations before the Trojan war, was distinguished for his talents in architecture, sculpture and engraving, and the inventor of many instruments; for instance, the axe, the saw, the plummet, the auger; also of glue, and masts and yards for ships. As a sculptor, he wrought mostly in wood, and was the first who made the eyes of his statues open. This he did in Athens, which he was compelled to leave on account of the murder of his disciple Talos, of whose skill he was jealous. He built the famous labyrinth in Crete; executed for Ariadne a group of male and female dancers, of white stone, and for Pasiphaë the notorious wooden cow. Being imprisoned with his son Icarus, he invented instruments for flying. The wings were composed of linen, or, according to Ovid, of feathers, and fastened with wax, which caused the death of Icarus; whence the Icarian sea is said to have received its name. Dædalus himself reached Sicily, on the southern coast of which a place was called, after him, *Dædalium*. A festival called *Dædala* (image-festival) was celebrated in Bœotia, mostly at Platæa. We must not confound this Dædalus with a later sculptor, Dædalus of Sicyon. Many stories of different artists have, probably, been blended to form the character of Dædalus.

DAENDELS, Hermann William, a Dutch general, born in 1762, at Hattem, in Guelderland, took an important part in the troubles which began in Holland, in 1787, on the side of the patriots, and, with many of his countrymen of the same party, was compelled to take refuge in France, where he engaged in commercial speculations, in Dunkirk. In 1793, he was appointed colonel in the new legion of volunteers, *Franc étranger*, and was of great service to Dumouriez, in his expedition against Holland. He rendered still greater services to Pichegru, in the campaign of 1794, which made the French commander master of all Holland. Daendels now became lieutenant-general in the service of the Batavian republic, and took an important

part in the change of the government. When Louis Bonaparte ascended the throne, he loaded him with honors, and appointed him governor-general of Batavia. After the union of Holland with France, Napoleon recalled him. Daendels arrived in Europe in the summer of 1812. He employed his leisure time in publishing a *Compte rendu* of his government in Java (4 vols., folio), in which he throws much light on the statistics and general condition of that country. He was afterwards appointed, by the king of the Netherlands, to organize the restored colonies on the coast of Africa. Here he displayed his usual energy; he promoted peace between the neighboring Negro states, encouraged the establishment of new plantations on the West India plan, and checked the slave-trade, until the time of his death.

DAFFODIL. (See *Narcissus*.)

DAGH; a Persian word, signifying mountain—Daghistan, land of mountains.

DAGOBERT I (called the Great on account of his military successes), king of the Franks, of the Merovingian race, in 628 succeeded his father, Clothaire II, who had reunited the divided members of the French empire. He waged war with success against the Slavonians, Saxons, Gascons and Bretons; but he stained the splendor of his victories by cruelty, violence and licentiousness. After he had conquered the Saxons, it is said that he caused all those whose stature exceeded the length of his sword to be put to death. He deserves praise for his improvement of the laws of the Franks. He died at Epinay, 638, at the age of 32 years, and was buried in St. Denis, which he had founded six years before.

D'AGUESSEAU. (See *Aguesseau*.)

DAHL, John Christian, landscape painter, since 1820 member of the academy of Dresden, born Feb. 24, 1788, at Bergen, in Norway, was first destined for theology; but, having neither the inclination nor the means to pursue that study, he was bound apprentice to a painter in his native town. He soon distinguished himself by his sea-views, and enjoys, at present, the reputation of one of the first, if not the first, of living painters in this department. Some of his paintings are truly grand. He lives at present in Dresden.

DAHLIA; the name of a genus of plants belonging to the natural order *compositæ*, or compound flowers. The *D. pinnata*, within a few years, has become common in the gardens of the Northern and Middle States, where it is cultivated as an ornament, and

is very conspicuous in the latter part of the season. The root is perennial, composed of fascicles of tubers, which are oblong and tapering at each end, and about 6 inches in length. The stem is straight, branching, thick, and reaches the height of 7 feet and upwards. The leaves are opposite, connate, and simply or doubly pinnated. The flowers are solitary, at the extremity of long, simple branches, deep purple, with a yellow centre: by cultivation, however, they have been doubled, and made to assume a variety of colors. The roots are a wholesome article of food, much eaten by the Mexicans, though the taste is not very agreeable. It is reproduced from the seed, or by the division of the roots, which is the most approved mode. It requires frequent watering. In autumn, the roots should be taken out of the ground, covered with dry sand, and kept out of the reach of frost during the winter. All the species are natives of Mexico.

DAHOMY; a kingdom in the interior of Western Africa, behind the Slave Coast. The country is very little known to Europeans. The parts which have been visited are very beautiful and fertile, and rise, for about 150 miles, with a gradual slope, but without any great elevation. The soil is a deep, rich clay, yielding maize, millet and Guinea corn in abundance. The inhabitants are warlike and ferocious. The government is an absolute despotism. The ferocity which prevails among this nation almost surpasses belief. Human skulls form the favorite ornament in the construction of the palaces and temples. The king's sleeping-chamber has the floor paved with the skulls, and the roof ornamented with the jaw-bones, of chiefs whom he has overcome in battle.

DAIRE, or DAIRO. (See *Japan*.)

DAIRY (from *dey*, an old English word for *milk*); a building appropriated to the purpose of preserving and managing milk, skimming cream, making butter, cheese, &c., with sometimes the addition of pleasure rooms for partaking the luxuries of the dairy, as syllabubs, cream with fruit, iced creams, &c.

DAISY; the name of a plant which is very familiar, and a great favorite in Europe (*bellis perennis*, L.). It is one of the earliest in spring, and its elegant flowers, appearing at intervals in the green sward, have been compared to pearls. During cloudy weather, and at night, they close. It continues flowering during the whole season, and is not used for food by any animal. It belongs to the natural order

composita. The leaves are all radical, spathulate, obtuse, more or less dentate, slightly hairy, and spread upon the ground. Its naked stem is a few inches high, and terminated by a white flower, having a tinge of red, and a yellow centre. In the U. States, it is only seen cultivated in gardens. One species of *bellis* (*B. integrifolia*, Mx.) inhabits the U. States, but is a rare plant, and only found in the South-western States, in Tennessee and Arkansas.

DAL; a Swedish word, signifying, like the German *Thal*, valley, as in *Dalecarlia*.

DALAI LAMA. (See *Lama*.)

DALBERG, family of the barons of; also DALBURG. 'Is there no Dalberg present?' the imperial herald was formerly obliged to demand, at every coronation of the German emperors; and the Dalberg present bent his knee before the new sovereign, and received the accolade as the first knight of the empire. So illustrious were the ancestors of the present Dalbergs, the ancient chamberlains of Worms! The family obtained the rank of barons of the empire in the 17th century. Many Dalbergs have distinguished themselves as patrons of German literature.

DALBERG, Charles Theodore Anthony Maria, of the noble family of Dalberg, barons of the German empire, was chamberlain of Worms, elector of Mentz, arch-chancellor, and subsequently prince-primate of the confederation of the Rhine, and grand-duke of Frankfort; finally archbishop of Ratisbon and bishop of Worms and Constance; born Feb. 8, 1744, at Hemsheim, near Worms. In 1772, he became privy-counsellor and governor at Erfurt. During many years' residence in that place, he was distinguished for industry, regularity and punctuality in the discharge of his duties. An incorruptible love of justice, and inflexible firmness in maintaining what he considered just and politic, animated him. He encouraged science and the arts by his patronage of learned men and artists, and wrote several learned treatises and ingenious works. In 1802, after the death of the elector of Mentz, he was made elector and arch-chancellor of the German empire. By the new political changes in Germany in 1803, he came into possession of Ratisbon, Aschaffenburg and Wetzlar. In 1806, he was made prince-primate of the confederation of the Rhine. At Ratisbon, he erected the first monument to the famous Kepler. In 1810, he resigned the principality of Ratisbon to Bavaria, and obtained, as compensation, a considerable part

of the principalities of Fulda and Hanau, and was made grand-duke. In 1813, he voluntarily resigned all his possessions as a sovereign prince, and returned to private life, retaining only his ecclesiastical dignity of archbishop. He retired to Ratisbon. He was a member of the French national institute. His works are mostly philosophical. Among them are the *Reflections on the Universe* (5th edition, 1805), the *Principles of Æsthetics* (Erlangen, 1791), and *Pericles, or the Influence of the Liberal Arts on Public Happiness* (Erfurt, 1806). He wrote several of his works in French. He is also the author of several legal treatises. Although he was fond of theoretical speculations, yet he devoted his attention more particularly to practical studies, such as the philosophy of the arts, mathematics, physics, chemistry, botany, mineralogy, scientific agriculture, &c. Dalberg died Feb. 10, 1817.

DALBERG, Emmerich Joseph, duke of; peer of France, nephew of the prince-primate, and son of the well-known author Wolfgang Heribert, baron of Dalberg; born May 31, 1773, at Mentz. He began his career in public life under the eyes of his uncle, at Erfurt, and was also for a time in the diplomatic service of Bavaria, until he was appointed, in 1803, envoy of the margrave of Baden at Paris. He formed an intimacy with the prince of Benevento (see *Talleyrand-Perigord*), who married him, in 1807, to mlle. de Brignolles, of a distinguished Genoese family. During the campaign of 1809, he received the portfolio of foreign affairs in Baden, without resigning his office of ambassador in Paris. After the peace, he returned to France, where he became a citizen of France, and was subsequently created duke and counsellor of state. After the marriage of Napoleon with the archduchess Maria Louisa, on which occasion Dalberg is said to have opened the preliminary negotiations with prince Schwarzenberg, he received a donation of 4,000,000 francs on the principality of Baireuth, of which France had the disposal by the treaty of Vienna, and the king of Bavaria paid him almost the whole sum. When the prince of Benevento fell into disgrace, Dalberg retired with his patron. In April, 1814, Talleyrand, at the head of the provisional government, made the duke one of the five members of that government, who promoted the restoration of the Bourbons. Dalberg was present at the congress of Vienna, as French minister plenipotentiary, and signed, 1815, the declaration

against his former master and benefactor. Napoleon, on this account, included him, after his return, among the twelve whom he banished, and whose estates were confiscated. After the second restoration of the royal government, Dalberg recovered his property, was appointed minister of state and peer, received an embassy to the court of Turin, and lives now in Paris.

DALE, Richard, an American naval commander, was born in Virginia, Nov. 6, 1756. At 12 years of age, he was sent to sea, and, in 1775, he took the command of a merchant vessel. In 1776, he entered, as a midshipman, on board of the American brig of war Lexington, commanded by captain John Barry. In her he cruised on the British coast the following year, and was taken by a British cutter. After a confinement of more than a year in Mill prison, he effected his escape into France, where he joined, in the character of master's mate, the celebrated Paul Jones, then commanding the American ship *Bon Homme Richard*. Jones soon raised Dale to the rank of his first lieutenant, in which character he signalized himself in the sanguinary and desperate engagement between the *Bon Homme Richard* and the English frigate *Serapis*. He was the first man who reached the deck of the latter when she was boarded and taken. In 1781, he returned to America, and, in June of that year, was appointed to the *Trumbull* frigate, commanded by captain James Nicholson, and soon afterwards captured. From 1790 to 1794, he served as captain in the East India trade. At the end of this period, the government of the U. States made him a captain in the navy. In 1801, he took the command of the American squadron of observation, which sailed, in June of that year, from Hampton roads to the Mediterranean. His broad pendant was hoisted on board the frigate *President*. Efficient protection was given by Dale to the American trade and other interests in the Mediterranean. In April, 1802, he reached Hampton roads again. He passed the remainder of his life in Philadelphia, in the enjoyment of a competent estate, and of the esteem of all his fellow-citizens. He died Feb. 24, 1826. Captain Dale was a thorough, brave and intelligent seaman. He was several times severely wounded in battle. The adventures of his early years were of the most romantic and perilous cast. No man could lay claim to a more honorable and honest character.

DALECARLIA; a province of Sweden. (See *Sweden*.)

DALIN, Olof or Olaus of; the father of modern Swedish literature, in the 18th century. He exerted much influence by his periodical paper, *The Swedish Argus* (1733—34), and still more by his spirited poems, particularly *Satires* (1729), an excellent poem on the liberty of Sweden (1742), many songs, epigrams and fables. The best edition of his poetical works appeared at Stockholm, 1782—83, in 2 vols. He acquired equal reputation by his able history of Sweden (Stockholm 1777, 3 vols. 4to., translated into German by Benzeltierna and Dähnert, Greifswalde, 4 vols., 4to.), on which account he was appointed historiographer of the kingdom (1756). He also participated in the foundation of the academy of belles-lettres by Ulrica Eleonora (1753). He was born in the district of Winberga in Halland (1708), and died chancellor of the court of Sweden, in 1763.

DALLAS, Alexander James, was born, June 1, 1759, in the island of Jamaica. When quite young, he was sent to school at Edinburgh, and afterwards at Westminster. His father was an eminent and wealthy physician in the island of Jamaica. In 1781, after the death of his father, he left England for Jamaica. It was found that the whole of Mr. Dallas's property was left at the disposal of his widow, who married again, and no part of it ever came to the rest of the family. The subject of this article left Jamaica in April, 1783, and arrived at New York June 7, and at Philadelphia a week after. June 17, he took the oath of allegiance to the state of Pennsylvania. In July, 1785, he was admitted to practise in the supreme court of Pennsylvania, and, in the course of four or five years, became a practitioner in the courts of the U. States. During this period, his practice not being extensive, he prepared his Reports for the press, and occupied himself in various literary undertakings. He wrote much in the magazines of the day. Of the *Columbian Magazine* he was at one time editor. His essays will bear a comparison with those of his contemporaries; and this is no small praise, for Franklin, Rush and Hopkinson were of the number. Jan. 19, 1791, he was appointed secretary of Pennsylvania by governor Mifflin. In December, 1793, his commission was renewed. Not long after, he was appointed paymaster-general of the forces that marched to the west, and he accompanied the expedition to Pittsburg. In Decem-

ber, 1796, the office of secretary was again confided to him. While he held this office, he published an edition of the laws of the commonwealth, with notes. Upon the election of Mr. Jefferson, in 1801, he was appointed attorney of the U. States for the eastern district of Pennsylvania, and he continued in this office until his removal to Washington. October 6, he was appointed secretary of the treasury of the U. States. The circumstances under which he entered this difficult situation, the boldness with which he assumed its responsibilities, his energy of character, and the general confidence and approbation with which his career was accompanied, belong to the history of the times. March 13, 1815, he undertook the additional trust of secretary of war, and performed with success the delicate task of reducing the army of the U. States. In November, 1816, peace being restored, the finances arranged, the embarrassment of the circulating medium daily diminishing, and soon to disappear under the influence of the national bank, which it had so long been his effort to establish, Mr. Dallas resigned his honorable station, and returned to the practice of the law in Philadelphia. His business was considerable, and his talents as an advocate were employed, not only at home, but from almost every quarter of the Union. In the midst of his brilliant prospects, exposure to cold, and great professional exertions in a very important cause, brought on an attack of the gout in his stomach, at Trenton, of which he died, Jan. 16, 1817.

DALLAS, Robert Charles, born in Jamaica, studied law in the Inner Temple. When he came of age, he married, and went to Jamaica, where he had received a lucrative appointment, but was obliged to leave the island on account of the ill health of his wife. He went to France, then to America, with a view to settle there, but, being disappointed, returned, and devoted himself to literature. His productions, including translations, are numerous. His novels have been collected and published in 7 volumes, 12mo. Lord Byron, as appears from Moore's life of the poet, was in the habit of consulting him, and made him a present of the copyright of *Childe Harold* and some other of his early works, which afforded him much pecuniary advantage.

DALMATIA; an Austrian kingdom, including four circles—Zara, Spalatro and Macarsca, Ragusa, Cattaro—lying on the Adriatic sea, bounded by Croatia, Bosnia and Albania, and having several islands

belonging to it. Since 1814, with the exception of the Turkish part, it has been entirely subject to the emperor of Austria, and contains 5800 square miles, 320,000 inhabitants, in 22 towns, 33 boroughs and 914 villages. Dalmatia, formerly an important kingdom, was, after many unsuccessful attempts, subjected by the Romans under Augustus. After the decline of the Western Empire, it was first under the dominion of the Goths, then under that of the Eastern emperors. In the first half of the 7th century, it was conquered by the Slavonians, who erected it into a kingdom, which lasted till 1030, when it was, in part, united with Hungary, under king St. Ladislaus; another part placed itself under the protection of the then powerful republic of Venice, for security against the attacks of the Turks, who, however, afterwards, took a part from the Venetians. By the peace of Campo-Formio (Oct. 17, 1797), the Venetian part of Dalmatia, as well as Venice itself, was made over to Austria; but, by the treaty of Presburg, in 1805, Austria ceded it to the French emperor, who first united it with the kingdom of Italy, and in 1810, with Illyria, although he caused it to be governed by a *general-proveditore*.—The causes of the small population of this fertile but poorly cultivated country, are the excessive use of spirituous liquors, the noxious exhalations of the marshes in various districts, the frequent emigrations, and the habit of private revenge, which extends even to the third and fourth generations. It contains impenetrable forests, and regions covered with marshes. The Dalmatians are a handsome race, bold seamen, and good soldiers if they are well commanded. The former military power of Venice rested entirely upon this province. The Dalmatians, in general, are accused, and probably not unjustly, of deceitfulness and rapacity: the desire of independence is almost universal. A peculiar feature of their character is, that many of them prefer the *heroic death* (as they term it) by the spear, to a natural and peaceful death in the midst of their family. They speak a Slavonic dialect. The Morlachians, who dwell in the interior of the country, and among the mountains, and in the Turkish government of Herseck, constitute but a part of the nation. They are excellent soldiers, but have a strong inclination for robbery and drinking; yet they are hospitable, benevolent and faithful in their promises. Averse to every kind of restraint, they live in a sort of natural con-

dition. They have always been a good wall against the attacks of the Turks.—The inhabitants of the islands are principally employed in fishing, and are servants on the continent, or sailors in merchant-ships. The islands are not very productive. Several have good harbors, and afford much timber for ship-building. The inhabitants of the continent are employed in agriculture and the breeding of cattle. They have some commerce, and devote themselves chiefly to the sea. As long as their soil produces no more than it does at present, their trade and industry cannot be important, more particularly since the great commons, according to the ancient Dalmatian custom, are not separated, and the overgrown landed estates of individuals are not divided on their decease. The Dalmatians export tallow, hare-skins (which latter are brought from Bosnia), some oil, figs, wine, brandy, wax, and salt fish, from different ports; and receive, in exchange, linen, cloth, coffee and sugar, but only in small quantities, so that the money-balance is on their side. There are gold, iron and coal mines in the country, but they remain unwrought. Zara, the capital, and the seat of the governor, has 5000, Spalatro 6800, inhabitants. The district of Cattaro, which is under the dominion of Austria, is sometimes comprised in Dalmatia, but properly belongs to Albania, and lies, in a semicircular form, round the gulf. The 13 famous inlets (*Bocche di Cattaro*) form the safest harbors on the Adriatic sea, and present some fine prospects. The inhabitants of the district are estimated at 30,000. They are excellent seamen, and were inclined, under the lax government of the Venetians, to robbery, particularly by sea. By land, their resolution and boldness render them the most formidable enemies of the Turks in that quarter. The steep, rough and barren heights of Montenegro surround this province in a semicircular form.—The Turkish part of Dalmatia, which extends from Bosnia to Albania, and belongs to Bosnia, contains the province of Herzegovina, with the town of that name, and the towns of Scardona and Trevigno. See the *Travels to Dalmatia and Ragusa*, by E. F. Germar (Leipsic, 1817), which is particularly rich in natural history. The splendid work on Dalmatia by general Dejearo (Paris, 1825) exhibits the entomological wealth of Dalmatia.

DALMATICA; a long, white gown, with white sleeves, formerly worn by the Dalmatians, and, since the time of pope Sylvester I, by the Roman Catholic deacons,

over the *alba* and *stola*.—Also, a part of the ornamental dress formerly worn by the German emperor at the time of his coronation. It was kept in Nuremberg, and put on in Frankfort.

DAL SEGNO (*Italian*) means *from the sign*. In music, this expression denotes, that the singer or player ought to recommence at the former place, where the same mark is put.

DALZIEL, Thomas; a Scotch officer, taken prisoner at the battle of Worcester, and confined in the Tower, from which he escaped to Russia, where the czar made him a general. At the restoration, he returned to England, and Charles II made him commander-in-chief of his forces in Scotland. He was singular in his dress and appearance. After the death of Charles I, he never shaved his beard, which grew white and bushy, and descended to his middle. He generally went to London once or twice a year to kiss the king's hand, and the singularity of his appearance drew crowds of boys after him. He is mentioned by Scott in his description of the defeat of the Covenanters in Old Mortality.

DAM, DAMM; the end of many German and Dutch geographical words, signifying a *dam* or *sluice*; as in *Amsterdam*, the sluices of the Amstel.

DAMAGE-FEASANT. Beasts are said to be damage-feasant, or *doing damage*, when those of one person are found upon the land of another without his permission and without his fault; for if the owner of a field or enclosure adjoining upon another enclosure neglects to repair his fences, and the beasts pass through, he cannot seize them as damage-feasant. But if the beasts break into a close from the highway, where they were wrongfully left to run at large, the owner of the close may take them up, or distrain them as damage-feasant, though the fence of the close on the side next the highway was defective; for the owner is not obliged to make a fence against beasts where they cannot be lawfully left at large. The owner of land has a right to sue the owner of the beasts in trespass for the damage done by them to his crops, &c., but the law gives him also the means of stopping the damage, for he may distrain and impound the beasts.

DAMASCENUS, John; John of Damascus, afterwards called also *John Chrysorhoas*; author of the first system of Christian theology in the Eastern church, or the founder of scientific dogmatics. He first endeavored to give a full system of

dogmatics, founded on reason and the Bible, which had hitherto been elaborated in the Greek church only in parts, as ecclesiastical controversies arose. His explanation of the orthodox faith, in four volumes, enjoyed, in the Greek church, a great reputation. He also wrote *Dialectics*, a system of logic on the principles of Aristotle, and prepared a collection of philosophical passages, extracted from ancient works, in alphabetical order, &c. The best edition of his Greek works is that by P. Mich. Lequien (Paris, 1712, 2 vols., fol.). After being in the service of a caliph, he became a monk in the convent of Saba, near Jerusalem, and died about 760. He must not be confounded with Nicholas of Damascus.

DAMASCUS; a city of Syria, the capital of the pachalic of the same name, situated in a fertile plain amidst extensive gardens, forming a circuit of between 25 and 30 miles. The streets are in general narrow, of regular width, though not in straight lines: they are well paved, and have elevated footpaths on each side. Damascus contains above 500 large and magnificent houses, which are entitled to the name of palaces: each house has a canal or fountain. The mosques and chapels are also numerous, and the grand mosque is of great extent and magnificence. An hospital for the indigent sick is attached to the edifice. This mosque is said to have been, originally, a Christian church, and the cathedral of Damascus. The mosques are mostly fronted by a court. One mosque is beautifully adorned with all kinds of fine marble, like mosaic pavement; and the tower or minaret of another is entirely cased with pantiles. There are several hospitals here, of which the finest is that constructed by the sultan Selim, consisting of a spacious quadrangle, lined by an interior colonnade, which is entirely roofed by 40 small domes, covered with lead. On the south side of the court is a mosque, with a magnificent portico and two fine minarets, which is surmounted by a spacious cupola. There is a Greek, Maronite, Syrian and Armenian church. There are eight synagogues of the Jews. The castle, situated towards the south-west part of the city, and about three quarters of a mile in circuit, is a fine rustic edifice, with three square towers in front, and five on each side. This city is the seat of a considerable trade. It was celebrated for the manufacture of sabres, of such peculiar quality as to be perfectly elastic and very hard. Extensive manufactures are carried on in silk and cotton stuffs. Leath-

er is likewise an article of manufacture here, but no linen is made. A great quantity of soap is fabricated, and exported to Egypt. Dried fruits and sweetmeats are sent to Turkey. Cotton cloths, handkerchiefs, slippers, copper kettles, horse-shoe nails, tobacco-pipes, and spice-ries, shawls, and the rich fabrics of Surat, are brought through Bagdad; iron, lead, tin, cochineal, broadcloth, sugar, and such other European articles as are required in the city, come through Saida, Bairout and Tripoli. Commerce is carried on chiefly by caravans, of which the principal is that in which the pilgrims annually proceed to Mecca. Three caravans besides, each accompanied by above 2500 armed men, go thrice a year to Bagdad, the journey occupying 30 days; those to Aleppo travel twice or thrice a month; besides which, there are many to different parts of Syria. Damascus is a place of great antiquity, and is alluded to in the account of the time of Abraham. The population amounts, according to Burckhardt, in his *Travels through Arabia*, to 250,000, including many Catholics and Jews; the remaining inhabitants are Mohammedans. 136 miles N. Jerusalem. Lon. 36° 30' E.; lat. 38° 30' N.

DAMASK; an ingeniously manufactured stuff, the ground of which is bright and glossy, with vines, flowers, and figures interwoven. At first, it was made only of silk, but afterwards of linen and woollen, as, for example, damask table-cloth. According to the opinion of some, this kind of weaving was derived from the Babylonians; according to others, invented at a later period, by the inhabitants of Damascus, from which latter place it is thought to have derived its name. The true damasks are of a single color. If they consist of variegated colors, they are called *ras de Sicile*. The gauze damask also belongs to the silk damask. In modern times, the Italians and Dutch first made damask; and Europe was supplied, as late as the 17th century, from Italy alone, chiefly from Genoa. But the French soon imitated it, and now surpass the Italians. Damask is also brought from India and China, which is very well imitated by the English. At present, damask is made in great quantities in Germany, of three different kinds, Dutch, French and Italian.

DAMASKEENING, or DAMASKING, the art of inlaying iron or steel with other metals, especially gold and silver, is of great antiquity. It is principally used at present for sword-blades, guards, gripes, cocks of

pistols, &c. Herodotus mentions a saucer so ornamented: so also were the shields of some of the forces of the Samnites which fought against Rome. It was a favorite manufacture with the ancients. We know not at what time it so flourished at Damascus as to have derived its name from this city.

DAMIENS, Robert Francis; notorious for his attempt to assassinate Louis XV; born in 1715, in the village of Tieulloy, in the former province of Artois; the son of a poor farmer. His vicious inclinations early obtained him the name of *Robert-le-diable*. He twice enlisted as a soldier, and was afterwards a servant (*cuistre*) in the college of the Jesuits at Paris, but, in 1738, left this service in order to marry. He then served in different houses of the capital, poisoned one of his masters, stole 240 louis-d'or from another, and saved himself by flight. He then lived five months at St. Omer, Dunkirk and Brussels, and expressed himself in the most violent manner concerning the dissensions between the king and the parliament. At Poperingue, a little village near Ypres, he was heard to say, "If I return to France, I shall die; but the first of the land will die also, and you will hear of me." His mind was disordered when he returned to Paris, at the end of 1756. In the beginning of the next year, he went to Versailles, took opium for two or three days, and prepared for the crime, which he attempted January 5. As Louis XV was on the point of getting into his carriage, to return from Versailles to Trianon, Damiens stabbed him, although he was surrounded by his train, in the right side, with a knife. The assassin was seized. The most cruel tortures he bore with resolution, and could not be induced to confess that he had any accomplices. He asserted that he should not have committed the act had he been bled, as he requested, and that he thought it meritorious. He was condemned to be torn in quarters by horses, and the sentence was executed March 28, 1757, on the *Place de Grève* at Paris.

DAMIETTA, or DAMIAT; a large city of Lower Egypt, first built at the east mouth of the Nile, and called *Thamiatis*, under the government of the Lower Empire; 85 miles N. N. E. Cairo; lon. $31^{\circ} 49' 45''$ E.; lat. $31^{\circ} 25'$ N.: population, according to Binos, 30,000; according to Savary, 80,000. Damietta daily increased as Pelusium declined. The chief disadvantage of Damietta is the want of a harbor; yet it is the emporium of commerce between

Egypt and Syria, situated on the Phatmetic branch of the Nile. The city is without walls, built in the form of a crescent, on the winding bank of the river, six miles from the sea. It is larger and not less agreeable than Rosetta, and has several squares. Bazars filled with merchandise, okals, or khans, under the porticoes of which are Indian stuffs, silks from mount Lebanon, sal ammoniac, and quantities of rice, bespeak it a commercial place. The houses, especially near the river, are very high. Most of them have pleasant saloons built on the terraces; from which charming places, open to every wind, there is a view of the grand lake lying on the other side, and of the Nile, which traverses a rich country between them both. Various grand mosques, with high minarets, ornament the city. The public baths, faced with marble, are similar to those of Cairo. Multitudes of boats and small vessels incessantly fill the port of Damietta. Some, named *sherm*, serve to load and unload the ships that anchor in the road; others are coasting pilot-boats. There is a great trade between this city and Syria, Cyprus and Turkey.

DAMON and PYTHIAS; two illustrious Syracusans, celebrated as models of constant friendship. Pythias had been unjustly condemned to death by Dionysius, tyrant of Sicily, but obtained permission to arrange his affairs in a neighboring place, on condition that his friend should remain as a pledge of his return. Damon surrendered himself at the prison, ready to suffer death instead of Pythias, if he did not return at a fixed time. Unexpected impediments detained him. Damon, still fully convinced of the faithfulness of his friend, is already on the way to the place of execution; already the people begin to murmur, and to pity his credulity, when Pythias suddenly rushes through the crowd into the arms of his friend. While they demand each to die for the other, the spectators melt into tears, and Dionysius himself approaches, pardons them, and entreats them to admit him a third in their friendship. Schiller has described this adventure in an excellent ballad (*Die Bürgschaft*), and it is the subject of a popular English tragedy.

DAMPERS; certain movable parts in the internal frame of a piano-forte, which are covered with cloth, and, by means of a pedal, are brought into contact with the wires, in order to deaden the vibration.

DAMPIER, William, a celebrated English navigator, was born in 1652. He

was descended from a good family in Somersetshire; but, losing his father when young, he was sent to sea, and soon distinguished himself as an able mariner. In 1673, he served in the Dutch war, and was subsequently an overseer to a plantation in Jamaica. He next visited the bay of Campeachy as a logwood-cutter, and, after once more visiting England, engaged in a band of privateers, as they called themselves, although in reality pirates, with whom he roved on the Peruvian coasts. He next engaged, in Virginia, in an expedition against the Spanish settlements in the South seas. They accordingly sailed in August, 1683, and, after taking several prizes on the coasts of Peru and Chili, the party experienced various fortune, but no very signal success. Dampier, wishing to obtain some knowledge of the northern coast of Mexico, joined the crew of a captain Swan, who cruised in the hopes of meeting the annual royal Manilla ship, which, however, escaped them. Swan and Dampier were resolved to steer for the East Indies, and they accordingly sailed to the Pescadores, to Bouton island, to New Holland and to Nicobar, where Dampier and others were left ashore to recover their health. Their numbers gave them hopes of being able to navigate a canoe to Achin, in which they succeeded, after encountering a storm, which Dampier has described with great force and nature. After making several trading voyages with a captain Weldon, he entered, as a gunner, the English factory at Bencoolen. Upon this coast he remained until 1691, when he found means to return home, and, being in want of money, sold his property in a curiously painted or tattooed Indian prince, who was shown as a curiosity, and who ultimately died of the small-pox at Oxford. He is next heard of as a commander, in the king's service, of a sloop of war of 12 guns and 50 men, probably fitted out for a voyage of discovery. After experiencing a variety of adventures with a discontented crew, this vessel foundered off the Isle of Ascension, his men with difficulty reaching land. They were released from this island by an East India ship, in which Dampier came to England. Here ends his own account of his extraordinary adventures; but it seems that he afterwards commanded a ship in the South seas, as also that he accompanied the well-known expedition of captain Woodes Rogers as pilot. Dampier's Voyages, in three volumes, have been many times reprinted.

They are written by himself in a strongly descriptive style, bearing all the marks of fidelity; and the nautical remarks display much professional and even philosophical knowledge. His observations on natural objects are also extremely clear and particular; and he writes like a man of good principles, although he kept so much in different company.

DAMPS are certain deleterious gases which are extricated in mines. They are distinguished by miners under the names of *choke-damp* and *fire-damp*. The former is found in the deepest parts of mines. It extinguishes candles, and often proves fatal when it has been suffered to accumulate in large quantities. It consists for the most part of carbonic acid gas. The fire-damp, which prevails almost exclusively in coal mines, is a mixture of light carbureted hydrogen and atmospheric air, which explodes with tremendous violence whenever it comes in contact with flame. The injuries which formerly occurred so frequently, both to the machinery and the lives of miners, arising from the fire-damp, are now almost completely obviated by the fine invention of sir Humphrey Davy, the safety-lamp. It consists of a cylinder of wire gauze, about four inches in diameter and a foot in length, having a double top, securely fastened by doubling over to a brass rim, which screws on to the lamp itself below. The whole of the wire gauze is protected, and rendered convenient for carrying, by a triangular wire frame and a ring at the top. The wire gauze is made either of iron or copper, the wire being at least one thirtieth of an inch in diameter, and woven together so as to leave 625 apertures in a square inch. The body of the lamp is of riveted copper, or of massy cast brass or cast iron, the screws fitting so completely as to leave no aperture into the body of the lamp. When the lamp is lighted, it affords the miner all the light which he requires, and renders him perfectly secure, even though entirely enveloped with the explosive mixture, which, with an ordinary light, would immediately prove fatal. The first effect of the fire-damp atmosphere is to increase the length and size of the flame. When the carbureted hydrogen forms as much as one twelfth of the volume of the air, the gauze cylinder becomes filled with a feeble blue flame, but the flame of the wick appears burning brightly within the blue flame, and the light of the wick augments until the inflammable gas increases to one sixth or one fifth, when it is lost in the flame of the

fire-damp, which now fills the cylinder with a pretty strong light. As long as this explosive mixture of gas exists in contact with the lamp, so long it will give light; and when it is extinguished, which happens when the foul air constitutes as much as one third of the volume of the atmosphere, the air is no longer proper for respiration; for though animal life will continue when flame is extinguished, yet it is always with suffering. A coil of platinum wire being fixed above the wick of the lamp, within the gauze cylinder, the metal continues to glow long after the lamp is extinguished, and affords a sufficient light to enable the miner to make his escape. The effect of the safety-lamp is supposed to depend on the cooling agency of the wire gauze, exerted on the portion of gas burning within the cylinder. Hence a lamp may be secure where there is no current of an explosive mixture to occasion its being strongly heated, and yet not safe when the current passes through it with great rapidity. But any atmosphere, however explosive, may be rendered harmless by increasing the cooling surface, which may be done either by diminishing the size of the apertures, or by increasing their depth, both of which are perfectly within the power of the manufacturer of the wire gauze.

DAN (perhaps from *dominus*, like the Spanish *don*, and the Italian *donna*, from *domina*); the old term of honor for men, as we now say *master*. It is used by Shakespeare, Prior, Spenser.

DAN (*Hebrew*; meaning *judgment*); one of the 12 patriarchs, the 5th son of Jacob. The Danites were one of the 12 tribes of Israel.

DANAË; daughter of Acrisius, king of Argos. She was shut up by her father in a brazen tower, because an oracle had declared that a son of his daughter should put him to death. But Jupiter, inflamed with passion for the charming virgin, transformed himself into a golden shower, and descended through the apertures of the roof into her embraces. When Acrisius discovered that his daughter had become a mother, he exposed her, with her child, in a frail boat, to the violence of the waves. But the sea-goddesses, anxious for the preservation of the son of Jove, commanded the billows to waft the skiff safely to Seriphos, one of the Cyclades. Polydectes, or rather Dictys, the governor of the island, received her, and educated the child, which he named *Perseus*. (q. v.)

DANAÏDES; the 50 daughters of Danaüs,

who was a son of Belus, and, at first, lived in Libya, with his brother Ægyptus, who had 50 sons. In consequence of a quarrel with his brother, Danaüs, with his daughters, fled to Argos. The 50 sons of Ægyptus followed him thither, expressed a desire for a reconciliation, and asked the daughters of Danaüs in marriage. He was obliged to consent to the proposal; but, as he put no confidence in his nephews, and had, moreover, been informed by an oracle, that one of his sons-in-law should slay him, he bound his daughters, by a solemn oath, to murder their husbands on their bridal night. They all kept their promise except Hypermnestra, who saved the life of her husband Lynceus. As a punishment for their crime, the daughters of Danaüs, in the infernal world, were condemned perpetually to draw water in sieves. Of this tradition the ancients gave the following historical explanation:—The daughters of Danaüs were said to have discovered fountains in the dry country of Argolis, and constructed cisterns there.

DANCING. The disposition to rhythm and measured motion, is deeply implanted in human nature. As soon as man, in a rude state, wishes to express elevated feelings, whatever be their cause—joy, devotion, patriotism—he makes use of rhythm, or measured language, and the dance, or measured movements. This is the origin of the symbolical dance, which, among all nations, in the first stages of civilization, is used as an expression of excited feeling. The operation of the principle of imitation, which led to the invention of the drama, gave birth also to the imitative dance—the pantomime. Dancing, in the course of time, took the character of an art. Grace became one of its chief objects, and it was much cultivated as an elegant amusement in the intercourse of society, and an elegant spectacle in public entertainments. Its ancient character, however, of an expression of religious or patriotic feeling, gradually declined, as the progress of refinement and civilization produced its invariable effect of restraining the full expression of the feelings and emotions. This circumstance, added to the chastened and didactic character of the Christian religion, probably prevented the dance from being admitted among the rites of the Christian religion; but it has always been cultivated among Christians, as an agreeable amusement and elegant exhibition. As an amusement of social assemblages, the dance has sunk much below the character of an art. The polite assemblies of the

present day are too much crowded to leave room for graceful dancing, and, in England and the U. States, one kind of dance, being kept up during a whole evening, of course tends to produce tediousness. But national dances, as those of the Bohemian, Polish, Hungarian, Italian, Spanish peasantry, still retain the expression of joyous feeling, and often exhibit much imitative power.

There is reason to suppose that the dance had a place among the religious rites of the Jews; to what extent, however, is not known, and some persons deny the fact altogether; but it appears pretty evident that this doubt is unfounded, and its admission may be easily explained by the origin which we have ascribed to dancing in general. With the Greeks and Romans, regulated movements, quick or slow, i. e., dancing, were introduced in most religious celebrations. The Greeks, developing the element of the beautiful in every branch of art, were also masters in the religious dance. In the exhibitions of the theatre, they united the dance with many other performances, and the dances of the ancients which commemorated the adventures of Achilles, Alexander, the loves of Venus and Mars, &c., are to be understood as pantomimic performances, the word *saltare*, with the Romans, having a very extensive meaning, and *ὑψηλός*, with the Greeks, including the mimic art in general. From the Romans, the dance was transmitted to the national theatre of the Italians. As early as the 16th century, several Italians (Rinaldo Corso, Fabric. Caroso, &c.) wrote on dancing. They and the French have cultivated the modern art of dancing to the degree of perfection in which we find it; so that the ballet of the Parisian opera was long considered the highest perfection of the art of dancing, and, in some respects, still is. There exist, at present, two different schools—the Italian and French. That of the latter, who may be called, by way of eminence, the *graceful nation*, is the more perfect. Much is said against the modern French ballet, and, no doubt, it sometimes degenerates to a mere display of skill and agility, at the expense of grace and beauty, which ought always to remain the chief object of dancing; yet we consider the French ballet, as it exists at present, in a very perfect state, and no country has probably ever had a more finished theatrical dance, the foundation of which was laid by Beauchamp, under Louis XIV. This art owes still more to the famous Noverre (q. v.), whose writings on this sub-

ject much surpass those of D'Arbeau and Rameau. A general work on dancing, treating the religious and secular dances of the different nations, would be interesting. As regards the European dances, ancient and modern, and that of the Jews, the following works are some of the best: Bourdelot's *Histoire de la Danse sacrée et profane, ses Progrès et ses Révolutions depuis son Origine*, &c. (Paris, 1724, 12mo.), and Cahusac's *Traité de la Danse anc. et moderne* (Paris, 1753, 3 vols., 12mo.). For the dances of the Greeks and Romans, see also Potter's *Archæologia Græca*; Zeltner *De Choreis vet. Judæorum Diss.* (Altorf, 1726, 4to.), and Renz's work, *De Religiosis Saltationibus vet. Judæorum* (Leipsic, 1738, 4to.); *Memoires sur les Danses Chinoises*, in the *Variétés littéraires* (vol. 1 and 2); Lafiteau's *Mœurs des Sauvages* (vol. 1). Since Noverre, few good treatises have been written, giving instructions on the art of dancing. We mention only the *Essai sur la Danse antique et moderne* (Paris, 1823, by mad. Elise Voïart), and Baron's *Entretiens sur la Danse ancienne, moderne, religieuse, civile et théâtrale* (Paris, 1825). The only Christian sect, that has admitted dancing among its religious ceremonies, are the *Shakers*, so called.

DANCOURT, Florent Carton; a French actor and comic poet; born in 1661, at Fontainebleau, of a respectable family. At the age of 23, he became enamored of an actress, and left every other employment for the stage. Although he personated the first characters in high comedy, he succeeded best, as an author, in low comedy. He displayed much ingenuity and wit in introducing upon the stage amusing subjects of real occurrence in his time. Louis XIV was very fond of humorous pieces, and Dancourt often used to read his productions to the king before they were played. He left the theatre in 1718, and died in 1726. A good edition of his complete works appeared in 12 volumes, 12mo., 1760.

DANDELION. (See *Leontodon*.)

DANDOLO, Henry, one of the most illustrious of the doges of Venice, was chosen to that office, in 1192, at the advanced age of 84. He had a defect of sight, approaching nearly to blindness; but neither that circumstance nor his age impaired the vigor of his administration, the events of his government being among the principal causes of the Venetian greatness. On the formation of the league for the fourth crusade, under Baldwin, earl of Flanders, Dandolo induced the senate to join in it, and by his policy the first hos-

ilities of the armament were directed against Zara, which had revolted from Venice. On the storming of Constantinople, the aged doge, standing on the prow of his galley, with the great standard of St. Mark borne before him, commanded his men to run up to the walls, and was the first who leaped on shore. After various changes in the imperial throne, succeeded by a second siege, in which Constantinople was stormed and pillaged by the crusaders, the latter proceeded to the election of an emperor, and Dandolo was first nominated, although, in consequence of his age, and the incompatible character of doge, the choice ultimately fell on Baldwin. In the sharing of the imperial dominions, Venice obtained a full moiety, and Dandolo was solemnly invested with the title of *despot of Romania*. He ended his eventful life at Constantinople, in 1205 (if the records are to be trusted), at the advanced age of 97.

DANDOLO, Andrew, doge of Venice, and one of the earliest Italian historians, was born about 1310, and made doge in 1343. He carried on a war against the Turks with various success, and greatly extended Venetian commerce, by opening a trading connexion with Egypt. The jealousy entertained by the Genoese of this new trade produced a war between the two states, which gave rise to a correspondence between the doge and Petrarch, who exhorted him to peace. He died in September, 1354. To Andrew Dandolo is ascribed the compilation of the sixth book of Venetian statutes; but he is most distinguished for his *Chronicle of Venice*, which is written in Latin, and comprehends the history of the republic from its commencement to 1342. It is praised for its impartiality, and for its judicious use of authentic documents, and was first published by Muratori in his collection of original Italian writers of history.

DANEGELT (from the Saxon *gelt*, money), an ancient annual tax of the Anglo-Saxons, to maintain forces to resist the Danes.

DANFORTH'S SPEEDER, in cotton machinery; a roving frame, in which the bobbins are not turned by the rotation of their axis, but by friction applied to their surface by small wooden cylinders, which revolve in contact with them. By this contrivance, the velocity of the surface of the bobbin will always be the same, whatever may be its growth from the accumulation of roving, so that the winding goes on at an equable rate. The speeder received its name from Mr. Danforth, of Massachusetts, the inventor.

DANIEL, the prophet, a contemporary of Ezekiel, was born of a distinguished Hebrew family. In his youth, B. C. 600, he was carried captive to Babylon, and educated in the Babylonish court, for the service of king Nebuchadnezzar. After three years, he entered into the service of this monarch, and discharged his employments with much credit to himself, and without violating his conscience. A decree of the king, which he could not conscientiously obey, occasioned his being thrown into the lions' den. Preserved by a miraculous Providence, he lived afterwards in happiness and honor. He was elevated to the office of governor and prime-minister in the court of the Persian king Darius. Cyrus finally gave him permission to return, with his people, to Palestine. Daniel was a man of high mental cultivation and strict virtue. Being well acquainted with the government and condition of all the great kingdoms then known in the world, and particularly favored by the Deity, he could foresee coming events with the greatest accuracy, and, for this reason, deservedly received the name of *Nabi* (prophet), although most of the Jews exclude him from the number of the prophets. His prophecy has come down to posterity, and is included in the Hebrew canon. Probably only the second part of it is by him. It is wholly symbolical, full of dreams and visions. The hand-writing on the wall of Belshazzar's palace was interpreted by Daniel.

DANIEL, Gabriel; one of the French historians, born at Rouen, in 1649. At the age of 18, he entered the Jesuits' college, instructed in several places with much success, and died in 1728. "He sought," as the German Bouterwek says of him, "in his history of his own country, which has earned him his reputation" (*Histoire de France*, of which many editions have appeared since 1713, particularly that of Paris, 1755—1757, in 17 vols., 4to.; also numerous abridgments, and a German translation, Nuremberg, 1756—65, 16 vols., 4to.), "to connect the flattery of the court, the nobility and the clergy with the duties of a historian." We often feel the want of profound research and historical fidelity in his work. He seems to have been destitute of the art of historical description. His thoughts on the proper mode of writing history, he has given to the world in the somewhat tedious introduction to his prolix narrative. His *Histoire de la Milice Française* is still known: less so is his *Recueil des Ouvrages Philosophiques, Théologiques, Apologétiques, &c.* (1724, 4to.),

which contains his *Voyage du Monde de Descartes* (first published separately, and translated into English and Italian)—a caustic satire on the opinions of this philosopher.

DANIEL, Samuel, an English historian and poet, contemporary with Shakspeare, was born 1562. He had an appointment at the court of queen Elizabeth, and also of Anne (wife of James I); but he commonly lived in the country, employed in literary pursuits. As a historical poet, he seems to have taken Lucan for his pattern. He employed his brilliant talents in writing an epic on the most remarkable occurrences in the history of his country. He bestowed much labor on the poem which describes, in eight books, the civil wars between the houses of York and Lancaster (History of the Civil Wars between the Houses of York and Lancaster, reprinted with the Rest of the poetical Works of this Author, and some Account of his Life, in Anderson's British Poets, vol. 4). The poetical value of this work, as of Lucan's, consists in a beautiful style. Daniel contributed much to the improvement of the poetical diction of England. His stanzas, formed with a careful attention to the Italian octave, have more dignity and euphony than most verses of this sort in English literature, in the first half of the 17th century. He is not wanting in rhetorical beauty and force. He was also the author of some poetical epistles, pastorals, 57 sonnets, and a few tragedies. The first seem to have excited much attention. During the reign of queen Elizabeth, he wrote a sketch of the history of England, till the time of Edward III—a work learned and clear, without ostentation, and containing useful and acute views. Daniel died in 1619.

DANISH LANGUAGE, LITERATURE AND ART. (See *Denmark*.)

DANISHMEND; a Turkish ecclesiastic of low rank; also a talisman.

DANNECKER, John Henry von; professor of sculpture at Stuttgart; one of the most eminent of modern sculptors. He was born at Stuttgart, Oct. 15, 1758, of poor parents: his father was a groom of the duke of Wirtemberg, and the son grew up without any other education than the condition of his parents would allow. He early exhibited a strong inclination for drawing, which he secretly indulged, and, being destitute of paper, covered the materials of a neighboring stone-cutter with his designs. Providence, however, unexpectedly afforded this remarkable genius an opportunity for rising from obscurity.

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On Easter-day, 1771, Dannecker's father came home, and mentioned that the duke would receive the children of his servants into his military school, and added, angrily, that he had cast his eyes on the boy. The child declared that he would go to the duke that very day; and, to prevent him, his father shut him up in a closet. Having collected the boys in the street before the apartment in which he was confined, he jumped out of the window, and, without hesitation, went with them straightway to the castle, where the *Eierlesen*—a national feast of the people—had assembled the court. They addressed themselves to the servants with this request—"We should like to be received into the Charles's school." The duke was informed of their petition, and came immediately forth to examine the little band. He looked at them keenly, and, at length, took one after the other from the crowd, and placed him to the right of himself; finally, there remained only Dannecker with two others on the left. The poor boys believed themselves rejected, and Dannecker would willingly have sunk into the earth. But these three were, in fact, the selected ones, and the others were dismissed. After an examination of his talents, young Dannecker was destined to be an artist. In his 16th year, he obtained a prize for his Milo of Crotona. The composition of this Milo would not disgrace his ripened ability. In this academy, Dannecker formed an intimate friendship with Schiller, then one of the most distinguished scholars at that place, and to whom, in later days, he erected a monument. He left the academy at the same time with him in 1780, and was appointed statuary to the court, by the duke, with a yearly salary of 300 florins. Three years afterwards, he obtained permission to travel to Paris, yet without any further assistance than an increase of 100 florins to his salary during his second year in Paris. With this small provision, Dannecker, in 1783, travelled on foot to Paris. Love for his art enabled the young man to bear with content the severest privations, and the contemplation of splendid works of genius often caused him to forget his hunger. Dannecker found here, in the celebrated and honest Pajou, a valuable master. In 1785, he left Paris, and proceeded on foot to Rome. Here he became acquainted with Canova (born in 1757), who, at that time, was beginning to obtain distinction, and was employed on Ganganeli's monument. Canova soon conceived an affection for the German artist, was

serviceable to him in his studies, visited him often in his labors, and improved him by his remarks. Dannecker commenced his labors in marble at Rome, where he made a Ceres and a Bacchus. These statues procured his admission into the academies of Bologna and Milan. He returned to his country in 1790, after an abode of five years in Rome, and duke Charles made him professor of the fine arts in his academy. The first work which he completed for the patron of his youth, was a maiden mourning over a bird. He now labored principally upon sketches and designs for the duke. In 1796, he began again to work in marble, and, among other things, produced a Sappho (now in Monrepos); in 1797, two priestesses of plaster (at present in the Favorite, at Louisberg); and many studies. The elector Frederic II (afterwards king) now employed him upon a greater work—Weeping Friendship leaning upon a Coffin—for the monument of his noble friend, the count Zeppelin. This he finished in marble, in 1804, and it was long the object of admiration, in the mausoleum of the count, in the park at Louisberg. While he was modelling this figure, the idea of his Ariadne suggested itself to his mind. He had, in 1797, executed a bust after nature, and as large as life, of his friend Schiller, during his residence in Stuttgart. He now prepared a second, of colossal size, of Carrara marble—an offering of love and grief to his deceased friend. This bust adorns the artist's study, and only casts in plaster have been given to the world, of which one adorns the library of the university of Göttingen. After many other works, he at length began, in marble, in 1809, his Ariadne riding upon a panther, as the bride of Bacchus; and, in 1816, this was sent to Mr. de Bethmann, at Frankfort. It is one of the most beautiful works of modern times. In 1812, the artist was again employed by king Frederic upon a new work. This was a Cupid, the design of which was furnished by the monarch. The head of the little god was to be inclined towards the earth, in a meditating embarrassment, with an empty quiver and an unstrung bow. But the artist threw into the piece a more ideal character. Under his chisel, it became a heavenly Cupid, represented at the moment when Psyche has let fall the heated oil upon his shoulder. General Murray, an Englishman, saw this exquisite specimen of sculpture, finished in marble, in 1814, and wished it to be repeated for himself. Instead of complying with this wish, Dan-

necker offered to complete for him a pendant, and executed his Psyche, a pure being, intended to represent heavenly innocence. But the favorite subject of the artist, which for 8 years occupied his thoughts, is his Christ, for the idea of which he is indebted to an inspiring dream. This colossal statue was finished in 1824, and sent to St. Petersburg, to the empress-mother of Russia, who made a present of it to the emperor Alexander. Dannecker wished, in this piece of art, to represent the Mediator between God and man. He was afterwards employed, in 1825, upon a statue of the evangelist John, seven feet in height, for the royal chapel at Rothenberg. Dannecker labors, unweariedly, from morning to evening, with the activity of youth. The openness and simplicity of his character have gained him the love of all who know him, and his life has been so undisturbed, that Canova sur-named him *il beato*.

DANTE (properly, *Durante Alighieri*), one of the most distinguished men of whom history makes mention, was born in Florence, in 1265. Of the first years of this greatest and earliest of the modern poets of Italy, we know little more than that (as he himself tells us, in his *Inferno*, xv, 8th) he was a scholar of Brunetto Latini, a Florentine, distinguished as a poet, a scholar, and a politician. His very early love for Beatrice Portinari (who died in 1290) aroused his spirit, and afforded images and figures to his poetical mind, as long as it created. He studied philosophy at Florence, Bologna and Padua, and afterwards theology at Paris. He was also familiar with Latin literature, and wrote the language well for that time. While he cultivated his mind, he, at the same time, served his country as a soldier and a statesman. In 1289, he fought in the memorable battle at Campaldino against the Ghibelines of Arezzo, and, in 1290, at Caprona, against the Pisans. He went on several embassies from the Florentine republic to Rome, and to the courts of different sovereigns. In 1291, he married Gemma, the daughter of Manetto Donati, by whom he had several children. This marriage was not happy, and a separation finally ensued. In 1300, Dante was, unfortunately for himself, made one of the priors, or superior magistrates, of his native city. Florence was, at that time, divided between two parties—the Bianchi and Neri (the White and Black). The former, being the weaker, sought assistance from pope Boniface VIII; and the pope determined to send Charles of Valois, brother

of Philip IV of France, who was at that time in Rome, to quiet the troubles in Florence. Dante, as prior of the city, resisted this interference, apprehending dangerous consequences to the state, and was therefore banished, in 1302, together with the leaders of the Bianchi, and his property confiscated, because he was unable to pay a fine of 8000 lire, which was imposed upon him. His life was now an almost uninterrupted series of misfortunes. He and his companions in adversity, according to some writers, joined the party of the Ghibelines, or adherents of the emperor, through whose assistance alone they could hope to return to their country. The proofs of this are found in numerous passages in his poems, which contain the bitterest invectives against Boniface, the head of the church, whom he places in hell. Dante then lived some time in Arezzo; but, the attempt of the Bianchi, in 1304, to force their way back to Florence, having failed, he left Tuscany, and took refuge in Verona, with Alboin della Scala, who had gained among his contemporaries the name of the *Great*, from the support which talent and merit always found in him. But Dante, constantly in a state of inquietude, and in expectation of his recall, could not, as Petrarch relates, conceal his dejection and bitterness from his benefactors; and this seems to be the reason why he nowhere found a permanent residence. He speaks in a very touching manner, in his *Inferno*, of the pain of having to "ascend the stairs of other men," as he describes his state of dependence. On this account, several cities could pretend to the honor of having had the *Divina Commedia* composed within their walls. Besides visiting many places of Italy, Dante likewise went to Paris. He endeavored, at length, to effect his restoration to Florence, by means of the emperor Henry VII, then in Italy, on which occasion, he wrote a work on monarchy, *De Monarchia*, about the year 1309 (Basil, 1559; also contained in 4 vols., in the Venetian edition of his works); but this hope was disappointed. During the last years of his life, he resided at Ravenna, with Guido Novello da Polenta, the lord of that city, who, as a friend of the muses, willingly afforded him protection. His death took place in this city, Sept. 14, 1321, and he was buried in the church of the Minorites, where, in 1483, a Venetian nobleman, Bernardo Bembo, father of the celebrated cardinal of that name, erected a splendid monument to his memory. The Florentines, who had banished and persecuted their

great countryman, now, like the Athenians after the execution of Socrates, endeavored to expiate their injustice, by paying that honor to his memory which they had denied to him during his life. They caused his portrait, painted by Giotto, to be hung up in a public place in the city, demanded, although in vain, his remains from the inhabitants of Ravenna, and appointed distinguished scholars to lecture on his poem. Boccaccio, in his *Vita di Dante*, describes him as a man of firm, but yet gentle and engaging character, altogether different from the account of Giovanni Villani. His face, of which many portraits exist, is characterized by the sharpness and extenuation of the features, and the stern melancholy of the expression. Of the six children whom Dante left, his two eldest sons, Pietro and Jacopo, made themselves known as scholars, and, among other works, wrote a commentary upon the poem of their father, which has not, however, been published. This great poem, since the year 1472, has passed through nearly 60 editions, and has had a greater number of commentators than any other work since the revival of letters. Early in the 17th century, an edition was projected, in a hundred volumes, by Cionacci, a Florentine noble, wherein he purposed, by appropriating a volume to each canto, to comprise, in chronological order, all the commentaries then existing, together with a Latin translation in the Strozzi library. Since that period, new editions have repeatedly made their appearance. The last is that of Gabriele Rossetti, to be completed in six volumes, two of which (London, 1826, comprising *L'Inferno*) are published. In many respects, this last must be considered a singular commentary. The greatness of Dante is very often measured by the immense variety of commentators on his work, and their declaration that they believe Dante yet imperfectly understood. We do not think so, nor conceive that the passages which are most unintelligible shed the greatest lustre on the author. A passage which has been differently understood by every interpreter for centuries, and allows every one to assign a new meaning to it, naturally induces a doubt whether the writer himself attached to it any clear idea, or whether the idea was not so distorted as not to admit of being traced. Should we consider the Sibylline books as containing profound treasures of wisdom, because their obscure prophecies admitted of any interpretation? or the Koran, because it has had thousands of com-

mentators? or do we think that law in a code the wisest, about the meaning of which there has been most dispute? The poem of Dante, like so many productions of antiquity, is, on the whole, a grand exhibition of genius; and, therefore, commentators have felt themselves obliged to seek perseveringly for a meaning to every passage; and a commentary, once made, was a fruitful source of more, by stimulating men's vanity to discover new interpretations, the human mind, as we all know, being often much more busily employed in displaying its ingenuity than in sincerely seeking for truth. Dante describes, in his Hell, the sufferings of the damned with an inexhaustible ingenuity and a truly poetical penetration into human life and character. In the Purgatory, he portrays the state of souls between heaven and hell, and in his Heaven, the state of the happy. The poem, like every great poetic production, bears a decisive stamp of the most characteristic features of the time when it was composed. It is essentially allegorical: it displays an ardent love for the learning of the ancients, and treats the Romans as forefathers, with whom the Italians of the author's age were in views and sentiments still intimately connected. Hence arises the frequent reference to the ancient mythology, and the constant blending of it with the sacred writings. Why he chose Virgil as his guide through hell and purgatory, is easy to explain. It was because he was a Roman, and the greatest epic poet then known (Homer being comparatively little read, and it being not then understood how much Virgil copied from Homer), and because Virgil manifests a constant reverence for the emperor—an important point in Dante's view, who, as an inveterate Ghibeline, wished all power and splendor to centre in the emperor, and hated the Guelphs and the pope. Not a single pope or cardinal has been admitted into his heaven, whilst hosts of them are to be found in the hell. Virtue and vice are the basis upon which reward and punishment are distributed in the poem; but the standard by which Dante measures these, the forms in which he clothes them, the images under which the poet represents his abstract ideas, are taken from the character of his time, or his personal character and theological views. Dante showed immense power in the composition of an epic on an entirely imaginary subject, and filled with learning, which yet keeps the interest of the reader awake throughout. Other great epics are founded on tales or historical facts, preserved in the

memory of the poet's countrymen; but, with him, the whole was fiction, at least every thing beyond the common dogma of hell, purgatory and heaven. At the same time, it cannot be denied, that his learning sometimes, though seldom, renders him unpoetical; for instance, when he gives long astronomical descriptions. It has often been said, and often denied, that, in his Heaven, the interest diminishes. We must assent to the first opinion, which is founded, indeed, on human nature; for evil and suffering are far more exciting, and, on this account, more interesting than tranquil happiness. Does not every comedy close as soon as the couple are united, and the tragedy, when the wicked are punished?—The name *Commedia* is derived from Dante's idea concerning the forms of eloquence, which were, in his opinion, tragic, comic and elegiac, as he relates in his work *De vulgari Eloquentia*, which was probably first written in Latin. What he called *tragedy* was a piece commencing with happy and peaceful scenes, and ending with events of a painful and terrible character; and what he called *comedy* was a piece which, beginning unpleasantly, terminated happily. The qualifying word *divina* was, however, added by others; but, in the oldest editions, the poet himself was called by the appellations of *Il Divino* and *Il Teologo*. The poem of Dante has been considered, by some persons, but, in our opinion, unworthily, to have taken its rise from the author's circumstances. We may also mention the opinion maintained in 1753, by Bottari, that Dante made use of the Vision of Alberico, a monk who lived in the first part of the 12th century, in a monastery on Monte Cassino, in Naples. There have been many such visions, from the earliest ages of Christianity; as, for instance, the vision of an English monk, which Matthew Paris mentions, in his history of England (in the year 1196), and which resembled Dante's poem much more than the vision of Alberico, published by Cancellieri, in 1814, at Rome, with observations (*Osservazioni intorno alla Questione sopra la Originalità della Divina Commedia di Dante*); and, moreover, the vision of a gentleman named Tundall, in Ireland, which also falls in the first part of the 12th century. It is, therefore, very possible that Dante here and there may have borrowed a thought or image from those visions; but this is no fault: the recollections of great men are sparks which serve to kindle mighty flames.—There is no poet who bears so distinctly the impress of his age, and yet rises so high above it, as

Dante. The Italians justly regard him as the creator of their poetical language, and the father of their poetry, which, regulated and controlled by his genius, at once assumed a purer and far nobler form than it had previously worn. The *terzina* first reached its perfection in the time of Dante, on which account he has been erroneously regarded as the inventor of it.—The best editions of the *Divina Commedia* are those of Lombardi (Rome, 1791, 3 vols., 4to.), and the edition of Milan (in 1804, in 3 vols.). Of the former, a second and much improved edition appeared in 1815—17, at Rome, published by Romano de' Romani, in which the Vision of Alberico is also contained. In 1821, Luigi Fantoni published an edition of the *Divina Commedia*, stated to have been printed from a manuscript in the hand-writing of Boccaccio. An Italian professor at Paris, Biagioli, also published an edition of this poem, from the text of the Crusca edition, in 1818, together with a good commentary, in 3 volumes. Dante's complete works appeared in Venice in 1757—58, published by Zatta (in 5 vols., 4to.). His lyric poems, sonnets and canzonets, of which some are beautiful, others dull and heavy, were written at different periods of his life. We have yet to mention his Banquet (*Il Convito*)—a prose work, worthy, says Bouterwek, to stand by the side of the best works of antiquity. It contains the substance of all his knowledge and experience, and thus illustrates his poetry and his life. The marquis Trivulzio edited a new edition of it, in 1826, in Milan. A work containing much valuable matter to elucidate Dante is *Del Veltro Allegorico di Dante* (Florence, 1826, 8vo., with an interesting appendix), extracted from a very old *Codex Mediceus*, belonging, at present, to the *Biblioteca Laurenziana*, marked No. viii, bench xxix. Among the best modern commentaries on Dante are the treatises of doctor Witte in the *Hermes*, and also in the Silesian *Provinzial-Blattern*, in 1825. There is a good English translation of the *Divina Commedia*, by Mr. Carey (London, 1819, 3 vols., 8vo.).—In one respect, Dante stands unrivalled by any man, as he, we might almost say, created the language, which he elevated at once to its highest perfection. Before him, very little was written in Italian, Latin being the literary language; but no one attempted to use the *lingua volgare* for the purposes of dignified composition. The poet, indeed, thought it necessary to excuse himself for having written in Italian, after having attempted to compose his poem in Latin. Thus he

is to be regarded as the founder of Italian literature. One of the strangest productions of Dante is his *De Monarchia*, already mentioned. He labors, in this work, to prove that the emperor ought to have universal authority, and draws his arguments from the Sacred Scriptures and from profane writers, which, in this book, appear very often with equal authority. The dialectics of the schoolmen are here exhibited in a most characteristic way. The *De Monarchia* is valuable as a source of information respecting the great struggle of the Guelphs and Ghibelines, and its influence upon the Christian world at that time. This struggle was a part of the great convulsion attending the separation of the civil power from the ecclesiastical, with which, in the earliest ages, it is always united. On the whole, Dante's works are important chiefly in three respects—as the productions of one of the greatest men that ever lived, as one of the keys to the history of his time, and as exhibiting the state of learning, theology and politics in that age. To understand Dante, it is necessary to be acquainted with the history and spirit of his time, particularly with the struggle of the Guelphs and Ghibelines, the state of the north of Italy, and the excitement caused by the beginning of the study of the ancients; also to have studied the Catholic theology and the history of the court of Rome, and to keep always in mind that Dante was an exile, deprived of home and happiness. The Germans, at present, pay much attention to Dante. They have some excellent translations, by Kannegiesser and Streckfuss, and valuable works on the poet by Abeken, in Berlin, and others. Mr. Uhde, a few years ago, delivered lectures on Dante in the university of Berlin, which showed great study of the poet and his time.

Pietro Vincenzio, of the family of Rainaldi, was surnamed *Dante*, because he endeavored to imitate this great poet. He and his whole family were celebrated for their knowledge of mathematical science.—Giovanni Battista Dante, of Perugia, probably belonging to the same family, is well known by the surname of *Dædalus*, which he obtained on account of his mechanical ingenuity. In the 15th century, he made an attempt to fly, and is said to have succeeded in passing the lake of Perugia.

DANTON, George James, an advocate by profession, was born at Arcis-sur-Aube Oct. 26, 1759, and beheaded April 5, 1794. He played a very important part during the first years of the French revo-

lution, of which he was an active and zealous promoter. His external appearance was striking; his stature was colossal; his frame athletic; his features harsh, large and disagreeable; his voice shook the dome of the chamber of the assembly; his eloquence was vehement; and his imagination was as gigantic as his person, which made every one recoil, and "at which," says St. Just, "Freedom herself trembled." These qualities contributed to extend his influence, and he became one of the founders of the club of the Cordeliers. (q. v.) After the imprisonment of Louis at Varennes, he took the lead in the meeting of the Champ-de-Mars, which demanded the dethronement of the king. In November, he was appointed assistant to the procurator of the *commune* of Paris. His importance in the capital increased in 1792, where he became one of the instigators of the events of June 20th, and a leader on the 10th of August. After the fall of Louis XVI, Danton was a member of the provisional executive council, was made minister of justice, and usurped the appointment of officers in the army and departments. He thus raised up a great number of creatures entirely devoted to his views. Money flowed from all sides into the hands of the minister, and was as profusely squandered on his tools and partisans. His violent measures led to the bloody scenes of September. He endeavored, by the terrors of proscription, to annihilate all hope of resistance on the part of the royalists. The invasion of Champagne by the Prussians, Sept. 3d, spread consternation through the capital, and among the members of the government. The ministers, the most distinguished deputies, and even Robespierre himself, who was, at that time, in fear of Brissot, now assembled around Danton, who alone preserved his courage. He assumed the administration of the state, and prepared measures of defence: he called on all Frenchmen, capable of bearing arms, to march against the enemy, and prevented the removal of the assembly beyond the Loire. Danton showed, on this occasion, undaunted courage. From this time forward, he was hated by Robespierre, who could never pardon the superiority which Danton had shown on that occasion. Being called on to render an account of the secret expenditures during his ministry, Danton maintained that the ministers should give in their reports collectively; and this view was adopted. He voted for the capital punishment of all returning emigrants,

and undertook the defence of religious worship. The contest between the Girondists and the Mountain daily assumed a more serious aspect, and Danton appeared to fear the consequences of these dissensions. The 26th of November, on the occasion of the festival of reason, in which the adherents of Hébert acted a conspicuous part, he declared himself anew against the attack on the ministers of religion, and subsequently united with Robespierre to bring Hébert and his partisans to the scaffold. But their connexion was not of long duration, and the secret hate which had long existed between them soon became public. Danton wished to overthrow the despotism of Robespierre, and the crafty Robespierre endeavored to undermine him, in order to get rid of a dangerous rival. St. Just denounced him to the committee of safety, and Danton was arrested on the night of March 31, together with those who were called his accomplices. Being thrown into prison in the Luxembourg, he maintained the appearance of serenity. When he was transferred into the Conciergerie, his countenance became dark, and he appeared mortified at having been the dupe of Robespierre. All his discourses were a strange mixture of sorrow and pride. At his trial, he answered, with perfect composure, "I am Danton, sufficiently known in the revolution; I shall soon pass to nothingness, but my name will live in the Pantheon of history." April 5, the revolutionary tribunal condemned him to death, as an accomplice in a conspiracy for the restoration of monarchy, and confiscated his large property. He mounted the fatal car with courage, and without resistance; his head was elevated; his look commanding and full of pride. Before ascending the scaffold, he was, for a moment, softened: "O my wife, my dear wife, shall I never see you again?" he exclaimed; but checked himself hastily, and, calling out, "Danton, no weakness," ascended the scaffold.—Danton was one of the most remarkable characters of the French revolution—a strange mixture of magnanimity, ability and courage, with cruelty, avarice and weakness. He was 35 years old at the time of his death.

DANTZIC (*Danzig*); a commercial city and fortress on the west bank of the Vistula, about five miles from the Baltic, in the government of the same name, in the Prussian province of West Prussia, and 300 miles from Berlin. It has a very agreeable situation, in the midst of a beautiful country. Exclusive of the suburbs,

it is about $2\frac{1}{2}$ miles in circuit, and is neither regularly nor handsomely built. Including the suburbs, it contains 5172 houses, and 54,756 inhabitants, of whom 2148 are Jews. Its fine harbor and advantageous situation have procured it an extensive commerce by land and sea. It was an important member of the Hanseatic league, and was often called the *granary of the North*. As early as the 10th century, it was called *Gedance* (*Gedansk*). For a long period, it continued to change masters, with the territory in which it lies. The Danes, Swedes, Pomeranians and Teutonic knights contended for its possession. In 1310, it fell into the hands of the last. The industry of the inhabitants soon restored its importance and prosperity, which had been diminished by the frequent wars, and inspired the citizens with such energy, that, in 1454, Dantzic declared itself independent, and was soon after recognised as such by the republic of Poland. The city then struck its own coins, with the image of the king of Poland, maintained a secretary at Warsaw, and voted in the diets of the kingdom, and at the election of king, by a deputy. In 1772, the city was almost surrounded by the Prussian dominions; its trade, industry and population continually declined, and the last king of Poland declared that he must leave Dantzic to its fate. May 28, 1793, the Prussians took possession of the outworks: the people immediately flew to arms, and a short struggle ensued, which, after a few days, terminated with the surrender of the city. It soon after regained its former prosperity under the Prussian government, and continued to flourish till the breaking out of the war between France and Prussia. March 7, 1807, Dantzic was besieged by marshal Lefèvre, and surrendered on the 24th of May. The marshal was afterwards rewarded with the title of *duke of Dantzic*. A military contribution of 20,000,000 of francs, to be paid, by instalments, was levied on the city. By the peace of Tilsit, however, Dantzic was recognised as a free city, with a jurisdiction of 2 leagues in extent, which was afterwards enlarged to 10 miles by Napoleon, under the protection of France, Prussia and Saxony; but, being occupied by a French garrison, it was not allowed to enjoy its independence. A French governor, general Rapp, continued in the garrison. In 1808, the *Code Napoléon* was introduced; and, by the continental system, its most important branch of support, the commerce with England, was cut off. Under such unfavourable

circumstances, the year 1812 drew nigh, bringing the heavy burdens of the Russian war. December 31, the city was declared in a state of blockade. After a very obstinate defence of nearly a year's continuance, a capitulation was entered into, Jan. 1, 1814. On this day, all the Poles and Germans were dismissed, and, on the 2d, the French marched out, to be conducted, as prisoners of war, to the interior of Russia. During this blockade and siege, 309 houses and warehouses were burnt, 1115 buildings damaged, and 90 men perished by hunger. Feb. 3, 1814, Dantzic fell again under the dominion of Prussia. Dec. 6, 1815, great damage was done by the explosion of a powder magazine.—There are, in this city, important manufactures of gold and silver lace, cloth, woollen stuffs and Cordovan leather: the dye-houses, sugar-refineries, brandy and other distilleries, vitriol, potash, &c. manufactories, are likewise considerable. An important article of commerce in Dantzic is corn, which is brought down the Vistula from Poland, and exported to England, Holland and the Hanse towns. Other articles of export are timber, leather, wool, furs, butter, tallow, wax, honey, potash, hemp and flax. The principal edifices worthy of mention are, the high church of St. Mark (in which is the Judgment Day, by Van Eyck), the synagogue, the academical gymnasium, the marine institute, the buildings of the society of natural history, including their observatory. This society celebrated its 84th anniversary Jan. 2, 1826. It has published memoirs. In 1823, there were 747 ships entered, and 758 cleared, at this port. On the side of the city between the Vistula and Nogat, is the fertile island of Werder, which supports numerous herds of cattle; and at the mouth of the former lies the fort of Münde, which defends the roads of Dantzic, called *Neufahrwasser*. April 9, 1829, the Vistula, swollen by the melting of the snow in the interior, and choked by masses of ice, broke through the dyke, which extends 25 miles up the river, overwhelming 50 villages. The lower town of Dantzic was inundated, and the houses filled to the roofs. The torrent swept over the city, carrying away many houses, and whatever they contained. On the 12th, the waters began to abate; but, as late as the 14th, many sufferers were still remaining on the roofs of the houses, unable to obtain relief, and destitute of food. (For an account of the last siege of this city, see the *Relation de la Défense de Dantzic en 1813*, Paris, 1820; and also

the *Military Annals of Austria*, 1825, 8th and 9th editions.)

DANUBE (in German, *Donau*, i. e. deep water); a river, which was called by the Romans, from its sources to Vienna, *Danubius*, and lower down, *Ister*. It has three sources, the Brege, Brigach, and a little fountain in the yard of the castle of prince Donaueschingen, in Baden, 2050 feet above the level of the sea (lon. $10^{\circ} 30' 15''$ E., lat. $47^{\circ} 58'$ N.), near which the united waters receive the name of *Danube*. After its junction with the Iller, above Ulm, it becomes navigable, being from 8 to 12 feet deep, runs through the kingdom of Bavaria, then from Engelhartszell to Orsova (644 miles), through Austria, and finally through Turkey, until it falls into the Black sea, after a course of 1547 miles, and after having received 30 navigable rivers and 90 other streams. It discharges itself through five mouths, called *Kili*, *Subine*, *Kedrillo*, *Portessa* and *Islawa Bogasi*. The first is the chief and the deepest outlet, and is now within the dominions of Russia, since Bessarabia (q. v.) was ceded to this power by the Turks. The fourth and fifth mouths are likewise navigable. The Danube discharges so much water into the Black sea, that the addition is perceptible in the latter, even at the distance of 46 miles. Its current embraces the waters of the Schwarzwald (the Black forest), the Böhmerwald (the Bohemian forest), the Alps of Tyrol, Stiria, Carinthia and Carniola, and the Morlachian, Carpathian and Bulgarian mountains. The whirlpools have been rendered less dangerous by the labor of man in Germany and Hungary, but the shallows of Orsova, and the tyrannical restrictions of the Turkish government, obstruct the subsequent navigation. Many species of fish are taken in the river. The most known is the sturgeon. From the times of the Romans, through the period of the middle ages, down to the time of Napoleon, the shores of the Danube have been the scene of momentous conflicts. At Ulm, the navigation of this river begins, and is continued to its mouth in five divisions, occasioned by political separations—from Ulm to Ratisbon, thence to Vienna, thence to Pest, thence to Belgrade, thence to Galacz and Kilianova, where the river empties itself. The navigation is almost entirely downwards, without the aid of sails or oars. Such vessels as move against the stream are drawn by horses, five tons being allowed for each horse, if the river is not swollen. As the greater part of the vessels are only calculated to

float down, and then to be sold as wood, they are, of course, little better than rafts. The congress of Vienna, in 1815, declared the navigation of all the German rivers free; but this freedom does not as yet exist, and the custom lines of Würtemberg, Bavaria and Austria prevent the navigation of the Danube from attaining the extent which it would easily reach if left free. From France, many goods are sent to Ulm, and from thence to Turkey. At Pest, about 8000 vessels and rafts arrive annually. Austria subjects the navigation of the river to very oppressive restrictions. Thus the boatmen from Ratisbon are only allowed to go to Vienna; and they are only allowed to take from thence wine. In Vienna, these boatmen are incorporated. Charlemagne entertained the grand idea of uniting the Rhine and Danube, by a canal between the Altmühl and the Maine, near Nuremberg. If the navigation were free, the introduction of steam-boats would make it increase with a rapidity equal to that of the Mississippi. (See *Devil's Wall*.)

DAPHNE; a daughter of the river-god Peneus, beloved by Apollo, by whose contrivance her lover, Leucippus, was slain. The nymph, deaf to the suit of the god, and flying from him, besought the earth to swallow her up. According to some, she besought her father or Jupiter to protect her. Her prayer was heard; for, at the moment when Apollo was about to encircle her in his arms, her flight was suddenly arrested, her feet took root in the earth, her arms became branches, and, instead of the nymph, Apollo embraced a laurel, which was thenceforth consecrated to him.—*Daphne* was also the name of a daughter of Tiresias. She was priestess in the temple of Delphi.—A grove near Antioch was likewise so called.

DAPHNIN; the bitter principle of *Daphne Alpina*. From the alcoholic infusion of the bark of this plant, the resin was separated by partial evaporation, and the remaining tincture, on being diluted with water and filtered, afforded, on the addition of acetate of lead, a yellow precipitate, from which sulphureted hydrogen disunited the lead, and left the daphnin in small transparent crystals. They are hard, of a grayish color, a bitter taste; when heated, evaporate in acrid acid vapors; and are sparingly soluble in cold, and but moderately so in boiling water.

DAPHNIS; the son of Mercury by a nymph, educated among the nymphs, and celebrated in the Sicilian traditions as the author of Bucolic poetry, and also as a performer on the shepherd's pipe. He

pastured his kine upon mount *Ætna*. The nymph *Echenais*, who loved the youth, threatened him with blindness if he should love another; but, being intoxicated with wine by the daughter of a Sicilian prince, he forgot her warnings, and thus brought upon himself the threatened punishment. Some say that he died of grief; others, that the nymph transformed him into a stone. All the nymphs bewailed his death, and Mercury raised him to the heavens. On the spot where he died flowed a fountain, at which the Sicilians afterwards performed yearly sacrifices.

DARCET, John; an eminent French physician and chemist, born, in 1725, at Douazit, in Guienne. He preferred the study of medicine to that of the law; in consequence of which, having been discarded by his father, he was obliged to teach Latin for his support, while pursuing his studies at Bordeaux. He accompanied the celebrated Montesquieu to Paris in 1742, and remained with him till his death as a literary assistant. He afterwards devoted himself to chemistry, and went to Germany, in 1757, with the count de Lauraguais, and visited the mines of the Hartz, in Hanover. On the restoration of peace, they applied themselves to technical chemistry, especially to the improvement of the manufacture of porcelain. Darcet made many experiments with this view, of which he drew up an account in several memoirs presented to the academy of sciences, in 1766 and 1768. He tried the effect of fire on the various kinds of earths, and demonstrated the combustibility of the diamond; on which subjects he presented memoirs to the academy in 1770. In 1774, he travelled over the Pyrenees, to study the geology of those mountains, on which he delivered a discourse at the college of France, which was published in 1776. On the death of Macquer, he succeeded him as a member of the academy of sciences, and director of the manufactory of Sèvres. He was afterwards appointed inspector-general of the assay of coin, and inspector of the Gobelins manufactory. He made several important chemical discoveries, and contributed much to the present improved state of the science. During the reign of terror, his life was preserved by Fourcroy, who procured the obliteration of his name from a list of persons destined by Robespierre to destruction. He died in 1801, at which period he was a member of the institute, and of the conservative senate.

DARCET, John Peter Joseph, an excel-

lent practical chemist, born at Paris in 1787, has very successfully applied the discoveries in his science to the promotion of French industry. His father, who died in 1801, in the office of director-general of the porcelain manufactory at Sèvres, also distinguished himself as a practical chemist; and his grandfather was the celebrated Rouelle, the restorer of chemistry in France. Darcet entered early upon his career, after having laid the foundation of his eminence by the study of mathematics and natural philosophy. In his 24th year, he was made assayer of the mint; and, after introducing, among other discoveries, a new process for the preparation of powder on a large scale, he made experiments on the addition of sea-salt in the manufacture, and essentially improved the preparation of the hydrate of the protoxide of barytes. These experiments led to new discoveries respecting elective affinity; but the decomposition of sea-salt was of the greatest importance, and eventually led to the establishment of the manufacture of artificial natron (soda). Among his other discoveries, we may notice the extraction of alkali from chestnuts, and the preparation of sugar from the same material, and the extraction of jelly from bones by means of an acid. The hospital of Louis at Paris is indebted to him for the excellent footing on which he put its baths and chimneys, and for the process which he introduced for bleaching the linen of the hospitals. He also made another discovery of great importance, whereby he obtained the prize of 3000 francs, which Ravrio had provided for the discovery of the means of protection against the fine dust of quicksilver, which had been so unhealthy to the gilders. Darcet's discovery completely attained the object, and this branch of French industry has since increased greatly in importance. He has also offered a plan for preserving the health of those concerned in the manufacture of Prussian blue.

DARDANELLES are the four strong castles built on the European and Asiatic coasts of the Hellespont, opposite to each other, and commanding that strait, which is about 12 leagues long, and called, from them, the *strait of the Dardanelles*, so that they are looked upon as the key of Constantinople. Their name is probably derived from the old city of Dardanium. The entrance to the Hellespont is defended by two castles, which are called the *new castles*, because they were built (subsequently to the two others, called the *old*

castles), in the middle of the 17th century, under Mohammed IV, to afford protection to the Turkish fleets against the Venetians. The distance of one from the other is about two miles and a quarter. Four hours' sail farther to the north lie the old castles, built by Mohammed II, immediately after the conquest of Constantinople, which are not more than 1500 yards apart. Farther on still, the channel becomes narrower, and, at an hour and a half's sail from the old castles, two promontories appear suddenly, about 750 yards distant one from the other, and form that strait rendered famous by Leander's nightly visit to Hero, by Xerxes' bridge, and by Solyman's passage upon a bare raft. This is not provided with fortifications. It leads into the sea of Marmora, at the north-eastern end of which lies Constantinople, the capital of the Ottoman empire, upon another channel, which connects the Black sea with the sea of Marmora. The late lord Byron, in the month of March, 1810, swam from the castle of Sestos, in Europe, to the fort of Abydos, in Asia, in company with lieutenant Ekenhead, an English naval officer, and mentions the feat in his works with evident satisfaction. The same feat has been repeatedly performed in modern times. The negligent Turks, confiding in the celebrity of the castles of the Dardanelles, have taken so little care to keep them in a state of defence, that in 1770 they were completely in ruins, and upon the Asiatic side there was but a single battery standing, and that half filled with rubbish. On the 20th of July of that year, when the squadron of the Russian admiral Elphinstone, consisting of three ships of the line and four frigates, in pursuit of two Turkish ships of the line, appeared before the first castles, the Turkish batteries, from want of ammunition, were obliged to cease firing, after one general discharge of their ordnance, and Elphinstone sailed by without receiving more than a single shot. But, the other ships not following him, he contented himself with continuing his course, not minding the Turkish batteries, and cast anchor in the channel. From hence he returned to his fleet, notwithstanding a contrary wind, with drums and trumpets sounding, as much to conceal his own fear as to deride the weakness of the Ottomans. Warned by this unexpected circumstance, the Porte accepted the offer of baron De Tott (q. v.) to restore the castles to their former condition; and he rendered them, in a short time, impregnable. But the Turks were too indolent to preserve them long in

this condition; for, in 1798, Eton, an Englishman, who was for a considerable time resident in Turkey, in a description of this empire, declared that, at that time, a fleet might easily pass the Dardanelles. "These castles," he says, "may be beaten down by batteries erected on shore, or by sea, from situations where the great artillery cannot bear on ships. There are, on each side of the water, 14 great guns, which fire granite balls. These guns are of brass, with chambers, like mortars, 22 English feet long, and 28 inches diameter of the bore. A gentleman who has measured them since I did, says they are only 23 inches in diameter: one of us must have made a mistake. They are very near the level of the surface of the water, in arched port-holes or embrasures, with iron doors, which are opened only when they are to be fired. The balls cross the water from side to side, as they are a little elevated. These monstrous cannon are not mounted, but lie on the paved floor, with their breech against a wall. They cannot be pointed, and the gunner must wait till the vessel he intends to fire at is opposite the mouth; and they are at least half an hour in loading one of these guns." That this account is accurate there is no doubt, for it is confirmed by admiral Duckworth, an Englishman, who, on the 19th of February, 1807, with eight ships of the line and four frigates, together with fire-ships and gun-boats, effected a passage through the Dardanelles without loss, and appeared, on the next day, before Constantinople, which, till then, had never seen an enemy's fleet. Their presence was intended to influence the negotiations then in progress, but was of little avail, for the Turks, during the course of the discussions, under the direction of the French ambassador Sebastiani, were zealously employed in fortifying Constantinople and repairing the castles of the Dardanelles; so that Duckworth, on the 2d of March, could not return without loss, &c., according to his own confession. If he had remained eight days later, his return would have been altogether impossible.—The new castles are much less strong than the old ones, which are generally understood when the Dardanelles simply are spoken of. The latter are called *Chana Kalissi* (said to mean *pottery castles*, from a pottery near them), or, more elegantly, *Sultanei Kalissi*. The new castle on the Asiatic side is called *Koum Kalé*, or *castle in the sand*, from the character of the shore in that place. In the immediate vicinity of Koum Kalé, the ruins of the Troad are, by the common

opinion of travellers at the present day, supposed to be found. The old castle, on the Asiatic side, is the residence of the governor of the four castles, and at this place there is an ill-built but considerable Turkish city, called *Chana Kalissi*. The environs of this town are beautiful, particularly a fine promenade of plane-trees on the banks of the Rhodius, supposed to be one of the nine Homeric rivers which descend from mount Ida. The old castle on the Asiatic side is poorly defended on the land quarter, and might easily be surprised by a small force disembarked above or below. Large quantities of marble balls, made from the ruins of the city of the Troad, are piled up for use in the courts of the fortress. A ponderous shot of this kind, which struck one of the masts of admiral Duckworth's ship, was brought home by that officer, and made the pedestal of a table. So firmly persuaded are the Turks that these castles are impregnable, that they believed the governor was bribed by admiral Duckworth, and beheaded him accordingly. Commodore Bainbridge, in the American frigate *George Washington*, passed the Dardanelles, under cover of the smoke of a salute, in February, 1801. This is the only American ship of war that ever passed this strait.

DARDANUS, the progenitor of the Trojan kings, and the son of Jupiter and Electra, the daughter of Atlas, emigrated from Samothrace (according to others, from Arcadia, Crete, &c.), and settled in Phrygia, in the country which was afterwards called *Troas*. Here he built a city, which, from him, was called *Dardanium* or *Dardanus*. By Batcia, the daughter of Teucer, who had previously emigrated hither from Attica, he had a son, called *Erichthonius*. His descendants are called, by the poets, *Dardanians*. It has been lately supposed, that this is the name of an Arcadian tribe, whose history is related in the fable of Dardanus.

DARFUR, or DARFOOR (*Country of Foor*); a considerable kingdom of Central Africa, occupying a large portion of the wide interval between Abyssinia and Bornou, the most eastern part of Nigritia. It is difficult to fix its limits, as it is known to us almost solely by the journey of Mr. Browne, one of the most enterprising of modern travellers. On the east, it has Kordofan, and the country of the Shillux, which separate it from Sennaar and Abyssinia; on the west, Bergoo, which divides it from Begherme and Bornou; while the regions to the south are occupied by barbarous nations, extending to and inhabiting the Mountains

of the Moon. With respect to its climate, productions, the animals it contains, and also the manners of its inhabitants, and its government, it nearly resembles other countries in Africa. The people are semi-barbarous; their government is a despotism, and their occupation chiefly agriculture. The mechanical arts are at a low ebb, and their houses are rudely constructed of clay, with a coating of plaster, and with proportionably scanty accommodations. Its commerce is extensive. The grand intercourse is with Egypt, and is carried on entirely by the African system of caravans. There is no regular caravan, as between Fezzan and Cairo. The motions of that from Fur are extremely uncertain, and two, or even three years sometimes elapse without one. The caravan going to Egypt consists often of 2000 camels and 1000 men. Among the exports, the most important are slaves, male and female, taken in the Negro countries to the south; camels, ivory, the horns, teeth and hide of the rhinoceros and hippopotamus, ostrich feathers, gum, pimento, parroquets in abundance, and a small quantity of white copper. The imports are extremely various, comprising beads of all sorts, toys, glass, arms, light cloths of different kinds, chiefly made in Egypt, with some of French manufacture, red Barbary caps, small carpets, silks, wrought and unwrought shoes, and a considerable quantity of writing paper. The Darfoor people submit their daughters to excision. They are Mohammedans, but, in spite of the prophet, much given to intoxicate themselves with a certain beverage called *merissah*. Unlimited polygamy is allowed, and the nearest relationship is no obstacle to marriage. Fathers often marry their daughters, and brothers their sisters. The army is calculated at 70,000 men. The soldiers endure thirst and fatigue with uncommon patience.

DARIA, or DERIA, signifies *river*, in the Tartar languages; as Kizil-Daria, *red-river*.

DARIEN; a post-town of Georgia, capital of M'Intosh county, on the north and principal channel of the Alatomaha, near its entrance into St. Simon's sound, 12 miles from the bar, 62 S. S. W. Savannah, 185 S. E. Milledgeville; lon. $81^{\circ} 37' W.$; lat. $31^{\circ} 23' N.$; population in 1827, according to Sherwood, only 500. It stands on a high, sandy bluff, and contains a court-house, a jail, an academy, a Presbyterian meeting-house, a bank and a printing-office. It is a place of considerable trade in cotton. At the bar, there are but

14 feet of water, so that large vessels cannot come up to the town; but the obstructions to the navigation are expected, before long, to be removed, that Darien may be accessible to large ships, and become the emporium of the fertile country watered by the Oakmulgee and Oconee, branches of the Alatomaha.

DARIEN, GULF OF; on the coast of the province of Darien; 26 leagues from N. to S., and 9 from E. to W. Several rivers flow into it, the largest of which is the Atrato. The coast is full of sharp and inaccessible shoals, and only towards the west and south are there fit places for disembarking. The limits of the gulf are sometimes extended to the sea that washes the shores of the provinces of Panama and Darien.

DARIEN, ISTHMUS OF; a neck of land, which unites North and South America, composed of the provinces of Panama and Veragua, which belong to the republic of Colombia. It lies in the form of a crescent, about the great bay of Panama on the south, and having the gulf of Mexico on the north. It is 300 miles long, and generally about 60 wide, but, where narrowest, between the ports of Porto Bello and Panama, only 37. This part is sometimes called the *isthmus of Panama*. The country here is made up of sickly valleys and stupendous mountains, which seem to be placed as eternal barriers between the Atlantic and Pacific oceans, which can be distinctly seen at the same time from the summits. These mountains here forbid the idea of a canal; but, by going to latitude 12° N., and joining the head of the lake Nicaragua to a small river which runs into the Pacific ocean, and forming a canal 30 miles long, through a low, level country, a communication between the two seas becomes practicable.

DARIUS; the name of several Persian kings, or, according to some writers, the royal title itself. Among the most distinguished individuals of this name, are—1. Darius, the fourth king of Persia, the son of Hystaspes, satrap of Persis. He joined the conspiracy against the Pseudo-Smerdis, who had possessed himself of the Persian throne. After the conspirators had succeeded in getting rid of the usurper, they agreed to meet early the next morning, on horseback, and to appoint him king, whose horse should neigh first after sunrise. The groom of Darius, apprized of this project, led his master's horse, in the night, with a mare, to the appointed place, and, in consequence of this stratagem, the horse of Darius neighed first the

next morning. Darius was, therefore, saluted king, and the nation approved the choice. His reign was marked by many important events. The city of Babylon revolted, partly on account of burdensome impositions of tribute, and partly because the royal residence, under Cyrus, had been transferred from thence to Susa. Darius besieged the city nearly two years without success, and was on the point of abandoning the siege, when Zopyrus, one of his generals, by a heroic sacrifice, placed the city in his possession. The mode was this: he mutilated himself in the most shocking manner, and fled to the Babylonians, pretending to them that he had suffered this cruel treatment from Darius, and that he wished for vengeance. The Babylonians gave him a command; and, after many successful sallies, by which he gained their confidence, they intrusted to him the charge of the whole city, which he immediately surrendered to Darius. After the subjection of Babylon, Darius undertook an expedition, with an army of 700,000 men, against the Scythians on the Danube (513 B. C.), who enticed him so far into their inhospitable country, by their pretended flight, that he succeeded with difficulty in extricating himself and his army, after suffering great losses. Leaving a part of his forces, under the command of Megabyzus, in Thrace, to conquer that country and Macedonia, he returned with the remainder to Asia, to recruit at Sardis. He next turned his arms against the Indians, part of whom he subjected (508 B. C.). In the year 501 B. C., a disturbance at Naxos, in which the Persians had taken part, occasioned a revolt of the Ionian cities, which the Athenians endeavored to promote, but which was suppressed by the capture and punishment of Miletus, in 496. To revenge himself upon the Athenians, Darius sent Mardonius with an army, by the way of Thrace and Macedonia, against Greece, and prepared a fleet to make a descent upon its coasts. But his ships were scattered and destroyed by a storm, in doubling mount Athos, and the army was almost entirely cut to pieces by the Thracians. Darius, however, collected another army of 500,000 men, and fitted out a second fleet of 600 ships. Naxos was conquered, and Eretria, in Eubœa, sacked. Thence the army, under Datis and Artaphernes, proceeded to Attica, and was led, by Hippias, to the plains of Marathon. The Athenians had, in vain, besought assistance from their neighbors, and were obliged to depend upon their own resources alone. They

marched forth, 10,000 strong, under the command of Miltiades, to meet the Persian army, and, animated by the reflection that they were fighting for freedom and their country, obtained a complete victory (B. C. 490). Darius now determined to take the command of a new army in person, but was prevented by domestic troubles, and died B. C. 485. This prince did much to improve the internal administration of his kingdom. In the year 508 B. C., he sent his admiral Scylax to explore the river Indus, and he encouraged commerce and arts by useful institutions and laws. His successor was Xerxes. (q. v.)—2. Darius III, surnamed *Codomanus*, son of Arsanes and Sysigambis, and great-grandson of Darius II, or Ochus (who reigned from 424 to 404 B. C.), was the 12th and last king of Persia. He ascended the throne B. C. 336, when the kingdom had been weakened by luxury, and the tyranny of the satraps under his predecessors, and could not resist the attacks of a powerful invader. Such was Alexander of Macedon; and the army, which was sent against him by Darius, was totally routed, on the banks of the Granicus, in Asia Minor. Darius then advanced, with 400,000 soldiers, to the plains of Mesopotamia. The Grecian mercenaries advised him to await the enemy here, as the level country would enable him to draw out his forces to advantage; but Darius hastened forward to meet Alexander in the mountainous Cilicia. Curtius describes the splendor of his march. Darius was a second time totally routed, near the Issus, B. C. 333. He himself escaped, under cover of the night, to the mountains. His mother, his wife, and three of his children, fell into the hands of the conqueror, who treated them with great generosity. Alexander loaded 7000 camels with the spoil taken here and at Damascus. Darius was so far from being discouraged by these defeats, that he wrote a haughty letter to Alexander, in which he offered him a ransom for the prisoners, and invited him to a new engagement, or, if he did not choose that, granted him permission to retire into Macedonia. Alexander then laid siege to Tyre, on which Darius wrote him another letter, offering him not only the title of *king*, which he had before refused to do, but also 10,000 talents ransom, and all the countries of Asia as far as the Euphrates, together with his daughter Statira in marriage. These propositions, however, were unavailing. Alexander subjected Egypt, and Darius found himself once more obliged to collect an army, which most writers

estimate at 1,000,000 men. He led his forces from Babylon to Nineveh, while Alexander was encamped on the banks of the Tigris. The two armies met between Arbela and Gaugamela, and, after a bloody engagement, Darius was compelled to seek safety in flight (331 B. C.). Alexander took possession of his capital, Susa, captured Persepolis, and reduced all Persia. Darius meanwhile arrived at Ecbatana, in Media, where he had another army of 30,000 men, among whom were 4000 Greeks, who remained true to the end, besides 4000 slingers and 3000 horse, commanded by Bessus, the governor of Bactria. With these he wished to march against the conqueror, but a conspiracy of Nabazanes and Bessus frustrated his plan. The magnanimous prince would not credit the report of the conspiracy, which reached his ears, and, at the same time, observed that his death could not be premature, if his subjects considered him unworthy of life. The traitors soon after took possession of his person, and carried him, in chains, to Bactria. Here he refused to accompany them any farther, and they transfiged him with their javelins, and left him to his fate. A Macedonian, named Polystratus, saw the chariot of Darius, and, as he was drinking at a neighboring fountain, heard the groans of a dying person. He approached the chariot, and found the king in the agonies of death. Darius begged for some water, on receiving which he requested Polystratus to thank Alexander, in his name, for the generosity with which he had treated the captive princesses. Scarcely had Darius expired, when Alexander came up. He melted into tears at the sight of the corpse, caused it to be embalmed, and sent it to Sysigambis, that it might be deposited by the side of the other Persian monarchs. Darius died (330 B. C.) in the 50th year of his age, with the reputation of a humane, peaceful and just sovereign.

DARMSTADT, capital and residence of the grand-duke of Hesse-Darmstadt, has 1279 houses (among which are 53 public buildings) and 20,000 inhabitants, mostly Lutherans, exclusive of the garrison. It is, of course, the seat of the highest authorities, and of a court of appeal; has a museum, library (with 90,000 volumes), drawing-school, gymnasium, an opera-house, theatre, &c. The house in which the soldiers are drilled is 319 feet long, 157 feet wide, and 83 feet high; so that a traveller remarked that the drilling-house was larger than the duchy. Lat. 49° 56' 24" N.; lon. 8° 34' 49" E.

DARMSTADT, or HESSE-DARMSTADT. (See *Hesse*.)

DARTMOOR; an extensive, rugged, mountainous tract in England, in the western part of Devonshire, usually called the *forest of Dartmoor*, but at present having no appearance of a forest, except what is afforded by an assemblage of dwarf oaks, intermixed with ash and willow; reaching from Brent S., to Oakhampton N., 20 miles, and 5 to 15 wide, and occupying 53,644 acres; in all which space is no town, and only 2 villages. Here is a large prison, where many prisoners of war are frequently confined.

DARTMOUTH; a seaport town of England, county of Devon, situated near the confluence of the river Dart with the British channel. It has a good harbor, with deep water, defended by a castle and two platforms of cannon. The chief occupation of the inhabitants consists in the Newfoundland and other fisheries, wherein about 350 vessels are engaged. Dartmouth is a borough, sending two members to parliament. The entrance to the harbor is defended by a castle. Population, 4485. 30 miles S. Exeter.

DARTMOUTH COLLEGE. (See *Hanover, N. H.*)

DARU, Pierre Antoine Noël Bruno, count, a peer of France, and one of the ablest French statesmen of the school of the revolution and Napoleon, was born in the year 1767, at Montpellier. He commenced his military career in his 16th year, after having received an excellent education. At the breaking out of the revolution, he adopted its principles, like other young men of talent. He never relinquished his poetical and literary pursuits, even in the camp, amidst the most uncongenial labors. His reputation as a poet was established by his masterly translation of Horace. The first edition appeared in 1800. About the same time appeared his *Cléopédie*, or *Theory of Literary Reputation*—a poem full of elegance and animation. The penetrating eye of Napoleon soon distinguished him from the multitude, and showed him peculiar favor, while Daru attached himself, with unbounded zeal, to that extraordinary man. He was intrusted with the most important affairs, and executed these trusts with fidelity to the interest of France and the emperor, by which he drew upon himself the hatred of the opposite party. This is particularly evident in his administration as general intendant, in 1805, 1806 and 1809, in Austria and Prussia. While in the council of state, Daru was considered the most

diligent and laborious member of that body except the emperor. There were few important posts in the higher departments of the administration which he did not fill; and the first restoration found him in possession of the port-folio of the department of war. Blücher displayed his enmity to him by sequestering his estate at Meulan; but this measure was immediately reversed by the allied monarchs. In 1818, Daru was called to the chamber of peers by Louis XVIII. In 1805, he was chosen a member of the national institute. Not having been called to any other public post after the restoration, Daru devoted himself particularly to historical studies; and we are indebted to him for two important works—the *Life of Sully* and the *History of Venice*. The last of these is one of the most important productions of modern literature in the department of history. It appeared, in 1819, in seven volumes; second edition, in 1821, in eight volumes, and the third edition in 1825. As a member of the chamber of peers, Daru was one of the most zealous defenders of the principles introduced by the revolution. He died near the end of 1829.

DARWIN, Erasmus, a physician and poet, was born at Elton, near Newark, Nottinghamshire, Dec. 12, 1721. He was educated at Cambridge, took his doctor's degree at Edinburgh, and commenced his practice as a physician at Litchfield. In 1781, he made himself known as a poet by the publication of his *Botanic Garden*. This poem consists of two parts, in the first of which the author treats of the economy of vegetables, and in the second of what he calls *The Loves of the Plants*, being a sort of allegorical exposition of the sexual system of Linnaeus. The ingenuity and novelty of much of the personification, and still more the brilliant and figurative diction in which it is conveyed, rendered this production very popular for a time; but its unvarying polish, want of light and shade, and of human interest, rapidly reduced its reputation. To this result, the pleasant ridicule of Mr. Frere's *Loves of the Triangles*, also, in no small degree, contributed. In 1793, doctor Darwin published the first volume of his *Zoönomia*, or the *Laws of Organic Life*, 4to., which work excited great expectation from the known originality of the author. It teaches that all animated nature, as men, beasts, and vegetables, takes its origin from single living filaments, susceptible of irritation, which is the agent that sets them in mo-

tion. This doctrine was refuted by Brown and several other writers, and, being founded on a mere assumption, rapidly followed the fate of all such systems. The second volume, which completed the author's plan, was printed in 1796. In 1801, he published his *Phytologia*, or Philosophy of Agriculture and Gardening. Various papers in the Philosophical Transactions are likewise from the pen of doctor Darwin, who died suddenly, April 18, 1802, leaving behind him the character of an able man, of considerable eccentricity, both in opinion and conduct. The bias of his politics, and the tendency of his theories to materialism, excited a powerful feeling against him, which much exaggerated his peculiarities. His son,

DARWIN, Charles, deserves to be noticed for discovering, while studying at Edinburgh, a test for distinguishing pus from mucus, for which the gold medal was assigned him by the university. This promising young man died during his studies, at Edinburgh, in May, 1778.

DASCHKOFF, Catharine Romanowna, princess of. This celebrated lady, descended from the noble family of Woronzoff, and the early friend and confidant of the empress Catharine, was born in 1744, and became a widow at 18 years of age. She endeavored to effect the accession of Catharine to the throne, but, at the same time, was in favor of a constitutional limitation of the imperial power. In a military dress, and on horseback, she led a body of troops to the presence of Catharine, who placed herself at their head, and precipitated her husband from the throne. The request of the princess Daschkoff to receive the command of the imperial regiment of guards, was refused. She did not long remain about the person of Catharine. Study became her favorite employment. From the Greek and Roman authors she had acquired the high spirit of antiquity. After her return from abroad, in 1782, she was made director of the academy of sciences, and president of the newly established Russian academy. She wrote much in the Russian language; among other productions, some comedies. She also actively promoted the publication of the dictionary of the Russian academy. Her death took place in 1810, at Moscow.

DATARIA; the papal chancery at Rome, from which all bulls (q. v.) are issued. It has its name from the common subscription, *Datum apud Sanctum Petrum*, that is in the Vatican. (See *Curia, Papal*.)

DATE (Latin, *datum*, given); that ad-

dition to a writing, which specifies the time when it was executed. Under the Roman emperors, this word was used to signify the day on which the bearers of the imperial despatches to the provinces received them, or that on which they delivered them. It was also used in documents in the time of the French Merovingian kings.

DATE; the fruit of the date palm, a tree of the natural order *palme*, inhabiting the north of Africa, from Morocco to Egypt, Syria, Persia, the Levant and India, and which is also cultivated in Italy and Spain. Dates form the principal nutriment of the inhabitants of some of the above countries, and are an important article of commerce. This fruit is an oval, soft, fleshy drupe, having a very hard stone, with a longitudinal furrow on one side, and, when fresh, possesses a delicious perfume and taste. Dates are sugary, very nourishing, wholesome, and require no preparation; but when dried, and a little old, as they usually are when imported into Europe and the U. States, they are not much esteemed, and are little used in the countries where they grow. The best fruits have firm flesh of a yellow color. They are varied, however, by culture, in size and shape: some varieties are very large, succulent, and without stones. The inhabitants of Tunis and several other countries, every year, journey in crowds, into Biledulgerid to procure dates. The bunches, weighing from 20 to 25 pounds, when of good quality, are sold at from 60 to 80 cents each. Cattle and grain are received in exchange. Almost every part of this valuable tree is converted to some use. The wood is very hard, almost incorruptible, and is used for building. The leaves, after being macerated in water, become supple, and are manufactured into hats, mats and baskets. The petioles afford fibres from which cordage is made. The nuts, after being burnt, are used by the Chinese, in the composition of India ink. Palm wine is made from the trunk. For this purpose, the leaves are cut off, and a circular incision made a little below the summit of the tree, then a deep vertical fissure, and a vase is placed below to receive the juice, which is protected from evaporation. The date palm is a majestic tree, rising 60 feet and upwards; the trunk is straight, simple, scaly, elegantly divided by rings, and crowned at the summit by a tuft of very long pendent leaves. The leaves are 10 or 12 feet long, composed of alternate narrow folioles, folded longitudinally. The male and

female flowers are upon different trees. The fruit is disposed in 10 or 12 very long pendent bunches. The date palm is reproduced from the roots, or from shoots, or by planting the axil of the leaves in the earth, which is the most approved mode, as female plants may be selected, while a few males, scattered here and there, are sufficient. Care is taken to water them frequently, and to protect them from the rays of the sun till they have taken root. Plants raised by this method will bear fruit in five or six years, while for those raised from the seed, 15 or 20 years are required. When the male plant is in bloom, the pollen is collected and scattered over the female flowers. Each female produces 10 or 12 bunches every year, which, when gathered, are hung up in a dry place until so much of their moisture is evaporated as to allow of their being packed. Dates, in general, are of a yellowish color; but some are black, some white, and others brown; some, also, are sweet, and others bitter. The time of planting is early in the spring. Situations abounding in springs are selected, the trees are placed 15 or 20 feet apart, and a little trench is dug at the root of each, which is filled with water at pleasure, by means of channels excavated in the sand. The Arabs pretend that they attain the age of 200 or 300 years. This valuable tree would undoubtedly succeed in the southern parts of the U. States. The wood, though of spongy texture, is employed for the beams and rafters of houses, and for implements of husbandry, which are said to be very durable. The pith of the young trees is eaten, as well as the young and tender leaves. A considerable traffic is carried on in these leaves, which, under the name of *palms*, are sent to Italy, to be used in the grand religious ceremonies of Palm Sunday. In Persia, an ardent spirit is distilled from the fruit; and, in many places, the stones are ground to make oil, and the paste that is left is given as food to cattle and sheep.

DATHOLITE; a species in mineralogy found massive and crystallized in the form of oblique rhombic prisms, which are often much modified by secondary planes. It has a shining, resinous lustre; is of a white, greenish or yellowish-white color, and translucent. Before the blow-pipe, it melts with intumescence. It consists, according to Klaproth, of 36.5 of silica, 35 of lime, 24 of boracic acid, and 4 of water; and hence is sometimes denominated a *silicious borate of lime*. It is found in small quantity in the trap rocks

of Patterson, New Jersey; also in Norway, where, besides the other varieties, one is found in botryoidal masses, and therefore called *botryolite*.

DAUBENTON, or **D'AUBENTON**, Louis Jean Marie; a naturalist and physician, born at Montbar, in 1716; celebrated for his participation in the Natural History of Quadrupeds by his early friend and companion, Buffon; the anatomical part of which was prepared by Daubenton with great accuracy, clearness and sagacity. He refused his assistance in the latter part of the work, offended at the publication of an edition of the first part by Buffon, in which the anatomical portion was omitted. The cabinet of natural history, in Paris, of which he was made keeper, in 1745, was, by the united exertions of Daubenton and Buffon, rendered one of the most valuable institutions in the capital. In 1744, he was chosen member of the academy of sciences, and enriched its publications by a number of anatomical discoveries, and also by researches concerning the species of animals and their varieties, the improvement of wool, and the treatment of the diseases of animals. He threw much light upon mineralogy, botany and agriculture, and proposed a new method for the classification of minerals. He contributed to the department of natural history in the *Encyclopédie*. He is, besides, the author of numerous works of general utility; for example, *Instruction pour les Bergers*, third edition, 1796 (translated into German by A. Wichmann), *Mémoire sur les Indigestions* (new edition, 1798), and many others. Unseduced by Buffon's hypotheses, he was a most faithful observer of nature. During the reign of terror, when every one was required to give some evidence of patriotic spirit, he was represented to his section as employed in introducing the Spanish flocks into France. He afterwards continued to apply himself quietly to his studies; and, though his constitution was naturally weak, the temperance and tranquillity of his life enabled him to reach the age of 84 years. December 31, 1799, he was present, for the first time, at the sitting of the senate, and fell senseless into the arms of his friends, from a stroke of the apoplexy.

DAUN, Leopold Joseph Maria, count, an Austrian general, was born in 1705, and died in 1766. His grandfather and father had served with distinction in the Austrian army. He gained his first laurels in the Turkish war, 1737 to 1739, in which he was major-general,

and distinguished himself also in the war of the Austrian succession. His skilful passage of the Rhine, and his marriage with the countess of Fux, a favorite of Maria Theresa, procured for him the post of master-general of the ordnance, and, in 1757, that of general field-marshal. In this capacity, he commanded the Austrian army during the seven years' war. He advanced to Kolin against the king of Prussia, who was at that time besieging Prague (q. v.), and gave him battle, June 18, 1757, compelling the king to raise the siege, and evacuate Bohemia. Although he conducted with the greatest prudence and precaution, he was defeated at Leuthen, Torgau, and several other places. Except the battle of Kolin, his most memorable achievement was the surprise at Hochkirchen, on the night of October 14, 1758. Here he would have destroyed the whole Prussian army, had not the prince of Durlach come up too late with his column. At Torgau, Nov. 3, 1760, the victory, which seemed to be within his grasp, was snatched from him in consequence of his wounds and the resolution of Ziethen. He compelled the Prussian general Fink to surrender, with 11,000 men, Nov. 21, 1759. Daun's plan of delay, and of venturing on decisive steps rarely, and only on great occasions, has been unjustly censured. He could not better resist a general like Frederic the Great, who was not accountable to a superior, and who, surrounded by enemies whom he could oppose successfully only by a rapid succession of victories over the separate armies, was obliged to adopt the boldest expetients. Frederic himself knew what a dangerous antagonist he had in Daun. Daun is more open to the charge of not having sufficiently followed up his advantages. Many improvements in the Austrian infantry are ascribed to him.

DAUPHIN; the title of the eldest son of the king of France. In 1349, Humbert II, dauphin of Viennois, being childless, transferred his estate, called the *Dauphiny*, to Philip of Valois, on condition that the eldest son of the king of France should, in future, be styled the *dauphin*, and govern this territory. The dauphin, however, retains only the title, the estates having been united with the crown lands. On the death of the dauphin, his eldest son inherits this title; if he has no son, his eldest brother succeeds him. If the king has no son, then the title of *dauphin* is not bestowed on any one, as was the case in the reign of Louis XVIII; for it is never bestowed upon the next prince of the

blood, and presumptive heir, even if he is the king's brother. The wife of the dauphin is called *dauphiness* (*dauphine*). The editions of the classics which were made for the use of the dauphin are entitled in *usum delphini*.

DAUPHINY; one of the principal provinces of France before the revolution, was divided into Upper and Lower Dauphiné. It forms, at present, the departments of the Drôme, the High Alps and the Isère. Grenoble was the capital. (See *Dauphin*, and *Department*.)

DAVENANT, sir William, an English poet of the 17th century, was the son of an innkeeper at Oxford, where he was born, in 1605. After some previous education at a grammar school, he became a student at Lincoln college; but he soon left the university, and obtained the office of page to the duchess of Richmond, from whose household he removed into that of Greville, lord Brooke, a nobleman eminent for his literary attainments. He was employed in preparing several masques for the entertainment of the court; and, on the death of Ben Jonson, in 1637, he succeeded to the vacant laurel. On hostilities breaking out between Charles I and the parliament, Davenant displayed his attachment to the royal cause. Being suspected of a conspiracy against the authority of the parliament, in 1641, he was arrested, but, making his escape, went to France. Thence he returned, with military stores sent by the queen, and was made lieutenant-general of ordnance, under the duke of Newcastle—a post for which he does not appear to have been qualified by any previous service. At the siege of Gloucester, in 1643, he was knighted by the king; and, on the subsequent decline of the royal cause, he again retired to France, where he became a Roman Catholic. In 1646, he was sent to England on a mission from the queen; and, on his return to Paris, he began the composition of his principal work, a heroic poem, entitled *Gondibert*. An attempt which he afterwards made to lead a French colony to Virginia, had nearly proved fatal to him. The ship, in which he had sailed from Normandy, was captured by a cruiser in the service of the English parliament, and carried into the Isle of Wight, where Davenant was imprisoned in Cowes castle. In this forlorn captivity, from which he had but little hope of escaping alive, he composed the 3d book of *Gondibert*. In October, 1650, he was removed to London for trial before the high commission court. His life is said

to have been preserved by the interposition of Milton. There is a corresponding tradition, that Davenant repaid the good offices of Milton, by protecting the republican poet after the restoration. After two years' imprisonment, sir William was set at liberty, when, with the connivance of those in power, he set on foot, in the metropolis, a species of dramatic entertainments. On the return of Charles II to England, the stage was reestablished with renewed splendor, and Davenant became patentee of a theatre in Lincoln's-Inn-Fields. He continued to employ his pen and his talents as a theatrical writer and manager till his death, which took place April 17, 1668. Gondibert, the principal production of this writer, was never finished. It contains some truly poetical passages, but is, upon the whole, possessed of too little interest to require any particular notice.

DAVID, king of Israel, the youngest son of Jesse, an inhabitant of Bethlehem, of the tribe of Judah, distinguished himself by his prudence, courage and exploits, particularly by his combat with Goliath, the gigantic Philistine; so that Samuel, the high priest, anointed and consecrated him as king, during the life of Saul. At home, he tended his father's flocks, and was instructed in the knowledge of that period, and in music. Saul, who regarded him as his enemy, persecuted him; and thus arose a civil war, which continued till the death of Saul. David then ascended the throne of Judah, but the remaining tribes had chosen Saul's son Ishbosheth for their king, after whose death David came into possession of the whole kingdom, which he governed from 1055 till 1015 years B. C. His first expedition was against the Jebusites, who dwelt in the centre of Palestine. He conquered the citadel Zion, and made Jerusalem his residence, and the citadel the abode of the Most High. He then reduced the Philistines, Amalekites, Edomites, Moabites, Ammonites, and especially the Syrians. His kingdom now extended from the Euphrates to the Mediterranean, and from Phœnicia to the Arabian gulf, and contained more than 5,000,000 inhabitants. He promoted navigation and commerce, and endeavored to refine his people by the cultivation of the arts, especially that of architecture. He built at Jerusalem a palace for himself, and made the worship of God more splendid, by the appointment of sacred poets and singers. The magnificent temple which he had projected was completed by his son and successor. He himself carried lyric po-

etry to the highest perfection, which it had ever reached among the Israelites, by his Psalms. (q. v.) He also improved the military, judicial and financial systems. The ardor of his temperament led him, however, to the commission of several cruelties, for which his repentance was not able to atone; and jealousy among his sons by different mothers, at length gave rise to rebellion in his own family. His son Absalom sought to dethrone him, and made war upon him with this design, but unsuccessfully. He left the flourishing kingdom of Israel to his son Solomon. The crimes of David the Scriptures do not extenuate, but they represent him as having endeavored to atone for them by repentance. His advice to his son, on his death-bed, seems to leave a dark stain upon his memory, though commentators have endeavored to put a favorable construction upon it.

DAVID, Jacques Louis, the founder and greatest painter of the modern French school, which he brought back to the study of nature. David was born at Paris in 1750, and went, in 1774, to Rome, where he devoted himself particularly to historical painting. His talents for this species of painting soon displayed themselves. He visited Rome a second time in 1784, and finished his masterpiece, the Oath of the Horatii, which Louis XVI had commissioned him to design from a scene in the *Horaces* of Corneille. Connoisseurs declared that this piece was unequalled, and breathed the spirit of a Raphael. In the same year, he painted his Belisarius; in 1787, the Death of Socrates; and, in 1788, Paris and Helen. His reputation was now very great in Paris; and, having begun to be distinguished as a portrait painter also, he might have enjoyed a tranquil and brilliant career, if he had not taken an active part in the revolution. Seized with an ardent zeal for liberty, he finished, in 1789, a large painting, representing Brutus condemning his sons to death. He also furnished the designs of the numerous monuments and republican festivals of that time. In 1792, he was chosen an elector in Paris; afterwards a deputy in the national convention; and, during the reign of terror, he was one of the most zealous Jacobins, and wholly devoted to Robespierre. He proposed to erect a colossal monument of the nation, on the Pont-Neuf, from the materials of the king's statue. At the trial of Louis XVI, he voted for his death. In January, 1794, he presided in the convention. After the

fall of Robespierre, he was in great danger, and his reputation as a painter alone preserved him from the guillotine. Among the scenes of the revolution which David strove to immortalize by his pencil, are the murders of Marat and Lepelletier, and particularly the oath in the tennis-court, and the entrance of Louis into the national assembly, February 4, which, in 1790, he presented to the legislative assembly. In 1799, he executed the Rape of the Sabine Women (the masterpiece of his genius), from the exhibition of which he received, as it is said, 100,000 francs. In 1804, the emperor appointed him his first painter, and directed him to execute four pieces, among which the Coronation of Napoleon was particularly distinguished. Among his finest works of this period were many representations of the emperor; particularly that in which the first consul was represented on horseback, on mount Bernard, pointing out to his troops the path to glory. This piece is now in Berlin. In 1814, David painted Leonidas, his last painting in Paris. When Napoleon returned from Elba, he appointed David a commander of the legion of honor. After the second restoration of Louis XVIII, he was included in the decree which banished all regicides from France. He then established himself at Brussels; and, upon the new organization of the institute, he was excluded from this body, in April, 1816. In Brussels, he painted Cupid leaving the arms of Psyche. The latest of his productions—Venus, Cupid and the Graces disarming Mars—which he finished at Brussels in 1824, was much admired at Paris. David died in exile, at Brussels, Dec. 29, 1825. The opinions of the merits of this artist are various; but the praise of correct delineation and happy coloring is universally conceded to him. He found, in the history of his time, in the commotions of which he took an active part, the materials of his representations. The engraver Moreau has immortalized the best of his works, by his excellent engravings. The most celebrated of his paintings, as the Oath of the Horatii and the Rape of the Sabine Women, have been purchased by the French government, and placed in the gallery of the Luxembourg.

DAVIDSON, Lucretia Maria, a remarkable instance of early genius, was born at Plattsburg, on lake Champlain, Sept. 27, 1808. When she was only 4 years old, a number of her little books were found filled with rude drawings, and accompanied by a number of verses in explanation

of them, written in the characters of the printed alphabet. As her parents were in straitened circumstances, she was, from an early age, much employed in domestic services; but every moment of leisure was devoted to reading. A tender heart, a warm sensibility, an ardent and vivid imagination, an eager desire for knowledge, characterize her earlier effusions; the later are marked with the melancholy traces of a wasting frame, and a dejected spirit feeling the fatal approaches of death. We know of no instance of so early, so ardent, and so fatal a pursuit of intellectual advancement, except in the cases of Chatterton and Kirke White. In October, 1824, a gentleman, who was informed of her ardent desire for education, placed her at a female seminary, where her incessant application soon destroyed her constitution, already debilitated by previous disease. Her letters at this period exhibit, in a striking manner, the extremes of despondency and hope. Gradually sinking under her malady, she died August 27, 1825, before completing her 17th year. Her person was singularly beautiful; her prevailing expression, melancholy. Her poetical writings, which have been collected, amount to 278 pieces, some written at the age of nine years; besides which, she destroyed a great number of her pieces. (See *Amir Khan and other Poems, with a Biographical Sketch*, New York, 1829.)

DAVIE, William Richardson, who held a high rank among the revolutionary worthies of South Carolina, was born in England, June 20, 1756. He was brought to America at the age of six years, received the rudiments of his education in North Carolina, and was graduated at the college of Nassau Hall, New Jersey, in the year 1776. He returned to North Carolina, and commenced the study of the law; but he soon yielded to the military spirit which was excited by the war of independence. He obtained the command of a company attached to count Pulaski's legion, quickly rose in rank, and greatly distinguished himself by his zeal, courage and talents as an officer. During the arduous and sanguinary war in the South, he was constantly useful and energetic, and a principal favorite of generals Sumpter and Greene. At the end of the revolutionary struggle, he devoted himself, with signal success, to the profession of the law. In 1787, he was chosen, by the legislature of South Carolina, to represent that state in the convention that met in Philadelphia to frame a federal constitu-

tion. Sickness in his family required his presence at home before the work was completed, and, therefore, his name is not in the list of the signers. In the state convention in North Carolina, assembled to accept or reject the instrument, he was the ablest and most ardent of its advocates. The establishment of the university of North Carolina is ascribed to his enlightened zeal for learning. In the year 1799, he was elected governor of that state, and, soon after, appointed by president Adams envoy to France, along with chief-justice Ellsworth and Mr. Murray. On his return, he fixed his residence at Tivoli—a beautiful estate on the Catawba river, South Carolina. He died at Camden, in the year 1820. General Davie possessed a commanding figure, a noble, patriotic spirit, masculine, ready eloquence, and rendered a variety of valuable services to his country.

DAVIES, Samuel, president of Nassau hall, was born in Delaware, Nov. 3, 1724, and educated in Pennsylvania for the Presbyterian ministry. He labored for some years as a pastor in Virginia, where Episcopacy was the religion established and supported by law, and the "act of uniformity" was enforced with great rigor. The "act of toleration" had been passed in England especially for the relief of the Protestant dissenters; but it was disputed in Virginia, whether it was intended to extend to the colonies. Mr. Davies maintained that it did, in opposition to the king's attorney-general, Peyton Randolph, afterwards the president of the first continental congress, and in opposition to the general court of the colony. When he went to England, to solicit benefactions for Nassau hall, he obtained a declaration, under authority, that the provisions of the act of toleration did extend to the colony of Virginia. Mr. Davies is to be regarded as the founder of the first presbytery in Virginia. In 1759, he was appointed president of Nassau hall, but he died Feb. 4, 1762, in the 36th year of his age, after holding the office only 18 months. Doctor Green has written an account of his life. His 3 volumes of posthumous sermons have passed through many editions, both in Great Britain and the U. States.

DAVILA, Arrigo Caterino, an Italian statesman and historian, was born in 1576. He was the son of a Cypriot of distinguished family. His father, who fled to Venice after the conquest of Cyprus by the Turks, in 1571, introduced him to the French court, where he was made page; he afterwards entered the French service,

in which he highly distinguished himself. At the desire of his father, he returned to Italy, in 1599, entered the Venetian service, gradually rose to the post of governor of Dalmatia, Friuli, and the island of Candia, and was esteemed at Venice the first man in the republic after the doge. While travelling, in 1631, on public business, he was shot by a man from whom he demanded carriages to continue his journey. He is principally celebrated for his *History of the Civil Wars of France*, from 1559 to 1598 (*Storia delle Guerre Civili di Francia*, Venice, 1630). This has been translated into several languages, and deserves a place near the works of Guicciardini and Machiavelli.

DAVIS, John; an English navigator, born at Sandridge, in Devonshire. He went to sea when young, and, in 1585, was sent with two vessels to discover a north-west passage. He was unable to land on the southerly cape of Greenland, on account of the ice, and, steering a north-west course, discovered a country surrounded with green islands, lat. 64° 15', the inhabitants of which informed him that there was a great sea to the north and west. Under lat. 66° 40', he reached a coast entirely free from ice, the most southerly point of which he called *cape of God's Mercy*. Sailing west, he entered a strait, from 20 to 30 leagues wide, where he expected to find the passage; but, the weather being unfavorable, and the wind contrary, after six days of unsuccessful effort, he set sail for England. The strait has since received and retained his name. Davis made two more voyages for the same purpose, but was prevented by the ice from attaining his object, in the prosecution of which Baffin afterwards distinguished himself. In 1605, Davis was killed by Japanese pirates in the Indian seas.

DAVIS'S STRAITS; a narrow sea which divides Greenland from New Britain, and unites Baffin's bay with the Atlantic ocean; lat. 63°—70° N. In the narrowest part, between cape Dyer and the island called *White-Back*, it is 80 leagues wide. (See *Davis*.)

DAVIT, in a ship; a long beam of timber, used as a crane, whereby to hoist the flukes of the anchor to the top of the bow, without injuring the sides of the vessel as it ascends—an operation which is called, by mariners, *fishing the anchor*.

DAVOUST, Louis Nicolas; duke of Auerstädt and prince of Eckmühl, marshal and peer of France; born in 1770, at An-noux, in the former province of Burgundy.

He was of a noble family, and studied at the same time with Bonaparte, in the military school at Brienne. He distinguished himself under Dumouriez, in the battles of Jemappe and Neerwinden. When Dumouriez, after the battle of Neerwinden, treated with Coburg, Davoust conceived the bold design of seizing the former in the midst of his army, and nearly succeeded in the attempt. In June, 1793, he was made general; but the decree, which removed the ex-nobles from the service, deprived him of his command. The 9th Thermidor restored him to the army. He was present at the siege of Luxembourg, and afterwards on the Rhine, under Pichegru. He was taken prisoner in Mannheim, but was soon exchanged, and distinguished himself in 1797, at the passage of the Rhine, by his prudence and courage. In the Italian campaigns, under Bonaparte, he became zealously attached to that general. He accompanied him to Egypt, where he distinguished himself by his intrepidity. It was he who, after the battle of Aboukir, attacked and conquered the village. He embarked for France from Alexandria, with Desaix, after the convention of El-Arish. They were captured by an English frigate, near the Îlières. Bonaparte afterwards gave him the chief command of the cavalry in the army of Italy. After the battle of Marengo, he was made chief of the grenadiers of the consular guard, which, from this battle, was called the *granite columns*. When Napoleon ascended the throne (1804), he created Davoust marshal of the empire, grand cross of the legion of honor, and colonel-general of the imperial guard of grenadiers. In the campaign of 1805, he showed himself worthy of his appointment, particularly at the battle of Austerlitz, where he commanded the right wing of the army. In 1806, he marched at the head of his corps into Saxony, and, at Auerstädt, where he commanded the right wing, contributed so much to the success of the day, by his skilful manœuvres, that Napoleon created him duke of Auerstädt. After the peace of Tilsit, he was made commander-in-chief of the army of the Rhine. In the war of 1809 against Austria, his marches through the Upper Palatinate, and the engagement at Ratisbon, were hazardous enterprises. He had an important share in the victory at Eckmühl. In the battle of Aspern, only one of his four divisions was engaged, the greatest part of which, with its general, St. Hilaire, perished on the left bank of the Danube. In the battle

of Wagram, Davoust commanded the right wing, to the manœuvres of which the retreat of the Austrians was mainly owing. After the peace, Napoleon created him prince of Eckmühl, and, in 1811, appointed him governor-general of the Hanseatic departments. In Russia (1812), his division was defeated on the retreat from Moscow. In 1813, he commanded 50,000 men, French and Danes, in Mecklenburg; but was soon besieged in Hamburg, which suffered, at that time, very severely. Davoust was in a critical situation, and could support his army only at the expense of the citizens. He lost, during the siege, as many as 11,000 men. In 1814, he published, at Paris, a defence of himself from the charge of cruelty towards Hamburg. On the return of Napoleon to Paris, in March, 1815, he was made minister of war. When the allies advanced to Paris, after the battle of Waterloo, Davoust, as commander-in-chief, concluded a military convention with Blücher and Wellington, in compliance with which he led the French army beyond the Loire. He submitted to Louis XVIII, exhorting the army to follow his example, and, in obedience to an order of the king, surrendered the command to marshal Macdonald. For this service, he was afterwards employed by the court. Davoust died June 1, 1823. Firmness of character, personal bravery, and a military rigor often approaching to cruelty, were his characteristics. Davoust left two daughters, and a son of 30 years of age, who inherited the rank of a peer.

DAVY, sir Humphrey, bart., one of the most distinguished chemists of the age, was born at Penzance (Cornwall), Dec. 17, 1779. After having received the rudiments of a classical education, he was placed with a surgeon and apothecary, who pronounced him an "idle and incorrigible boy." He had, however, already distinguished himself at school, and a taste for chemistry, which he displayed in some experiments on the air contained in sea-weed, attracted the attention of Mr. Gilbert (now president of the royal society), and doctor Beddoes. The latter, who had just established a pneumatical institution at Bristol, offered him the place of assistant in his laboratory. Here Davy discovered the respirability and exhilarating effect of the nitrous oxide. He published the results of his experiments, under the title of *Chemical and Philosophical Researches*, &c. (London, 1800). This work immediately obtained him the place of professor of chemistry in the royal institu-

tion, at the age of 22. In 1803, he was chosen a member of the royal society. His lectures at the royal institution were attended by crowded and brilliant audiences, attracted by the novelty and variety of his experiments, the eloquence of his manner, and the clearness of his exposition. His discoveries with the galvanic battery, his decomposition of the earths and alkalies, and ascertaining their metallic bases, his demonstration of the simple nature of the oxymuriatic acid (to which he gave the name of *chlorine*), &c., obtained him an extensive reputation; and, in 1810, he received the prize of the French institute. In 1814, he was elected a corresponding member of that body. Having been elected professor of chemistry to the board of agriculture, he delivered lectures on agricultural chemistry during 10 successive years, and, in 1813, published his valuable *Elements of Agricultural Chemistry*. His next discovery was of no less importance to humanity than his former researches had been valuable to science. The numerous accidents arising from fire-damp in mines led him to enter upon a series of experiments on the nature of the explosive gas, the result of which was the invention of his safety-lamp. (See *Damps*.) In 1818 and 1819, he visited Italy, and made some unsuccessful attempts to unroll the *Herculean* manuscripts. In 1820, he succeeded sir J. Banks as president of the royal society. In 1824, he visited Norway for the purpose of making some scientific investigations. On this voyage, he proved the efficacy of his plan for preserving the copper of ships, by covering it in part with a certain quantity of iron. At the same time, the trigonometrical measurements of Denmark and Hanover were connected, under his direction, by chronometrical observations, with the measurements in England. This distinguished philosopher died May 29, 1829, at Geneva, whither he had gone for the benefit of his health. Besides the works already mentioned, the most important are *Electro-Chemical Researches*; *Elements of Chemical Philosophy* (vol. 1, 1802); *Bakerian Lectures* (1807—1811); *Researches on the Oxymuriatic Acid* (1810); *On the Fire-Damp* (1816). He also contributed some valuable papers to the *Philosophical Transactions*, and the journals of Nicholson and Tilloch.

DAY, properly speaking, is the time of a revolution of the earth round its axis (*sideral day*, see *Sideral Time*), or the time between two passages of the centre of the sun through the same meridian (*solar day*,

see *Solar Time*)—a time a little differing from the one first mentioned. In common parlance, *day* is opposed to *night*, and signifies the time between sunrise and sunset, or the time during which the sun remains above the horizon. This is called the *natural day*. Thus we have three different days—the natural, the astronomical (reckoned from one culmination to another, or from one noon to another), and the civil day (which is reckoned from midnight to midnight). The 24 hours of the astronomical day are numbered in succession from 1 to 24, whilst the civil day, in most countries, is divided into two portions, of 12 hours each.* The first hour, therefore, after midnight, which is one o'clock A. M. of the civil day, makes the 13th hour of the astronomical day, and the first hour of the astronomical day is one o'clock, P. M. of the civil day. The abbreviations P. M. and A. M. (the first signifying *post meridiem*, Latin for *afternoon*; the latter, *ante meridiem*, *forenoon*) are requisite, in consequence of our division of the day into two periods of 12 hours each. In this respect, the mode of numbering the hours from 1 to 24 consecutively has an advantage. If we take a day according to the first definition given of it, its length, of course, is the same throughout the year. According to the second definition, however, the day, in consequence of the different rapidity of the earth in its orbit, is different at different times, and this difference is uniform throughout the earth; but the time of the natural day is different at the different points of the earth, according to their distance from the equator. The daily apparent revolution of the sun takes place in circles parallel to the equator. If the equator and ecliptic coincided, the circle bounding light and darkness would always divide, not merely the equator, but all its parallels, into two equal parts, and the days and nights would be equal in all the parallels through the year; but at the poles, there would be no night. Owing to the inclination of the earth's axis to the plane of its orbit (the ecliptic), the parallel of latitude in which the sun appears to move is continually changing; and, therefore, the equator alone (being a great circle) always remains bisected by the circle

* In Italy, the latter division is called the *French mode*, because the French introduced it into that country during the wars of the revolution; but the people in the south of Italy still adhere to the old division of the day into 24 hours, beginning always at sunset; so that one o'clock is one hour after sunset, or, as the bells are tolled at sunset, to summon the people to prayer, one hour after *Ave Maria*. (q. v.)

dividing light from darkness; so that the days and nights here are always equal; while the parallels of latitude, not being great circles, are not equally divided by the circle separating light from darkness, except at the time of the equinox, when the sun is moving in the equator; and, of course, at this time only are the days and nights equal in those parallels. As you approach the poles, the inequality between the days and nights becomes continually greater, till, at the poles themselves, a day of six months alternates with a night of equal duration. The most distant parallel circles which the sun describes north and south from the equator are, as is well known, only $23\frac{1}{2}^{\circ}$ from it. The distance between the polar circles and the poles is the same. Therefore, as a little reflection will show, when the sun is in one of the tropics, all the polar circle in the same hemisphere will be within the illuminated region (because it will be within 90° of the sun) during the whole of a diurnal revolution, while the other polar circle will be in the region of darkness. These circles, therefore, have one day of 24 hours, and one night of the same length, in each year. From the polar circles to the poles, the time of the longest day increases fast, and, in the same measure, the length of the longest night. Notwithstanding the inequality of the periods of light and darkness in the different parts of the earth, each portion of the earth's surface has the sun above its horizon, every year, precisely six months, and below it the same length of time. (For information on the common way of computing time, see *Solar Time*; see also *Sidereal Time*.)

DAY, Thomas, an ingenious writer, of a benevolent, independent, but eccentric spirit, was born at London, in 1748. His father, who was a collector of the customs, died whilst he was an infant, leaving him a considerable fortune. He was educated at the charter-house and at Oxford. In 1765, he was called to the bar. With a view to study mankind, he resided in various parts of the continent, and, having been disappointed in an early affection, took under his protection two foundling girls, with a view of educating them on a principle of his own, in order to make one of them his wife. His plan, which was kindred in spirit to some of the reveries of Rousseau, utterly failed, although both of the females turned out deserving women. He gave them small portions, and eligibly united them to respectable tradesmen. In 1778, he mar-

ried miss Esther Milnes, a lady of a highly cultivated understanding. His principles led him to renounce most of the indulgences of a man of fortune, that he might bestow his superfluities upon those who wanted necessities; and he also expressed a great contempt for forms and artificial restraint of all kinds. He wrote several pieces, in prose and verse, on the struggle with America, also other political pamphlets of temporary interest, but finally dedicated himself to the composition of books for youth, of which the well-known work entitled Sandford and Merton is an able specimen, although it partakes too much of the theoretical spirit of Rousseau for general application. Mr. Day at length became a victim to his enthusiastic benevolence, being killed by a fall from a young horse, which he would not allow to be trained in the usual manner, Sept. 28, 1789.

DAYS OF GRACE are days allowed for the payment of a promissory note or bill of exchange after it becomes due. The time varies in different countries. (See *Bill of Exchange*.)

DEACON (*diaconus*, from the Greek *διακονος*); a person who belongs to the inferior order of ministers in the Christian church. Seven were first instituted by the apostles (*Acts*, chap. vi), which number was retained a long time in several churches. Their duty was to serve in the *agapæ* (q. v.), to distribute the bread and wine to the communicants, and to dispense alms. The office of the deacons, at first, merely concerned things temporal. Soon after the apostolic age, or perhaps sooner, the deacons were admitted to assist in the inferior parts of the church service.—*Deacon*, in the Roman Catholic church, is an inferior ecclesiastic, the second of the sacred orders. He serves at the altar, in the celebration of the holy mysteries. He is also allowed to baptize and to preach with the permission of the bishop. Formerly, deacons were allowed to marry, but this was prohibited to them very early; and at present the pope dispenses with this prohibition only for very important reasons. In such cases, they re-enter the condition of laymen. There are 18 *cardinal-deacons*, so called, in Rome, who have the charge of the temporal interests and the revenues of the church. A person, to be consecrated deacon, must be 23 years old.—In the English church, deacons are also ecclesiastics, who can perform all the offices of a priest, except the consecration of the elements of the Lord's supper, and the pronouncing of ab-

solution. In this church, also, no person can be ordained deacon before he is 23 years old, except by dispensation from the archbishop of Canterbury.—The office of deacons, in Presbyterian and Independent churches, is to distribute the bread and wine to communicants. In the latter, they are elected by the members of the church. In Scotland, this name is given to overseers of the poor and masters of incorporated companies. In German Protestant churches, the assistant ministers are generally called *deacons*. If there are two assistant ministers, the first of them is called *archdeacon*.

DEACONESS. This name was given to women, in the early church, who consecrated themselves to the service of the church, and rendered those offices to females which could not be decently performed by men. They also had the care of the poor, the sick, &c.

DEAD-EYE, or DEAD MAN'S EYE; a sort of round, flattish, wooden block, encircled with a rope, or with an iron band, and pierced with three holes through the flat part, in order to receive a rope called the *laniard*, which, corresponding with three holes in another dead-eye, creates a purchase, employed for various uses, but chiefly to extend the shrouds and stays, otherwise called the *standing rigging*.

DEAD RECKONING; the judgment or estimation which is made of the place where a ship is situated, without any observation of the heavenly bodies. It is obtained by keeping an account of the distance which the ship has run by the log, and of her course steered by the compass, and by rectifying these data by the usual allowances for drift, lee-way, &c., according to the ship's known trim. This reckoning is, however, always to be corrected as often as any good observation of the sun can be obtained.

DEAD ROPES are those which do not run in any block.

DEAD SEA, or ASPHALTITES, i. e. the lake of *Bitumen*; anciently called, also, the sea of *Sodom*, *Salt sea*, and lake *Sirbon*, and now, by the Arabs, *Bahheret-Lut*, i. e. the sea of *Lot*; a lake in Palestine, about 60 or 70 miles long from N. to S., and 10 or 15 wide; according to Mariti, 180 miles in circuit; but its dimensions are stated with considerable diversity. It is bordered on the E. by lofty hills, having rugged and frightful precipices; on the N. by the plain of Jericho, through which it receives the river Jordan. Other streams flow into it; but it has no visible outlet. Copious evaporation, caused by the sub-

terraneous heat, supplies the place of one. The water is clear and limpid, uncommonly salt, and even bitter, and of greater specific gravity than any other hitherto discovered. The proportion of the weight of the salts held in solution to the whole weight of the water varies, according to different experiments by chemical analysis, from 25 to nearly 50 per cent. This very great portion of saline matter explains the difficulty of diving in this lake, and the sluggish motion of the waves, comparatively undisturbed by the wind. From the depths of the lake rises asphaltum or mineral pitch, or, as the Germans call it, *Jew pitch*, which is melted by the heat of the bottom of the lake, and again condensed by the water, and of which Seetzen tells us that there are pieces large enough for camel loads. According to the same traveller, it is porous, and is thrown out only in stormy weather. There is also another kind of pitch, dug on the shore, where it is found mixed with small pieces of salt, pebbles and earth. It is used, purified, for the antidote called *theriaca*. The whole northern shore of the lake appears to be covered with this substance, called *anotanon*. Asphaltum is used for *theriaca*, for embalming, calking, sculpture, and the coloring of wool, and therefore is an important article of commerce. The limestone impregnated with bitumen, and in which the inflammable substance is so concealed, that it can be brought out only by rubbing, can be heated so as to glow like a coal without being consumed, and has been used for amulets since ancient times. A great part of those found in the catacombs at Sakkarah are made of this substance; and large quantities of rosaries are yearly prepared from it in Jerusalem. According to the Scriptures, the beautiful valley of Siddim, with Sodom, Gomorrah, and other places, were buried here by a volcanic eruption. The immediate vicinity is destitute of vegetation, dull, cheerless, and inanimate; hence, probably, its name of *Dead sea*. Among the absurd fables formerly circulated respecting this sea, it was affirmed, that the pestiferous vapors hovering over it were fatal to birds attempting to fly across. But this is contradicted by various recent travellers. Clarke says, "the lake swarms with fishes, shells abound on its shores, and its exhalations are most insalubrious." Madden, however, who visited it in 1827, says, "the waters appeared to him to contain no fish." He also says, "the saline matter in the lake is 19.25 per cent."

DEAF AND DUMB. (See *Dumb*.)

DEAL. (See *Pine*.)

DEAN; a corruption from *decanus*, Latin, from *decem*, ten, because a *decanus* commanded ten men, as the *centurio* did a hundred. This word, however, has acquired a much more extended meaning. Dean is, in England, a dignitary in most cathedral and collegiate churches, being usually the president of the chapter. He is called so because supposed to preside over ten canons or prebendaries at least. *Dean* is also a title given in England to several heads of peculiar churches or chapters, as, the dean of the king's chapel. Deans of colleges are, in English universities, officers appointed to superintend the behavior of the members, and to enforce discipline.—*Rural deans*, or *urban deans*, were, in the early ages of the church, ecclesiastics who presided over ten churches or parishes, either in the country or city within which they exercised jurisdiction.—The French corruption of *decanus* is *doyen*, and has no ecclesiastical meaning. *Doyen d'âge* is the eldest of a society. In the chamber of deputies, the *doyen d'âge* presides until the chamber is regularly organized. In the academy of sciences, there are *doyens* in the different divisions.—In Germany, the head of each of the faculties of law, theology, medicine and philosophy, in the universities, is called *decanus*, and is changed, like the rector of the university, annually.

DEATH, in common language, is opposed to *life*, and considered as the cessation of it. It is only, however, the organic life of the individual which becomes extinct; for neither the mind nor the matter which constituted that individual can perish. That view of nature which considers the whole as pervaded throughout by the breath of life, admits only of changes from one mode of existence to another. This change, which is called *death*, does not take place so quickly as is generally believed. It is usually preceded and caused by disease or the natural decay of old age. The state called *death* takes place suddenly only when the heart or the brain is injured in certain parts. Probably the brain and the heart are the parts from which, properly speaking, death proceeds; but, as the cessation of their functions is not so obvious as the cessation of the breath, which depends on them, the latter event is generally considered as indicating the moment when death takes place. In the organs of sense and motion, the consequences of death first become apparent; the muscles become

stiff; coldness and paleness spread over the whole body; the eye loses its brightness, the flesh its elasticity; yet it is not perfectly safe to conclude, from these circumstances, that death has taken place, in any given case, because experience shows that there may be a state of the body in which all these circumstances may concur, without the extinction of life. This state is called *asphyxia*. (q. v.) The commencement of putrefaction, in ordinary cases, affords the first certain evidence of death. This begins in the bowels and genitals, which swell, become soft and loose, and change color; the skin, also, begins to change, and becomes red in various places; blisters show themselves; the blood becomes more fluid, and discharges itself from the mouth, nose, eyes, ears and anus. By degrees, also, the other parts are decomposed, and, last of all, the teeth and bones. In the beginning of decomposition, azote and ammonia are produced: in the progress of it, hydrogen, compounded with carbon, sulphur and phosphorus, is the prevailing product, which causes an offensive smell, and the light which is sometimes observed about putrefying bodies. At last, only carbonic acid gas is produced, and the putrefying body then smells like earth newly dug. A fat, greasy earth remains, and a slimy, soap-like substance, which mixes with the ground, and contributes, with the preceding decompositions, to the fertility of it. Even in these remains of organized existence, organic life is not entirely extinct; and they contribute to produce new vegetable and animal structures. Putrefaction is much influenced by external circumstances, particularly air, heat, and water. When the body is protected from the action of such agents, it changes into *adipocire* (q. v.); but this process requires a much longer time than common putrefaction. In very dry situations, the body is converted into a mummy, in which state bodies are found in the arid deserts of Africa, and on the mountains in Peru. Some vaults are remarkable for preserving corpses from putrefaction. It is well known to every reader, that particular substances counteract putrefaction; for instance, those used in tanning, and in embalming mummies.

Death, Agony of, is the state which immediately precedes death, and in which life and death are considered as struggling with each other. This state differs according to the cause producing it. Sometimes it is a complete exhaustion; sometimes a violent struggle, and very ir-

regular activity, which, at last, after a short pause, terminates in death. In some cases, consciousness is extinguished long before death arrives; in other cases, it continues during the whole period, and terminates only with life. The person in this condition has already somewhat the appearance of a corpse; the face is pale and sallow, the eyes are sunken, the skin of the forehead is tense, the nose pointed and white, the ears are relaxed, and the temples fallen in; a clammy sweat covers the forehead and the extremities, the alvine discharges and that of the urine take place involuntarily, the respiration becomes rattling, interrupted, and, at length, ceases entirely. At this moment, death is considered to take place. This state is of very different length; sometimes continuing for minutes only, sometimes for days. When the patient is in this condition, nothing should be attempted but to comfort and soothe him by prayer, by consoling assurances, by directing his attention to his speedy union with departed friends, by presenting him the crucifix, if he be a Catholic, or allowing him to put on the gown of a religious order, if he thinks it will contribute to his salvation; but a dying fellow creature should not be disturbed in relation to his particular mode of belief, at a moment when he has hardly sufficient strength to collect all the ideas which have been long familiar to him. The writer once saw a dying Mohammedan (an Albanian) suffering from the mistimed zeal of a Greek priest, who was near him, holding a crucifix to his mouth, and conjuring him to kiss it. The Mohammedan was evidently tormented, particularly as he was unable to resist. The writer begged the priest to leave him, and then tried to comfort the dying man, by presenting ideas and conceptions with which he was familiar, and a smile from his pale lips showed that the words were not entirely in vain. Remarkable statements are sometimes made by dying persons, in the intervals of the final struggle, that they have heard heavenly music, or seen departed friends, and can now die quietly. As long as the dying person is able to swallow, wine or other cordials may be given from time to time. It is a grateful duty to minister to the sufferings of those we love; and, where there is no hope, these offices have the additional interest that they are the latest we can pay. We have described how the violent struggle preceding death manifests itself, particularly on the human face, that tablet of all expression. After

death, however, it not unfrequently happens that the countenance regains its most natural expression, and the saying is common—"How natural, how like himself!" The mind seems for a moment to have regained its influence over what it has so long informed, and to shed over the countenance its most beautiful light, to cheer the hearts of the friends who have witnessed the distortion of death, and afford an earnest of its own immortality.

DEATH, CIVIL, is the entire loss of civil rights. If a person is civilly dead, his marriage is considered dissolved; he cannot inherit nor bequeath; his testament is opened, and his property distributed among his heirs; he cannot bear witness, &c. If he is required to do certain legal acts, he must do them through a guardian. Formerly, when the German empire was still in existence, a person put under the ban of the empire (*Achtserklärung*) became civilly dead, and was declared out of the protection of the law (corresponding, in a civil point of view, to Catholic excommunication, in regard to a man's religious rights). The ban went so far as to declare the outlaw *vogelfrei* (free as a bird), which meant that any body might even kill him, without notice being taken of it by law. But civil death was not received into the German law in other respects, and therefore, has not existed since the abolition of the empire. Most countries allow a person sentenced to death to make a will, except in particular cases, in which confiscation is part of the punishment. In France, however, the institution of civil death still exists (*Code Napoléon*, a. 22; *Code Pénal*, a. 18), and takes effect in the case of every one who is sentenced to death, to the galleys for life (*travaux forcés*), or to deportation, even if the person is convicted in *contumacia*, that is, in default of appearance on a legal summons. In England, a person outlawed (see *Outlawry*) on an indictment for treason or felony, is considered to be civilly dead (*civiliter mortuus*), being, in such case, considered to be guilty of the offence with which he is charged, as much as if a verdict had been found against him. Anciently, an outlawed felon was said to have a wolf's head (*caput lupinum*), and might be knocked on the head by any one that should meet him. The outlawry was decreed, in case the accused did not appear, on being summoned with certain forms, a certain number of times, and in different counties, to appear and answer to the indictment; so that the case is the same as the French laws denominate *contumacy*.

In such case, under an indictment for crimes of either of these descriptions, he was considered as having renounced all law, and was to be dealt with as in a state of nature, when every one who found him might slay him. But, in modern times, it has been held that no man is entitled to kill him wantonly and wilfully, but in so doing is guilty of murder, unless it be in endeavoring to apprehend him; for any one may arrest him, on a criminal prosecution, "either of his own head," or on writ or warrant, in order to bring him to execution. So a person banished the realm or transported for life, as a punishment for crime, forfeits all his civil rights as much as if he were dead. His wife may marry again, and his estate will be administered upon as if he were deceased. A will made by such a person, after incurring this civil disability, is void; and so are all acts done by him in the exercise of any civil right.—The statutes of New York provide that a convict sentenced to the state's prison for life shall be considered as thereby becoming civilly dead. All suits to which he is a party will, accordingly, abate, as in case of his natural decease (2 *Johns. Ca.* 408), and his wife may marry again, his estate be administered upon, and his heirs will succeed to the inheritance; and, though he may be afterwards pardoned, this will not defeat the proceedings which took place during his civil disability (4 *Johnson's Reports*, 232). The statutes passed in some of the United States against conspirators and absentees, at the commencement of the revolution, stripped them of all civil rights, and provided that their estates should be confiscated, or partly confiscated, to the state, and in part applied to the support of dependent relatives, or assigned to the wife as dower. These statutes were of a temporary and occasional character, and their operation has ceased with the occasion which gave rise to them.

DEATH, in mythology. The representation of death, among nations in their earlier stages, depends upon the ideas which they form of the state of man after this life, and of the disposition of their gods towards mankind. In this respect, the study of these representations is very interesting. Of later ages the same cannot be said, because imitations of representations previously adopted are very often the subjects of the plastic arts in such periods. However, these representations do not altogether depend on the causes above mentioned, as the general disposition of a nation (for instance, that of the Greeks,

who beautified every object) has also a great influence upon them; and it is remarkable that the Greeks, whose conceptions of an after-life were so gloomy, represented death as a pleasing, gentle being, a beautiful youth, whilst the Christians, whose religion teaches them to consider death as a release from bondage, a change from misery to happiness, give him the most frightful, and even disgusting shape. One reason of this may be, that the call to repentance is a prominent feature in the Christian religion; and to arm death with terrors may have been supposed to give weight to the summons.

The Greeks had many gods of death, the *κῆρες* and *θάνατος*; the former were the goddesses of fate, like the Valkyriæ in the Northern mythology. Untimely deaths, in particular, were ascribed to them; the latter, *θάνατος*, represented natural death. According to Homer, Sleep and Death are twins, and Hesiod calls them the *sons of Night*. They are often portrayed together on *cameos*, &c. During the most flourishing period of the arts, Death was represented on tombs as a friendly genius, with an inverted torch, and holding a wreath in his hand; or as a sleeping child, winged, with an inverted torch resting on his wreath. Sleep was represented in the same manner, except that the torch and the wreath were omitted. According to an idea originating in the East, death in the bloom of youth was attributed to the attachment of some particular deity, who snatched his favorite to a better world. It was ascribed, for instance, to Jupiter, or to his eagle, if the death was occasioned by lightning, as in the case of Ganymede; to the nymphs, if the individual was drowned, as in the case of Hylas; to Aurora, if the death happened in the morning; to Selene, if at night (Cephalus and Endymion), &c. These representations were more adapted to relieve the minds of surviving friends, than the pictures of horror drawn by later poets and artists. (See the classical treatises of Lessing, *Sämmtl. Schriften*, vol. 10, and Herder's *Wie die Alten den Tod gebildet*.) Euripides, in his *Alcestis*, even introduced Death on the stage, in a black robe, with a steel instrument in his hand, to cut off the hair of his victims, and thus devote them to the infernal gods. The later Roman poets represent Death under more horrible forms, gnashing his teeth, and marking his victims with bloody nails, a monster overshadowing whole fields of battle. The Hebrews, likewise, had a fearful angel of death, called *Samath*, and *prince of the*

world, and coinciding with the devil; but he removes with a kiss those who die in early youth. Enoch was taken up to heaven alive. The disgusting representations of Death common among Christians, originated in the 14th century; for the representation of Death as a skeleton merely covered with skin, on the monument at Cumæ, was only an exception to the figure commonly ascribed to him among the ancients. In recent times, Death has again been represented as a beautiful youth—certainly a more Christian image than the skeleton with the scythe. The monument made by Canova, which George IV erected in honor of the Stuarts, in St. Peter's church at Rome, represents Death as a beautiful youth. He is sometimes portrayed under the figure of a dying lion.

DEATH, DANCE OF; an allegorical picture, in which are represented the various figures and appearances of death in the different relations of life, as a dance where Death takes the lead. The idea of such a dance appears to be originally German, and to belong to poetry. In later times, it was used, also, in England and France, by poets and artists. The French have such a dance—*La Danse Macabre*—derived, it is said, from a poet called Macabre, but little known. A dance of Death was painted on the walls of the churchyard of the Innocents, at Paris, about the middle of the 15th century, which the chapter of St. Paul's, in London, caused to be copied, to adorn the walls of its monastery. Gabriel Peignot, in the *Recherches sur les Danses des Morts et sur l'Origine des Cartes à jouer* (Dijon and Paris, 1826), investigated the origin of the dance of Death in France, and thus explained the dancing positions of the skeletons; that, according to the relations of old chronicles, those who were attacked by the plague ran from their houses, making violent efforts to restore their rapidly-declining strength by all kinds of morbid movements. Others derive the origin of this representation from the masquerade. These dances are often found painted on the walls of Catholic burial-places. The most remarkable dance of Death was painted, in fresco, on the walls of the church-yard, in the suburb of St. John, at Basle, which was injured, in early times, by being washed over, and is now entirely destroyed. This piece has been ascribed to the celebrated Hans Holbein; but it has long since been proved that it existed 60 years before his birth. It was painted at Basle, in the year 1431, by an unknown

artist, in commemoration of the plague, which prevailed there at that time; the council was then sitting, and several of its members were carried off by it. It represented Death as summoning to the dance persons of all ranks, from the pope and the emperor down to the beggar, which was explained by edifying rhymes. That piece contained about 60 figures as large as life. Besides being ascribed to Holbein, as was before stated, it has also been ascribed to a painter named Glauber, but without foundation. Holbein perhaps conceived, from this picture, the idea of his dance of Death, the original drawings of which are in the cabinet of the empress of Russia, Catharine II. Some say that Holbein himself made the wood-cuts of it. The latest engravings of this picture of Holbein are in 33 plates, in the *Œuvres de Jean Holbein, par Chr. de Meckel* (1st volume, Basle, 1780). Similar representations were painted, in the 15th century, in other cities of Switzerland. (See Müller's *Geschichte der Schweizer*—History of Switzerland—4 vols.) The dance of Death in St. Mary's church at Lübeck, was completed in 1463. On the walls of the churchyard of the Neustadt of Dresden, there is, even at the present time, to be seen a similar dance of Death. It consists of 27 *basso-relievo* figures, worked on sand-stone, and includes persons of both sexes, and of all ranks. The labor of the sculptor has more merit than the unpoetical rhymes which were afterwards added. (See Fiorillo's *Geschichte der zeichnenden Künste in Deutschland und den Niederlanden*, 4 volumes.)

DEATH, PUNISHMENT OF. The questions most commonly discussed by philosophers and jurists under this head are, 1. as to the right of governments to inflict the punishment of death; 2. as to the expediency of such punishment; 3. as to the crimes to which, if any, it may be most properly confined and limited; 4. as to the manner in which it should be inflicted. A few words will be said on each of these points.

1. As to the *right* of inflicting the punishment of death. This has been doubted by some distinguished persons; and the doubt is often the accompaniment of a highly cultivated mind, inclined to the indulgence of a romantic sensibility, and believing in human perfectibility. The right of society to punish offences against its safety and good order will scarcely be doubted by any considerate person. In a state of nature, individuals have a right to guard themselves from injury, and to

repel all aggressions by a force or precaution adequate to the object. This results from the right of self-preservation. If a person attempts to take away my life, I have, doubtless, a right to protect myself against the attempt by all reasonable means. If I cannot secure myself but by taking the life of the assailant, I have a right to take it. It would otherwise follow, that I must submit to a wrong, and lose my life, rather than preserve it by the means adequate to maintain it. It cannot, then, be denied that, in a state of nature, men may repel force by force, and may even justly take away life, if necessary to preserve their own. When men enter society, the right to protect themselves from injury and to redress wrongs is transferred, generally, from the individuals to the community. We say that it is generally so, because it must be obvious that, in many cases, the natural right of self-defence must remain. If a robber attacks one on the highway, or attempts to murder him, it is clear that he has a right to repel the assault, and to take the life of the assailant, if necessary for his safety; since society, in such a case, could not afford him any adequate and prompt redress. The necessity of instant relief, and of instant application of force, justifies the act, and is recognised in all civilized communities. When the right of society is once admitted to punish for offences, it seems difficult to assign any limits to the exercise of that right, short of what the exigencies of society require. If a state have a right to protect itself and its citizens in the enjoyment of its privileges and its peace, it must have a right to apply means adequate to this object. The object of human punishments is, or may be, threefold; first, to reform the offender; secondly, to deter others from offending; and, lastly, to secure the safety of the community, by depriving the offender of the power of doing mischief. The first consideration rarely enters into human legislation, because of the inadequacy of our means to produce great moral results by the infliction of punishment. The two latter considerations enter largely into the theory and practice of legislation. Who is to be the judge, in such cases, what is the adequate punishment for any offence? Certainly, punishments ought not to be inflicted, which are utterly disproportionate to the offence, and beyond the exigencies of society. No government has a right to punish cruelly and wantonly, and from mere revenge; but, still, the discretion must be vested some-

where, to say what shall be the degree of punishment to be assigned to a particular offence. That discretion must be, from its nature, justly a part of the legislative power, and to be exercised according to the actual state of society. It may, nay, it must be differently exercised in different ages, and in different countries; for the same punishment which, in one age or country, may be sufficient to suppress an offence, or render it comparatively harmless, may, in another age or country, wholly fail of the effect. If mild punishments fail of effect, more severe must be resorted to, if the offence be of a nature which affects society in its vital principles, or safety, or interests. The very frequency of a crime must often furnish a very strong ground for severe punishment, not only as it furnishes proof that the present punishment is insufficient to deter men from committing it, but from the increased necessity of protecting society against dangerous crimes. But it is often said, that life is the gift of God, and therefore it cannot justly be taken away, either by the party himself, or another. If he cannot take it away, he cannot confer that power on others. But the fallacy of this argument is obvious. Life is no more the gift of God than other personal endowments or rights. A man has, by the gift of God, a right to personal liberty and locomotion, as well as to life; to eat and drink and breathe at large, as well as to exist; yet no one doubts that, by way of punishment, he may be confined in a solitary cell; that he may be perpetually imprisoned or deprived of free air, or compelled to live on bread and water. In short, no one doubts that he may be restrained in the exercise of any privileges or natural rights short of taking his life. Yet the reasoning, if worth any thing, extends to all these cases in an equal degree. If, by his crimes, a man may justly forfeit his personal rights, why not his life? But we have seen that it is not true, even in a state of nature, that a man's life may not be taken away by another, if the necessity of the case requires it. Why, then, may not society do the same, if its own safety requires it? Is the safety of one person more important than the safety of the whole community? Then, again, as to a man's inability to confer on others a right which he does not himself possess. Suppose it is so; the consequence which is deduced from this does not, in fact, arise. Blackstone, indeed, in his Commentaries (4 *Comment.* 8), seems to deduce the right of society to punish capital offences, in

certain cases (that is, in cases of *mala prohibita*, and not *mala in se*), from the consent of the offenders. The marquis Beccaria, on the other hand, denies that any such consent can confer the right, and therefore objects to its existence. But the notion of consent is, in nearly all cases, a mere theory, having no foundation in fact. If a foreigner comes into a country, and commits a crime at his first entrance, it is a very forced construction to say that he consents to be bound by its laws. If a pirate commits piracy, it is almost absurd to say that he consents to the right of all nations to punish him for it. The true and rational ground on which the right rests, is not the consent of the offender, but the right of every society to protect its own peace, and interests, and property, and institutions, and the utter want of any right, in other persons, to disturb, or destroy, or subtract them. The right flows, not from consent, but from the legitimate institution of society. If men have a right to form a society for mutual benefit and security, they have a right to punish other persons who would overthrow it. There are many cases where a state authorizes life to be taken away, the lawfulness of which is not doubted. No reasonable man doubts the right of a nation, in a just war, especially of self-defence, to repel force by force, and to take away the lives of its enemies. And this right is not confined to repelling present force, but it extends to precautionary measures, which are necessary for the ultimate safety of the nation. In such a war, a nation may justly insist upon the sacrifice of the lives of its own citizens, however innocent, for the purpose of ensuring its own safety. Accordingly, we find that all nations enrol militia and employ troops for war, and require them to hazard their lives for the preservation of the state. In these cases, life is freely sacrificed by the nation; and the laws enacted for such purposes are deemed just exercises of power. If so, why may not life be taken away by way of punishment, if the safety of society requires it? If a nation may authorize, in war, the destruction of thousands, why may it not authorize the destruction of a single life, if self-preservation require it? The mistake, however, is in supposing that life cannot be taken away without the consent of the party. If the foregoing reasoning is correct, such consent is neither supposed nor necessary. In truth, the supposition of an original compact between all the persons who are subject to the regulations of a society, by their

own free consent, as the necessary and proper basis on which all the rights of such society depend, is, at best, a gratuitous supposition; and it sometimes leads to very incorrect results. It may be added, that the Scriptures most clearly recognize and justify the infliction of capital punishments in certain cases.

2. As to the *expediency* of capital punishment. This opens a wide field for discussion. Some able men, who do not doubt the right, do still deny the expediency of inflicting it. It may be admitted, that a wise legislature ought to be slow in affixing such a punishment to any but very enormous and dangerous crimes. The frequency of a crime is not, of itself, a sufficient reason for resorting to such a punishment. It should be a crime of great atrocity and danger to society, and which cannot otherwise be effectually guarded against. In affixing punishments to any offence, we should consider what are the objects and ends of punishment. It is clear that capital punishment can have no effect to reform the offender himself. It may have, and ordinarily does have, the effect to deter others from committing a like offence; but, still, human experience shows that even this punishment, when inflicted for small offences, which are easily perpetrated, and to which there is great temptation, does not always operate as an effectual terror. Men sometimes are hardened by the frequent spectacles of capital punishments, and grow indifferent to them. Familiarity deprives them of their horror. The bloodiest codes are not those which have most effectually suppressed offences. Besides, public opinion has great weight in producing the acquittal or condemnation of offenders. If a punishment be grossly disproportionate to the offence, if it shock human feelings, there arises, insensibly, a sympathy for the victim, and a desire to screen him from punishment; so that, as far as certainty of punishment operates to deter from crimes, the object of the legislature is often thus defeated. It may be added, that a reasonable doubt may fairly be entertained, whether any society can lawfully exercise the power of punishing, beyond what the just exigencies of that society require. On the other hand, a total abolition of capital punishments would, in some cases at least, expose society to the chances of deep and vital injuries. A man who has committed murder deliberately, has proved himself unfit for society, and regardless of all the duties which belong to it. In his case, the *lex talionis* can

hardly be deemed unjust. The safety of society is most effectually guarded by cutting him off from the power of doing further mischief. If his life be not taken away, the only other means left are, confinement for life, or transportation and exile for life. Neither of these is a perfect security against the commission of other crimes, and may not always be within the power of a nation without great inconvenience and great expense to itself. It is true that the latter punishments leave open the chance of reform to the offender, which is, indeed, but too often a mere delusion; but, on the other hand, they greatly diminish the influence of another salutary principle, the deterring of others from committing like crimes. It seems to us, therefore, that it is difficult to maintain the proposition that capital punishments are, at all times and under all circumstances, inexpedient. It may rather be affirmed that, in some cases, they are absolutely indispensable to the safety and good order of society. We should incline to say that, as a general rule, every nation, in its legislation on this subject, must be governed very much by the manners, customs, habits of thinking, and state of opinion, among the people upon whom it is to operate. In a rude and barbarous state of society, summary and almost vindictive punishments seem more necessary than in a highly polished and civilized state of society.

3. As to the *crimes* to which capital punishments may, most properly, be limited. From what has been already said, this must depend upon the particular circumstances of every age and nation; and much must be left to the exercise of a sound discretion on the part of the legislature. As a general rule, humanity forbids such punishments to be applied to any but crimes of very great enormity, and danger to individuals or the state. If any crimes can be effectually suppressed by moderate means, these ought, certainly, to be first resorted to. The experience, however, of most nations, if we may judge from the nature and extent of their criminal legislation, seems to disprove the opinion so often indulged by philanthropists, that moderate punishments are sufficient to suppress crimes, and that capital punishments are rarely necessary. The codes of most civilized nations abound with capital punishments. That of Great Britain, a nation in which the public legislation has a deep infusion of popular opinion, is thought to be uncommonly sanguinary. Blackstone, in his *Commen-*

taries (vol. iv, 18), admits that, in his time, not less than *one hundred and sixty crimes* were, by the English law, punishable with death. In the code of the U. States, only *nine* crimes are so punishable, viz., treason, murder, arson, rape, robbery of the mail, fraudulent casting away ships, rescue of criminals capitally convicted during execution, and piracy, one species of which is the African slave-trade. In the codes of the several states of the Union, still fewer crimes are generally punishable with death. It remains yet to be proved, whether the general mildness of our penal code has afforded us any greater security against crimes than exists in other nations. Hitherto, the temptations to commit them have been less here, than in other countries less abundantly and cheaply supplied with the necessities of life. It is still a question, fit to exercise the solicitude and ingenuity of our statesmen and philanthropists, whether we can safely carry on so mild a system in a more corrupt and dense state of society. If we can, it must be by a very sparing use of the power of pardoning; so that the certainty of absolute, unmitigated punishment shall follow upon the offence. Beccaria, with his characteristic humanity and sagacity, has strongly urged that the certainty of punishment is more important to deter from crimes than the severity of it. At present, there is great danger that the pardoning power, in our free forms of government, will, in a great measure, overthrow this salutary principle. Its exercise, therefore, ought to be watched with the greatest jealousy and care, lest the abuse of it should lead to the introduction either of absolute impunity for offences, or of more extensive capital punishments. It will probably be found, from the experience of most nations, that capital punishment ought not wholly to be dispensed with. On the other hand, it may be safely affirmed, that there is no positive necessity to apply it to a very large number of crimes. Treason, murder, arson, piracy, highway robbery, burglary, rape, and some other offences of great enormity, and of a kindred character, are not uncommonly punished in this manner; but beyond these, it is extremely questionable whether there is any necessity or expediency of applying so great a severity. Still, however, as has been already intimated, much must depend upon the opinion and character of the age, and the prevailing habits of the people, and upon the sound exercise of legislative discretion. What may be deemed uselessly severe in one

age or country, may be positively required by the circumstances of another age or country.

4. As to the *manner* of inflicting the punishment of death. This has been different in different countries, and in different stages of civilization in the same countries. Barbarous nations are generally inclined to severe and vindictive punishments, and, where they punish with death, to aggravate it by prolonging the sufferings of the victim with ingenious devices in cruelty. And even in civilized countries, in cases of a political nature, or of very great atrocity, the punishment has been sometimes inflicted with many horrible accompaniments. Tearing the criminal to pieces, piercing his breast with a pointed pole, pinching to death with red-hot pincers, starving him to death, breaking his limbs upon the wheel, pressing him to death in a slow and lingering manner, burning him at the stake, crucifixion, sawing him to pieces, quartering him alive, exposing him to be torn to pieces by wild beasts, and other savage punishments, have been sometimes resorted to for the purposes of vengeance, or public example, or public terror. Compared with these, the infliction of death by drowning, by strangling, by poisoning, by bleeding, by beheading, by shooting, by hanging, is a moderate punishment. In modern times, the public opinion is strongly disposed to discountenance the punishment of death by any but simple means; and the infliction of torture is almost universally reprobated. Even in governments where it is still countenanced by the laws, it is rarely resorted to; and the sentence is remitted, by the policy of the prince, beyond the simple infliction of death. In Prussia, where atrocious criminals are required, by the penal code, to be broken upon the wheel, the king always issues an order to the executioner to strangle the criminal (which is done by a small cord not easily seen) before his limbs are broken. So, in the same country, where larceny, attended with destruction of life, is punished by burning alive, the fagots are so arranged as to form a kind of cell, in which the criminal is suffocated by the fumes of sulphur, or other means, before the flame can reach him. In England, in high treason, the criminal is sentenced to be drawn to the gallows, to be hanged by the neck, and cut down alive, to have his entrails taken out and burned while he is yet alive, to have his head cut off, and his body divided into four parts, and these to be at the king's

disposal. But, generally, all the punishment is remitted by the crown, except the hanging and beheading; and when it is not, by connivance of the officers, the criminal is drawn on a hurdle to the place of execution, and is not disembowelled until actually dead. In other cases, the punishment is now simply by hanging, or, in the military and naval service, by shooting. In France, formerly, the punishment of death was often inflicted by breaking the criminal on the wheel. (Damiens was torn to pieces by horses, after he had been tormented with red-hot pincers, and had suffered other horrid tortures.) The usual punishment now is beheading by the guillotine. In cases of parricide, the criminal is conducted, barefooted, and covered with a black veil, to the place of execution, where his right hand is cut off just before he is beheaded. In Austria, the general mode of punishment is by hanging. In Prussia, hanging is rarely inflicted; but the usual punishment is beheading with a heavy axe, the criminal's head being first tied to a block. In other German states, the uncertain mode of execution by the sword still exists. Sand was executed in this manner. It should be remarked, however, that, in Germany, hanging has always been deemed the most infamous sort of punishment; and the sentence has often been commuted for beheading by the sword, as a milder mode of punishment. In the U. States of America, hanging is the universal mode of capital punishment; and, indeed, the constitution of the U. States contains a provision, declaring that "cruel and unusual punishments shall not be inflicted." In China, murderers are cut to pieces; robbers, not. In Russia, the punishment of death has been frequently inflicted by the knout. In Turkey, strangling, and sewing the criminal up in a bag, and throwing him into the sea, are common modes of punishment. In the Roman code, many severe and cruel punishments were prescribed. During the favored times of the republic, many of these were abolished or mitigated. But again, under the emperors, they were revived with full severity. In the ancient Grecian states, the modes of punishment were also severe, and often cruel. But the most general mode of punishment, in ordinary cases, seems, both in Greece and Rome, to have been by hanging. Whether the ancient Greek mode of capital punishment, by taking poison at such hour as the condemned party should choose, has ever been adopted in any modern nation, we

are unable to say. As far as we have been able to learn, it is not in use among any Christian people; and the idea of suicide connected with it would probably prevent any such nation from adopting it.

Whether executions ought to be in public or in private, has been a question much discussed, and upon which a great diversity of opinion exists among intelligent statesmen. On the one hand, it is said that public spectacles of this sort have a tendency to brutalize and harden the people, or to make them indifferent to the punishment; and the courage and firmness, with which the criminal often meets death, have a tendency to awaken feelings of sympathy, and even of admiration, and to take away much of the horror of the offence, as well as of the punishment. On the other hand, it is said that the great influence of punishment, in deterring others from the like offence, cannot be obtained in any other way. It is the only means to bring home to the mass of the people a salutary dread and warning; and it is a public admonition of the certainty of punishment following upon crimes. It is also added, that all punishments ought to be subjected to the public scrutiny, so that it may be known that all the law requires, and no more, has been done. If punishments were inflicted in private, it could never be known whether they were justly and properly inflicted upon the persons condemned; or whether, indeed, innocent persons might not become the victims.

In England, the court before which the trial is had, declares the sentence, and directs the execution of it; and its warrant is a sufficient authority to the proper officer to execute it. In the courts of the U. States, there is a like authority; but in the laws of many of the states, there is a provision that the execution shall not take place except by a warrant from the governor, or other executive authority. In cases of murder and other atrocious crimes, the punishment in England is usually inflicted at a very short interval after the sentence. In America, there is usually allowed a very considerable interval, varying from one month to six months. In England and America, there lies no appeal from the verdict of a jury and the sentence of a court, in capital cases. In France, there may be a review of it in the court of cassation. (q. v.) In Germany, there is, in criminal as in civil cases, a right of appeal; hence, in that country, few innocent persons have suffered capitally since the 16th century; and in England

and America, the very fact that the verdict and sentence are final, produces great caution and deliberation in the administration of criminal justice, and a strong leaning towards the prisoner on trial. Capital punishment cannot be inflicted, by the general humanity of the laws of modern nations, upon persons who are insane or who are pregnant, until the latter are delivered and the former become sane. It is said that Frederic the Great required all judgments of his courts, condemning persons to death, to be written on blue paper; thus he was constantly reminded of them as they lay on his table among other papers, from which they were readily distinguished. He usually took a long time to consider such cases, and thus set an excellent example to sovereigns of their duty.

DEATH-WATCH; a species of terrores, so called on account of an old superstition that its beating or ticking in a sick room is a sure sign of death.

DEBENTURE. (See *Drawback*.)

DEBT, NATIONAL. (See *National Debt*.)

DEBTOR AND CREDITOR, LAWS OF. One of the first steps, in a community, towards industry and wealth, is the institution of the individual right to property. The guarantee of the individual's earnings to himself is the strongest stimulus to his exertions; and this measure is so obvious, and the one in which every member of a community has so evident an interest, that it is of universal adoption among rude as well as civilized nations, and even precedes the establishment of a regular government; for men will sell, and, as far as they are able, enforce their exclusive right to the fruits of their own labor, before they are in a condition to establish general laws. But, though this principle is so obviously just, and of so early adoption, its extension and application to complicated affairs, and various species of property, and divisions, and modifications of rights to, and interest in, possessions of all sorts, are among the most difficult subjects of legislation. The right of property being once established, the conditions on which the owner will part with and transfer it are, as a natural and necessary consequence, left to his own determination, with some few exceptions; especially one usually made in favor of the government, or, rather, of the whole collective community, who reserve the right of taking individual property for the public use, without the consent of the proprietor, and upon such terms as the government itself shall prescribe. But, even in this case, a debt or obligation on the

part of the government or community arises in favor of the proprietor whose property has been taken. So that we may lay it down as a general doctrine, that, where one parts with and transfers to another any property, or right, of which, by the laws of the community, he was exclusively possessed, this transfer is the basis or meritorious consideration of a promise or obligation on the part of the person to whom the transfer is made, to return some equivalent, or what may be agreed on as an equivalent by the parties. Whether this return be stipulated for in money, lands, goods, or personal services, or any thing of which the value can be estimated, is immaterial in respect to the force of the obligation, which will be the same in either case. The validity of the obligation thus arising is recognised by the laws of all civilized states. But, then, the question arises—and it is one which has much perplexed legislators—What degree of force or sacredness shall be assigned to this obligation, and by what sanctions and penalties shall it be guarded? The personal rights of citizens are, in general, more scrupulously guarded and vindicated by the laws, than those of property, or those the value of which, in money or exchange, admits of an exact estimate. The lives of men, for instance, are generally protected by inflicting the extreme penalty of death for the crime of murder. Such a punishment is only commensurate with the crime, and its justice is universally acknowledged; but a law which should inflict the same punishment for a mere assault on the person, attended by no serious injury, would excite the abhorrence of all men; for, though men are under an undoubted obligation not to commit an unprovoked assault, though not attended by a serious wound, yet such a penalty would be at once pronounced to be out of all proportion to the force and sacredness of the obligation which it would be designed to protect. The question then occurs—How forcible, how binding, how sacred, is this promise and obligation to pay a sum of money or deliver an article of property? Is it so sacred that the debtor ought to be put to death, sent to the galleys, put into the pillory, or the stocks, or whipped, or imprisoned, in case of his failing to fulfil it? In one point all communities agree, namely, as far as the property of the debtor goes, it ought to answer to this obligation; for the value he has received has been absorbed in that which he possesses, and constitutes a part of its amount, or, at least, may

be presumed to have contributed to it. In short, the property of the debtor may be considered to belong to his creditors, to the extent of their demands. The laws of different countries, accordingly, agree in the principle that the creditor shall have the means of getting possession and disposing of the debtor's property to satisfy his demands. The sums prescribed for the exercise of this well established and universally acknowledged right, vary very considerably in different countries and periods. As long ago as the time of Solon, the necessary implements of husbandry were exempted from this right. The civil law makes an exemption of necessary implements of trade and articles of furniture, and this distinction is adopted very generally, if not universally, throughout the civilized world. The right of the creditor, then, according to the laws and practice of the whole civilized world, does not extend to the whole of the property and possessions of the debtor; and the exception affords a rule for measuring the extent and force of this obligation of debt, in the general estimation of nations; since, in enforcing this obligation, all the laws in this respect stop at the point where individual suffering commences. Though the law adopts the principle, that the goods of the debtor, in effect, belong to the creditor, yet it makes a compromise, even of this right, between the creditor, and debtor, and the community; for the community may be said to be affected by, and to feel the distresses or good fortune of every one of its members; and, accordingly, the creditor is here made to compromise his rights as a creditor, out of regard to his obligations as a member of the community. The law says to him, "Though you strictly have a right to the tools your debtor uses, the clothes he and his family wear, and the beds they sleep upon—for they may have been procured by the very money or goods from which the debt arose; yet, on the other hand, you owe some obligations to the community, and the community has some obligations to your debtor; you shall not, therefore, turn him and his family naked into the streets, even by reclaiming the very articles you may have sold him." Such is the limit which the laws have, by general consent, put to the extent of the creditor's right over the debtor's property; and, to this extent, every code ought to give as easy, cheap and expeditious a remedy as can be allowed consistently with a just settlement of the validity and amount of the creditor's claim; and such a remedy it is the object of legislators

generally to give. Upon the principle already stated, namely, that the debtor's property belongs to his creditors, to the amount of their claims, it should follow, that, when his property is inadequate to the full satisfaction of the debts, all the creditors ought to share it proportionally; and this has been the practical rule under the civil law, and in all the countries where it has been adopted as the common law. Such is the practical rule in England and the greater part of the U. States; and it is a rule so obviously just, and results so directly from the universally received principles, in relation to the rights of creditors, that it is surprising that any country, in the least advanced in civil polity, and having made any progress in civilization, should form an exception to such a rule, and permit some one creditor, or some few, no more deserving, and perhaps much less so, than the rest, to seize upon the whole property of the debtor, and entirely defeat the claims of the others; yet such a defect does exist in the laws of 4 out of the 25 U. States, at the time of writing this article (1830), viz., Maine, New Hampshire, Vermont and Massachusetts. These states are all eminently commercial, and by no means deficient in general intelligence and improvement, which renders it the more remarkable that they should, in this respect, make an exception to the practice of all the rest of Christendom. The defect arises partly from a deep-rooted prejudice upon this subject, which mistakes a regulation and reformation of this branch of law for a weakening of the obligation of contracts, and an impairing of the rights of creditors; but still more from a timid spirit of legislation, which fears to undertake an important improvement of this branch of law, although the justice and great utility of such an improvement, among a trading people especially, are acknowledged by much the greater number. When the laws provide for a proportionate distribution of an insolvent's estate in general, still they reserve some few preferences. Thus, in the *cessio bonorum*, and the various laws of insolvency of different states, of which that has been the model, a preference is usually given to the government as a creditor, which is fully satisfied for its demands before any part of the claims of individual creditors is paid. This preference is just, where the claim of the government can be viewed in the light of a lien on the property; and, where this is the case, the giving it a priority to those of creditors who have no lien, is, in fact, only

putting the government upon the same footing with other creditors; for any one, having a mortgage or pledge, is always preferred to the extent of his pledge; but, where the claim cannot be considered in that light, the preference seems not to be just. Some other claims are preferred, from motives of humanity and general policy, on the same principle on which necessary articles of furniture, implements of the debtor's trade, and the like, are exempted from seizure. Thus some laws, notwithstanding the insolvency of the estate of a deceased debtor, still allow the full payment of the expenses of his last sickness and funeral, and also assign some articles, of greater or less amount, to the use of his widow and family. Some codes of laws limit the claims of the creditor to the debtor's property for satisfaction. Others go beyond this point. The ancient laws of Rome permitted the selling of debtors into servitude for the benefit of their creditors; and such are the laws of modern times among some of the African tribes. Solon remarked upon the inconsistency of laws which exempted the implements of trade, and articles of necessity of the debtor, from the creditor's demand, and yet subjected his body to sale or imprisonment; and, considering the rights of the debtor, as a citizen of Athens, to be paramount to those of his creditor over his person, he provided against the violation of a citizen's liberty on account of his debts. But the imprisonment of the debtor ought to be allowed as a means of compelling him to surrender his property for the benefit of his creditors; and, for this purpose, the civil law, and the laws of England and most of the U. States, permit it, but only until he has made a surrender of all his property, unless he is proved to have acted fraudulently, in which case the imprisonment is continued as a punishment. To this rule, however, the four of the U. States above-mentioned form an exception; for, in those states, the imprisonment may be inflicted by the creditor, although the debtor has no means of satisfying the debt, and although his insolvency may have been occasioned by an unforeseen and inevitable misfortune. It is true, that, in such a case, not many creditors will wantonly avail themselves of such a right to inflict suffering without any motive of interest. But it is equally true, that, if the whole population were at liberty to inflict any kind of suffering upon others with impunity, not many persons would avail themselves of the license; but some would, and this is a reason for not

giving the license. The laws of England and France, and of most of the U. States, now make a distinction between cases of fraud and misfortune, and aim at punishment only in the former. This is a distinction not difficult to make, and one which does not require any extraordinary legislative skill and sagacity. Its omission in any code of laws, therefore, indicates a rude and imperfect legislation in this particular.—In the article *Bankrupt*, the interposition of the law to discharge debtors absolutely from all liability to their creditors, on their surrendering all their property, has been treated of. This interposition has, however, been extended only to cases of insolvent merchants. The insolvent laws, as distinguished from bankrupt laws, apply to debtors who are not merchants, and provide for a ratable distribution of their effects among their creditors, and exempt the person of the debtor from imprisonment, on the surrender of the whole of his property, but do not discharge the debt any further than satisfaction is made by payment. A question very naturally arises why this distinction is made between traders and others. A cultivator or mechanic, in enterprising communities, is scarcely less liable to the misfortunes and disappointments which result in insolvency than traders, and their future industry and unembarrassed enterprise is of no less importance to the community. Why should the future earnings of a farmer, or conductor of any branch of industry, whose insolvency has been occasioned by a drought, a change in the markets, or the bankruptcy of a merchant whom he had trusted, be held for the payment of his debts, to the last farthing, any more than those of the merchant? Is it true that, in other pursuits than those of trade, insolvency is more frequently the consequence of fraud, extravagance or imprudence? (See *Bankrupt*, *Capias*, *Insolvency*.)

DEBURE, Guillaume and Guillaume François; two cousins, distinguished bibliographers. The former prepared the first division of the catalogue of the excellent library of the duke de la Vallière (1783, 3 vols.). The latter, a bookseller, born 1731, and died 1782, opened a new path for bibliographers, by reducing to a system what had before been left merely to tact, in his *Bibliographie instructive, ou Traité de la Connaissance des Livres rares et singuliers* (Paris, 1763—68, 7 vols.). Lemercier and others attacked the work severely; yet it must be considered of much value. (See Ebert's *Bibliographisches Lexicon*, vol. i, p. 452.) Among his

other works is to be mentioned *Supplément à la Bibliographie instructive, ou Catalogue des Livres du Cabinet de M. Gaignat* (Paris, 1769, 2 vols.). To these two works, that of Née de la Rochelle, *Table destinée à faciliter la Recherche des Livres anonymes*, etc. (1782), forms a 10th volume. The sons of Debure, advantageously known in the world of letters as *Debure Frères*, have distinguished themselves as bibliographers by the catalogue of the rich and valuable library of count Mac-Carthy Reagh (1817).

DECADE (Lat. *decas*, from the Greek *δέκα*) is sometimes used for the number ten, or for an aggregate of ten, and *decades* for an enumeration by tens. The books of Livy are divided into decades. In the French revolution, decades took the place of weeks, in the division of the year. (See *Calendar*.) In the French system of weights and measures, the Greek word *δέκα* is used to increase the value of the designations ten-fold; thus *decagramme* (a weight of 10 grammes), *decalitre* (10 litres), *decamètre* (10 metres), *decare* (10 ares).

DECAGON (*decagonum*), in geometry; a figure of 10 sides and angles.

DECALOGUE (from *δέκα*, ten, and *λόγος*, the word); the ten commandments, which, according to Exod., chap. xx. and Deut., chap. v., were given on two tables, by God to Moses. The Jews call them, by way of eminence, the *ten words*; hence their name, *Decalogue*. Jews and Christians have divided the ten commandments differently; and, in some Catholic catechisms, the second commandment has been united, in an abridged form, with the first, and the tenth has been divided into two. Catechisms generally contain the ten commandments, not verbally, as they stand in the Bible, but abridged.

DECAMERON (Greek; from *δέκα*, ten, and *ἡμέρα*, day); a book in which the author relates the events, &c. of ten days. The Decameron of Boccaccio (q. v.) is the history of a gay company of ten persons, who, on ten different days, relate ten tales each day. The Decameron of Dibdin treats of bibliographical curiosities.

DECANDOLLE, Augustin Pyrame, one of the first botanists in Europe, born at Geneva, in 1778, was descended from a family distinguished, as early as the 16th century, in the republic of letters. While professor of botany at Montpellier, he raised the botanical garden to its present flourishing condition. His enemies availed themselves of the circumstance that he had retained his place after the return of Na-

pooleon from Elba, to render him suspected by the government; and the ultras at length obliged him to retire from his chair. His native city established a botanical garden, in 1816, with the direction of which he was intrusted, and a professorship of botany, which was bestowed on him. His *Théorie élémentaire de la Botanique* (1813) is well known. Among his other writings are, *Plantarum succulentarum Historia* (1799, 4 vols., folio and 4to.), with plates by Redouté; *Astragalogia*, likewise with plates (1803); *Flore Française* (1809—15, 6 vols.), in which he was assisted by Lamarque; *Catalogus Plantarum Horti botanici Montpellensis* (1813). He has also published some observations on the theory of light, which have been confirmed by later experiments.

DECAPITATION. (See *Death, Punishment of*.)

DECANDRIA, in botany; the tenth class of plants, with hermaphrodite flowers and ten stamina, or male parts, in each.

DECAPOLIS, in ancient geography; a country of Palestine, which contained ten principal cities, some on this, some on the other side of Jordan, whence its name. Pliny enumerates the following:—Scythopolis, Philadelphia, Raphanæ, Gadara, Hippos, Dion, Pella, Gerasa, Canatha and Damascus. Others reckon them differently. They were chiefly inhabited by Gentiles, though some of them might be within the region of Judea.

DECATUR, Stephen, a celebrated American naval officer, was born, Jan. 5, 1779, on the eastern shore of Maryland, whither his parents had retired while the British were in Philadelphia. He entered the American navy in March, 1798, and was soon promoted to the rank of first lieutenant. While at Syracuse, attached to the squadron of commodore Preble, he was first informed of the fate of the American frigate Philadelphia, which, in pursuing a Tripolitan corsair, ran on a rock about four and a half miles from Tripoli, and was taken by the Tripolitans, and towed into the harbor. Lieutenant Decatur conceived the project of attempting her recapture or destruction. He selected, for this purpose, a ketch, and manned her with 70 volunteers. Feb. 16, 1804, at 7 o'clock at night, he entered the harbor of Tripoli, boarded the frigate, though she had all her guns mounted and charged, and was lying within half-gun-shot of the bashaw's castle and of his principal battery. Two Tripolitan cruisers were lying within two cables' length, on the starboard quarter, and several gun-boats within half-

gun-shot on the starboard bow, and all the batteries on shore were opened upon the assailants. Decatur set fire to the frigate, and continued alongside until her destruction was certain. For this exploit, the American congress voted him thanks and a sword, and the president immediately sent him a captaincy. The next spring, it being resolved to make an attack on Tripoli, commodore Preble equipped six gun-boats and two bombards, formed them into two divisions, and gave the command of one of them to captain Decatur. The enemy's gun-boats were moored along the mouth of the harbor, under the batteries, and within musket shot. Captain Decatur determined to board the enemy's eastern division, consisting of nine. He boarded in his own boat, and carried two of the enemy's boats in succession. When he boarded the second boat, he immediately attacked her commander, who was his superior in size and strength, and, his sword being broken, he seized the Turk, when a violent scuffle ensued. The Turk threw him, and drew a dirk for the purpose of stabbing him, when Decatur, having a small pistol in his right pocket, took hold of it, and, turning it as well as he could, so as to take effect upon his antagonist, cocked it, fired through his pocket, and killed him. When commodore Preble was superseded in the command of the squadron, he gave the frigate Constitution to Decatur, who was afterwards removed to the Congress, and returned home in her when peace was concluded with Tripoli. He succeeded commodore Barron in the command of the Chesapeake, after the attack made upon her by the British man-of-war Leopard. He was afterwards transferred to the frigate United States. In the war between Great Britain and the U. States, while commanding the frigate United States, he fell in, Oct. 25, 1812, with the Macedonian, mounting 49 carriage-guns, one of the finest of the British vessels of her class, and captured her after an engagement of an hour and a half. When captain Carden, the commander of the Macedonian, tendered him his sword, he observed that he could not think of taking the sword of an officer who had defended his ship so gallantly, but should be happy to take him by the hand. In a letter written five days after the capture, he says, "I need not tell you that I have done every thing in my power to soothe and console captain Carden; for, really, one half the pleasure of this little victory is destroyed in witnessing the mortification of a brave man, who deserv-

ed success quite as much as we did who obtained it." In January, 1814, commodore Decatur, in the United States, with his prize the Macedonian, then equipped as an American frigate, was blockaded at New London by a British squadron greatly superior in force. A challenge which he sent to the commander of the British squadron, sir Thomas Hardy, offering to meet two of the British frigates with his two ships, was declined. In January, 1815, he attempted to set sail from New York, which was blockaded by four British ships; but the frigate under his command, the President, was injured in passing the bar, and was captured by the whole squadron, after having maintained a running fight of two hours and a half with one of the frigates, the Endymion, which was dismantled and silenced. After the conclusion of peace, he was restored to his country, in 1815. The conduct of the Barbary powers, and of Algiers in particular, having been insulting to the United States, on the ratification of peace with Great Britain, war was declared against Algiers, and a squadron was fitted out, under the command of commodore Decatur, for the purpose of obtaining redress. In the spring of 1815, he set sail, and, June 17, off cape de Satt, captured an Algerine frigate, after a running fight of 25 minutes, in which the famous admiral Rais Hammida, who had long been the terror of the Mediterranean sea, fell. The American squadron arrived at Algiers June 28. In less than 48 hours, Decatur terrified the regency into his own terms, which were, mainly, that no tribute should ever be required, by Algiers, from the U. States of America; that all Americans in slavery should be given up without ransom; that compensation should be made for American property seized; that all citizens of the U. States, taken in war, should be treated as prisoners of war are by other nations, and not as slaves, but held subject to an exchange without ransom. After concluding this treaty, he proceeded to Tunis, where he obtained indemnity for the outrages exercised or permitted by the bashaw. Thence he went to Tripoli, where he made a similar demand with like success, and procured the release of 10 captives, Danes and Neapolitans. He arrived in the U. States Nov. 12, 1815, was subsequently appointed one of the board of navy commissioners, and was residing at Washington, in that capacity, when he was killed in a duel with commodore Barron, March 22, 1820, occasioned by his animadversions on the conduct

of the latter. Courage, sagacity, energy, self-possession, and a high sense of honor, were the characteristic traits of Decatur. From his boyhood, he was remarkable for the qualities which presage eminence in naval warfare. He enjoyed the sea as his element. He possessed an active, muscular frame, a quick and penetrating eye, and a bold, adventurous and ambitious spirit.

DECAZES, Elie, duke, peer of France, duke of Glücksburg in Denmark, was born at St. Martin-de-Laye, near Libourne, in 1780, of a family ennobled by Henry IV, and studied law in the college Vendôme. In 1806, he became judge of the tribunal of the first instance in the department of the Seine; in 1810, counsellor of the court of appeals; and afterwards counsellor of Louis, king of Holland. After the return of Napoleon from Elba, he openly declared himself in favor of Louis XVIII, and was ordered not to approach within 40 leagues of Paris. On the return of the king, he was appointed prefect of the police, dissolved the chamber of representatives, and received a place in the council of state. In his connexions with the commanders of the allied troops and the journalists of Paris, he showed himself cautious and prudent, and, in the trials of Labédoyère and Ney, and after the dismissal of Fouché, in the capacity of minister of the police, he was energetic in his measures relating to the leaders of the last revolution, and the preservation of public order. In 1818, he was made count, and married mlle. de St. Aulaire, granddaughter of the sister of the late duke of Holstein-Glücksburg, in consequence of which he was created duke of Glücksburg by the king of Denmark. He had already been created peer of France, and, in 1820, was made duke. As minister of police, to which place the royalists had recommended him, Decazes strengthened his influence with the king by the discovery and destruction of certain papers of the greatest importance, respecting the king personally, so that the favor of the king could never be entirely withdrawn from him. With the ultras, he made himself unpopular by advising the king to abolish the *chambre introuvable*. (q. v.) His moderation exposed him to the attacks of the right and the left side at once. "*Royaliser la nation, nationaliser le royalisme*," he at that time declared to be the object of the government. But the charter received no legal security, and the laws of exception, violating personal liberty and the liberty of the press, softened as they were by De-

cazes, were a dangerous exercise of arbitrary power. Decazes and the minister of war, Gouvion St. Cyr, declared themselves, in 1818, so warmly against the proposition of Richelieu for the change of the laws of election of Feb. 5, 1817, that the latter and Lainé retired from the ministry. The king then appointed Decazes to the ministry of the interior (Dec. 29, 1818), with which he continued to hold the ministry of the police, and, at the same time, the ministry of public instruction and public worship. From motives of prudence, he left the presidency of the ministerial council to the marquis Desolles (q. v.) This ministry acted against the principles of the ultra opposition as much as it thought requisite to carry its measures, and as much, perhaps, as its situation allowed. See Guizot, *Du Gouvernement de la France depuis la Restauration et du Ministère actuel* (Paris, 1820), and *Des Moyens de Gouvernement et de l'Opposition dans l'État actuel de la France* (Paris, Oct. 1821). The oligarchical opposition in the chamber, to which belonged Villèle, Corbières, de la Bourdonnaye, Clausel de Coussergues, Lainé, &c., and in the chamber of peers, particularly Châteaubriand and Fitz-James, opposed in vain the influence of the minister. Decazes effected a mitigation of the ordinance of 1816 against the regicides, and frustrated the attempts of Barthélemy to change the election law, and introduce the system of indirect elections, by the nomination of 70 new peers, March, 1819. His three laws against the abuses of the press (see *De Serres*) established the censorship only for a short time. The establishment (August, 1819) of an exhibition of French industry was more permanent. France is also indebted to him for the councils of commerce and manufactures, for many agricultural societies, and for an institution for encouraging the mechanical arts, and educating young farmers at the expense of the state. The hatred of the court party and of the ultras against the favored minister, particularly since his discovery of the *white conspiracy*, so called, the investigation of which was suppressed, continued to increase. His most irreconcilable enemy was baron Vitrolles. When the liberals, strengthened by the result of the elections of 1819, threatened to become too powerful for the government, Decazes showed himself alternately inclined to the court and constitutional parties, and endeavored to check the further extension of liberal institutions. This balancing between constitutional and absolute princi-

ples, the *bascule system*, as it was called (see *Bascule*), not only threw the ultra-liberals into the opposition, but also alienated the constitutional ministers Desolles, Gouvion St. Cyr and Louis, who resigned their seats in the ministry after the alteration in the law of elections. The new ministry of Nov. 19, 1819, in which Pasquier, Latour-Maubourg and Roy occupied the seats thus vacated, and Decazes was named president, was not more harmonious. De Serre prepared the *projet* of a new law of elections, in which Decazes consented to the introduction of the upper electoral colleges, but would not allow the double vote. (See *Election, Laws of*.) The proposed laws respecting the censorship of the press, and the arrest of public disturbers, met with objections in the ministerial council, and still more from many members of the right side and of the centre, whilst the liberals opposed them entirely. The murder of the duke of Berri (q. v.), Feb. 13, 1820, inflamed the ultra-royalists against Decazes, who favored the liberal ideas which they accused as the cause of that murder, and the deputy Clausel de Coussergues openly charged him with being an accomplice in the assassination. Decazes, finding the proposed law of Feb. 15 disapproved by all parties, and the royal family also desirous of his dismissal,—given up by the liberals, who could not trust him any longer, attacked by the ultras, and subjected to the basest calumnies,—resigned his place, Feb. 18, and proposed the duke of Richelieu as his successor. The king consented, Feb. 20, but bestowed on him the title of *duke*, and appointed him ambassador at the court of St. James, and privy-counsellor. In 1820, he arrived in London, where he resided in great splendor. The new law of election had filled the chamber with the most violent opposers of the ministry. Decazes, apprehensive of his own fall, gave in his resignation, and returned to Paris. On the occasion of the deliberations of the congress of Laybach, Decazes had given lord Castlereagh the most decided assurances of the neutrality of France with regard to Naples; nevertheless, the French ministers at Laybach acceded to the plans of Austria, and, after an explanation with Castlereagh, Decazes was informed by Pasquier that the French ministers at Laybach had received secret instructions. While the duke was in Paris, the liberal party made an effort to unite him with Talleyrand for the overthrow of the ministry, but the attempt was unsuccessful, on account of his con-

nexion with Richelieu and De Serre. He retired to his estates, where he devoted himself to agriculture, the improvement of which, in the department of the Gironde, is principally owing to him. He also established, at Libourne, a society for the promotion of agriculture, a museum, and a school for mutual instruction. Meanwhile, the party of Villèle triumphed over the friends of Decazes, in the change of the ministry, Dec. 4, 1821. Châteaubriand (q. v.) succeeded him as ambassador in London. In 1822, the duke returned to Paris, but took little share in the debates of the chamber of peers. During the life of Louis XVIII, the party of Decazes, whose organ was the *Journal de Paris*, was hated as much as it was feared by the royalists, particularly by the friends of the minister of finance, Villèle. In the chamber of peers, it consisted of Bastard de Lestang, Lally-Tolendal, Barante, Molé, &c.; in the chamber of deputies, of most of the *doctrinaires*, and of many of the left side. The liberals entertained anew the hope of gaining Decazes when Talleyrand united himself with the *doctrinaires*; but the union of Talleyrand and Decazes was prevented by the extreme caution of the latter. As a politician, Decazes possesses neither the profound views of a Turgot, nor the eloquence of a De Serre. His speeches always contain some striking passages, but display neither that talent for debate, nor boldness of ideas and expression, for which De Serre was distinguished. Decazes is, however, a man of much talent, which is agreeably displayed in conversation, and of captivating manners. The merit of honest intentions and fidelity towards his king, cannot be denied him.

DECCAN, or the COUNTRY OF THE SOUTH; an extensive country of Hindostan, bounded N. by the Nerbuddah, and S. by the Kistnah, extending across the peninsula from sea to sea. During the reign of the great mogul Aurungzebe, i. e., in the latter half of the 17th century, this country was annexed to the kingdom of Delhi, and divided into six governments—Candeish, Amednagur, Beeder, Golconda, Bejapore and Berar. The capitals were Burhampour, Aurungabad, Hulberga, Bejapore and Hyderabad.

DECIM (*Latin*; ten); a word which is found in several compound and derivative words in English; as *December*, to *decimate*, *decimal* fractions, &c.

DECEMBER; the twelfth month of our year, from the Latin *decem*, ten, because, in the Roman year instituted by Romulus,

it constituted the tenth month, the year beginning with March. In December, the sun enters the tropic of Capricorn, and passes our winter solstice. This month was under the protection of Vesta.

DECENVIRS. (See *Appius Claudius*.)

DECIMAL ARITHMETIC; a kind of calculation in which no other fractions are used than tenths, hundredths, thousandths, &c., which are consequently called *decimal fractions*. Joh. Regiomontanus first made use of it in his Tables of the Sines. It affords great facilities in calculation. As, in our system of notation, the values of figures are determined by their places, so that the figure on the left is always of ten times more value than the next at the right hand; so in decimal fractions, which must be considered as an extension of the decimal system (described in the article *Notation*), the place of the numerator determines the value of the denominator of the fraction, which need not, therefore, be expressed. The integers are separated from the fractional numbers by a period, so that this period, placed between several numbers, is the characteristic sign of a decimal fraction. For instance, 5.36 is 5 whole numbers, 3 tenths and 6 hundredths, or 36 hundredths; 5.009 is 5 whole numbers and 9 thousandths. If the divisions of money and measures be in a decimal ratio, as is the case with those adopted during the French revolution, the ease of calculation is greatly increased, almost all operations being reduced to addition and subtraction.

DECIMAL MEASURE; the division of the unit of measure (whatever it be, as a foot, a rod, &c.) into ten equal parts. The quadrant of a circle has also been divided into ten equal parts. In this case, the tenth part of such a quadrant is called a *decimal degree*. The French mathematicians, however, call the hundredth part of such a quadrant a *decimal degree*, and the hundredth part of such a degree a *decimal minute*.

DECIMATE; to exact the tithe. The collection or the payment of the tithe is called *decimation*. In war, *decimation* signifies the selection of the tenth man of a corps, by lot, for punishment, as in case of revolt. It was early practised by the Romans. Sometimes every tenth man is executed; sometimes only one man of each company, the tenth in order, as was the case when the Saxons revolted against Blücher, before the battle of Waterloo.

DECIPHERING, ART OF; the art of discovering the contents of a writing in which secret characters are used (often

ciphers; hence the term *deciphering*). First, the vowels must be determined. This is done in the following way:—1. All the words of two letters are selected and written down together; then those words are selected which are divided at the end of a line, so that only two letters of the word remain, one of which must necessarily be a vowel. Then the five (or whatever may be the number of the vowels in a language) letters are taken which occur the most frequently. 2. It is necessary to see if some one of these five letters is contained in every word of the secret writing. If there is any word in which none of them is contained, the signs of the vowels are not yet all discovered, and it remains to make the attempt again. When the vowels are found, they must, 3. be distinguished from each other. For this purpose, it should be determined which vowel occurs most frequently in the language in which the manuscript is supposed to be written. In every language, particular rules for determining the vowels may be laid down. All the ordinary modes of deciphering fail in the case of those secret writings in which dictionaries are used as the basis, and whole words, and even short sentences, are denoted by single ciphers, and where, also, the order of the ciphers, 1, 2, 3, &c., does not correspond to the alphabetical arrangement of the words in the dictionary, but is made as irregular as possible, and *non-valeurs*, as they are called, are made use of; that is, ciphers without signification, which are intermixed with the *valeurs*, or those ciphers which supply the place of words. The old modes of secret writing have been almost entirely superseded, and the old modes of deciphering have been made almost entirely useless by the modern species of cryptography, in which, according to a simple rule, which may be communicated verbally and retained in memory, the signs for the letters may be continually changed. This is the *chiffre quarré*, or *chiffre indéchiffrable*, used, if not universally, yet by most courts. (See *Cryptography*.)

DECIVS MUS, Publius; a Roman consul, who, in a war against the Latins, B. C. 340, devoted himself to death for his country. His example was followed by his son and his grandson. Such acts of self-devotion (*devotiones*) were not unusual at that time, when patriotism and piety exerted a powerful influence, and were performed with great solemnity. He who devoted himself, after performing certain religious rites, rushed into the midst of the

enemy, clothed in splendid armor, to show his countrymen how a brave man ought to die for his country.—Decius was also the name of a Roman emperor, who reigned from A. D. 249 till December, 251. He persecuted the Christians, and perished, with his army, in a bloody battle in Mœsia against the Goths.

DECK. (See *Ship*.)

DECKER relates to the rate of a ship of force; as a two-decker, a three-decker; i.e. carrying two entire tiers or ranges of cannon, or three such tiers.

DECLINATION OF THE SUN, OF A STAR, OR A PLANET, is its distance from the equinoctial, northward or southward. When the sun is in the equinoctial, he has no declination, and enlightens half the globe from pole to pole. As he increases in north declination, he gradually shines farther over the north pole, and leaves the south pole in darkness. In a similar manner, when he has south declination, he shines over the south pole, and leaves the north pole in darkness. $23^{\circ} 28'$ is the sun's greatest declination north or south.

DECOMPOSITION, CHEMICAL, is the resolution of a compound substance into its constituent parts, which are exhibited either separate, or in some new combination. The compounds which are spontaneously formed by organic bodies, both vegetable and animal, are of a different nature from those which exist in unorganized matter. They are the peculiar results of vital processes, and neither their structure nor composition can be imitated by art. During life, the elements of organic bodies are held together by vital affinities, under the influence of which they were originally combined. But no sooner does life cease, than these elements become subject to the laws of inert matter. The original affinities, which had been modified or suspended during life, are brought into operation; the elementary atoms react upon each other, new combinations are formed, and the organized structure passes, sooner or later, into decay. The rapidity with which decomposition takes place in organic bodies depends upon the nature of the particular substance, and upon the circumstances under which it is placed. Temperature, moisture, and the presence of decomposing agents, greatly affect both the period and extent of this process. By regulating or preventing the operation of these causes, the duration of most substances may be prolonged, and many materials are rendered useful, which, if left to themselves, would be perishable and worthless.

The preservation of timber, of fibrous substances, of leather, of food, and of various objects of art, is a subject of the highest importance, and has received, at various times, much attention from scientific experimentalists.

Decoy, among fowlers; a place made for catching wild-fowl. A decoy is generally made where there is a large pond surrounded with wood, and beyond that a marshy and uncultivated country. If the piece of water is not thus surrounded, it will be subjected to noises and other accidents, which may be expected to frighten the wild-fowl from the haunt, where they would otherwise sleep in the day-time. If these noises or disturbances are wilful, it has been held that an action will lie against the disturber. As soon as the evening sets in, the decoy-birds rise, as the wild-fowl feed during the night. If the evening is still, the noise of their wings, during their flight, is heard at a very great distance, and is a pleasing, though rather melancholy sound.—*Decoy*, in military affairs; a stratagem to lure the enemy into an ambush, &c.

Decree, in general; an order, edict or law made by a superior, as a rule to govern inferiors. It is used for a judicial decision in the court of chancery; also for the edicts of ecclesiastical councils. In the civil law, it signified a determination or judgment of the emperor on a suit between parties. The compilation of the older papal decretals and the decrees of the councils, made by the monk Gratianus in the 11th century, is called the *Decretum Gratiani*. (See *Canon Law*.) In the former German empire, the resolutions of the emperor, declared to the estates of the empire, were called *decrees*.—The old name of royal orders, in France, was *ordonnances* or *lettres*. The national convention, while it possessed sovereign power, used the expression *La convention nationale décrète*. During the period of the directory, and under the consular government, the expressions *arrêt* and *arrêter* were customary; but the imperial government used the words *imperial decree*, for instance, in the famous decrees of Berlin and of Milan.

Decrepitation is the crackling noise, accompanied by a violent exfoliation of their particles, which is made by several salts and earthy compounds, on being suddenly exposed to heat. It appears to be referable to the same cause which occasions the cracking of glass and cast-iron vessels, when they are incautiously heated; viz., the unequal expansion of the *laminae*

which compose them, in consequence of their imperfect power of conducting heat.

Decrescendo; an Italian term in music, which denotes the gradual weakening of the sound.

Decretal; a general name for the papal decrees, comprehending the rescripts (answers to inquiries and petitions), decrees (judicial decisions by the *rota Romana*), mandates (official instructions for ecclesiastical officers, courts, &c.), edicts (papal ordinances in general), and general resolutions of the councils. The oldest collection was made by Isidore, archbishop of Seville (who died 636), which is yet extant in manuscript. An enlarged collection was made in the 9th century, probably on the Rhine (perhaps by Benedictus Levita). This contained many pieces which have since been shown to be spurious. In modern times, it has, therefore, been called the *pseudo-Isidorian collection*. In the *Corpus Juris Canonici*, the collection of decretals which Gregory IX (who died 1241) caused to be made by Raimond of Pennafort (officially published in 1234 at Paris, 1235 at Bologna), constitutes the second division, succeeding the decretum. It is divided into five books, and is quoted under the name *Extra*, because it contains the decretals not in the decretum. A sixth book of later decretals (*Liber sextus Decretalium*) was added, in 1298, by Boniface VIII. (See *Canon Law*.)

DEE; a river of Scotland, county of Aberdeen, which rises on the north side of the mountain Cairntoul, and runs into the German ocean, at the town of Aberdeen, after a direct course of 90 miles.

DEE; a river of Scotland, county of Kirkcudbright, which flows into the Solway frith.

DEE; a river of Ireland, which traverses the county of Louth, and runs into the bay of Dundalk.

DEED is a written contract, sealed and delivered. It must be written before the sealing and delivery, otherwise it is no deed; and, after it is once formally executed by the parties, nothing can be added or interlined; and, therefore, if a deed be sealed and delivered, with a blank left for the sum, which the obligee fills up after sealing and delivery, this will make the deed void. A deed must be made by parties capable of contracting, and upon a good consideration, and the subject matter must be legally and formally set out. The formal parts of a deed are, the premises, containing the number, names, additions and titles of the parties; the cove-

nants, which are clauses of agreement contained in the deed, whereby the contracting parties stipulate for the truth of certain facts, or bind themselves to the performance of some specific acts; the conclusion, which mentions the execution and date of the deed, or the time of its being given or executed, either expressly, or with reference to some day and year before mentioned. Every deed must be founded upon good and sufficient consideration; not upon an usurious contract, nor upon fraud or collusion, either to deceive *bona fide* purchasers, or just and lawful creditors; any of which considerations will vacate the deed, and subject the parties to forfeiture, and in some cases to imprisonment. A deed, also, without any consideration is void. A deed must be executed by the party himself, or by another for him in his presence, or with his direction; or, in his absence, by an agent authorized so to do by another deed, also under seal; and in every such case, the deed must be made and executed in the name of the principal. A deed takes effect only from the day of delivery; and therefore, if it have no date, or a date impossible, the delivery will, in all cases, ascertain the date of it; and if another party seal the deed, yet, if the party deliver it himself, he thereby adopts the sealing and signing, and, by such delivery, makes them both his own. The delivery of a deed may be alleged at any time after the date; but, unless it be sealed and regularly delivered, it is no deed. Another requisite of a deed is, that it be properly witnessed or attested: the attestation is, however, necessary rather for preserving the evidence, than as intrinsically essential to the validity of the instrument. There are four principles adopted by the courts of law for the exposition of deeds, viz., 1. that they be beneficial to the grantee, or person in whose favor they are intended to operate; 2. that where the words may be employed to some intent, they shall not be void; 3. that the words be construed according to the meaning of the parties, and the intent of the parties be carried into effect, provided such intent can possibly stand at law; 4. that they are to be expounded consonantly to the rules of law, and reasonably, without injury to the grantor, and to the greatest advantage of the grantee.

DEER (*cervus*). These beautiful and well known quadrupeds belong to the order *pecora*, or ruminating animals. They are distinguished from the antelopes (q. v.) by their horns, which are composed of a bony substance, caducous, or falling

off annually, and again renewed of a larger size than in the preceding year. These horns or antlers always exist on the head of the male, and sometimes on that of the female. In their first or young state, they are covered by a velvet-like membrane, through which the blood circulates with great freedom. At this time, the horn is extremely sensitive, the animal suffering much pain when it is roughly handled or struck. After the horn has attained its full growth, the base becomes surrounded with an irregular, tuberculous ring, called the *burr*, and the blood-vessels gradually contract and diminish, until they cease to convey blood to the velvet membrane, which then dries, loses its sensitiveness, and finally flakes off. The form of the horns is various. Sometimes they spread into broad palms, which send out sharp snags around their outer edges; sometimes they divide fantastically into branches, some of which project over the forehead, whilst others are reared upwards in the air, or they may be so reclined backwards, that the animal seems almost forced to carry his head in a stiff, erect posture. Yet they communicate an air of grandeur, seeming like trees planted on the head of a living animal. The various species of deer, as well as the antelopes, invariably remain in their original situations, when left to themselves. Two species are common to the north of the old and new continents; five belong to North America; four to America south of the equator; four to Europe and the continent of Asia; and fourteen to India, China and the Asiatic archipelagos. The writings of naturalists exhibit much confusion in relation to the North American species. This has arisen, in a great measure, from the loose manner in which species have been proposed on the authority of travellers, wholly incompetent to distinguish between mere varieties and those permanent characteristics indicative of specific constitution. The following are the only well authenticated species inhabiting this country; all the others, named as distinct, being mere varieties: moose (*C. alces*); reindeer (*C. tarandus*); American elk (*C. Canadensis*); common deer (*C. Virginianus*); black-tailed deer (*C. macrotis*); long-tailed deer (*C. leucurus*); Mexican deer (*C. Mexicanus*). It should be remarked, that few American quadrupeds have been found precisely similar to their European representatives, and that recent writers have doubted whether the moose and reindeer of this country are identical with those of Scandinavia. No

satisfactory comparisons of the animals from the two continents have yet been made, and hence the distinguishing characters, if any exist, are still unknown.—The *Moose*, or *Original* of the Canadians, is, perhaps, the only deer whose general appearance can be called ungraceful, or whose proportions, at first sight, impress the beholder unfavorably. Its large head terminates in a square muzzle, having the nostrils protruded over the sides of the mouth; the neck, which is furnished with a short, thick mane, is not longer than the head, which, in the males, is rendered still more cumbersome and unwieldy by large palmated horns; under the throat is an excrescence, from which issues a tuft of long hair; the body, which is short and thick, is mounted on tall legs, giving a very ungainly aspect to the animal, which is not diminished when it is in motion, as its gait is a sort of shambling trot, very efficient, however, from the great length of its limbs. The moose inhabits the northern parts of both continents. In America, it has been found as far north as the country has been explored; its southern range, at former periods, extended to the shores of the great lakes, and throughout the New England States. Du Pratz mentions that, in his time, they occurred on the Ohio. At present, however, they are seldom heard of to the south of the state of Maine, where, also, they are becoming scarce. But in Nova Scotia, around the bay of Fundy, and in the Hudson's bay company's possessions, they are found in considerable numbers. Their flesh is more relished by the Indians, and persons resident in the fur countries, than that of any other animal. It bears a greater resemblance, in its flavor, to beef than to venison. The large and gristly extremity of the nose is accounted an epicurean treat. Hearne states that the external fat is soft, like that of a breast of mutton, and, when put into a bladder, is as fine as marrow. In this it differs from all the other species of deer, of which the external fat is hard. The moose attains a large size, particularly the male, which sometimes weighs eleven or twelve hundred pounds. Their skins, when properly dressed, make a soft, thick, pliable leather, which the Indians prepare by scraping them to an equal thickness, and removing the hair: they are then smeared with the brains of the animal, until they feel soft and spongy; and, lastly, they are suspended over a fire made of rotten wood, until they are well impregnated with the smoke.—*Reindeer*. These animals inhabit the

arctic islands of Spitzbergen, and the northern extremity of the old continent, never having extended, according to Cuvier, to the southward of the Baltic. They have long been domesticated, and their appearance and habits are well described by naturalists. The American reindeer or caribou, are much less perfectly known: they have, however, so strong a resemblance, in form and manners, to the Lapland deer, that they have always been considered to be the same species, without the fact having ever been completely established. The American Indians have never profited by the docility of this animal, to aid them in transporting their families and property, though they annually destroy great numbers for their flesh and hides. There appear to be several varieties of this useful quadruped peculiar to the high northern regions of the American continent, which are ably described by doctor Richardson, one of the companions of captain Franklin in his hazardous attempt to reach the north pole by land. The closeness of the hair of the caribou, and the lightness of its skin when properly dressed, render it the most appropriate article for winter clothing in the high latitudes. The hoofs of the reindeer are very large, and spread greatly, and thus enable it to cross the yielding snows without sinking. During the summer months, this deer feeds upon every species of green herbage; but in winter, his whole food is the lichen or moss, which he instinctively seeks under the snow. It is a singular, but now a well established fact, that the reindeer will eat, with avidity, the lemming or mountain-rat, presenting one of the few instances of a ruminating animal being, in any degree, carnivorous. Reindeer have several times been transported to England and Scotland in large numbers, but they have invariably died, although they were attended by Laplanders, and could procure plenty of their natural food. Whether the failure arose, however, from a want of proper attention to the peculiar habits of the animal, or was the natural result of the tenacity with which the deer tribe adhere to their original geographical position as a law of nature, is a question not easy to be decided.—*American Elk*. This stately and beautiful animal was, until very recently, confounded with the moose, from its common English name being the same as that applied to the European moose. The size and appearance of the elk are very imposing; his air denotes confidence of great strength, whilst his towering horns

exhibit weapons capable of doing much injury. The elk, at one period, ranged over the greater part of this continent, and is still occasionally found in the remote and thinly settled parts of Pennsylvania; but the number is small. Doctor Richardson states that its northern range is about the 56th or 57th parallel of latitude. The elk has been sometimes domesticated to a certain degree; but, at the same time, from its warlike disposition, it is not likely that it could be advantageously substituted for the reindeer.—*Common Deer*. This well known quadruped is found throughout the country between Canada and the banks of the Orinoco. In various parts of this extensive range, it presents considerable varieties in size and color. Judging by the quantity of skins brought to our markets, we may form some idea of the aggregate number and productiveness of these animals, which, notwithstanding the extensive destruction of them, do not appear to be very rapidly diminishing, except in the immediate vicinities of very thickly peopled districts. The common deer is possessed of keen senses, especially of hearing and smelling: the sight, though good, does not appear to equal in power the senses just named. It is necessary for a hunter to approach a deer against the wind, otherwise he is discovered by the scent. The slightest noise, also, appears to excite its fears more than any other cause; while, on the contrary, the sight of unaccustomed objects seems rather to arouse curiosity than produce terror. The female commonly has one or two, and sometimes three, fawns at a birth, which are of a light cinnamon color, spotted with white. In the latter part of the summer, they lose the white spots, and in winter the hair grows longer and grayish: this is succeeded, in the following June, by a coat of a reddish color, which changes, in August, to a darkish blue, which again gradually assumes a gray tint. The skin is toughest in the red, thickest in the blue, and thinnest in the gray state. They shed their horns in February.—*Black-tailed Deer*. This species is peculiar to the country west of the Missouri, and in the neighborhood of the Rocky mountains. The first information of this fine animal was given by Lewis and Clarke, and it was afterwards fully described by Mr. Say. Its ears are of great length, equalling that of the head; its tail is terminated by a black tuft, whence its common name. From the form of its hoofs, which resemble those of the goat, it is enabled to live

among the rocky cliffs of the mountains. It does not run like the common deer, but bounds along, raising all its feet from the ground at the same time.—*Long-tailed Deer*. We owe the description of this animal to Mr. Douglass, who states that it is not found on the east side of the Rocky mountains, except in their immediate vicinity, but is the most common deer in the districts about the Columbia river. Its gait is two ambling steps and a bound exceeding twice the length of the steps. In running, the tail is erect, wagging from side to side, and, from its unusual length (13 to 17 inches), is the most remarkable characteristic about the animal. It goes in herds, from November to April and May, when the female secretes herself to bring forth. The young are spotted with white until the middle of the first winter, when they change to the same color as the most aged. This deer, however, approaches very near to the common species in all its characters, and may, eventually, prove to be only a variety.—*Mexican Deer*. Of this species very little is known, except that it inhabits Mexico and the adjoining countries. It may possibly be only a variety of the common deer, as the differences exist principally in the disposition of the antlers, which is an extremely fallacious guide in the discrimination of the different species of deer. The arrangement of the teeth of the deer is, incisors $\frac{2}{2}$, canine $\frac{2}{2}$ or $\frac{1}{1}$, molars $\frac{6}{6}$ = total, 32 or 34.

DE FACTO (*Latin*; in fact); a term used in contradistinction to *de jure* (by right). Thus, for instance, it is said don Miguel is *de facto* ruler of Portugal. In some cases, the distinction is clear enough, but very often not. Napoleon's government was called, by the English, *de facto*, and that of the Bourbons *de jure*; yet every body knows that Hugh Capet obtained possession of the crown of France by violence. When did his successors begin to rule *de jure*? Charles XIV is called, by many, the ruler of Sweden *de facto*, yet he was chosen king by the nation; and who can be more properly a ruler *de jure* than a king chosen by the nation? This consideration has led some politicians to assert that there is no government *de jure*, but only governments *de facto*, which may be better or worse. On the other hand, it is asserted that there is but one kind of government *de jure*; that is, such as receives its sanction and authority from the people who constitute the state.

DEFAMATION. (See *Slander*.)

DEFENDER OF THE FAITH (*Fidei Defen-*

sor); a title belonging to the king of England, as *Catholicus* to the king of Spain, *Christianissimus* to the king of France, *Apostolicus* to the king of Hungary, &c. Leo X bestowed the title of *Defender of the Faith* on Henry VIII on account of his memorable book against Luther; and the bull conferring it bears date *quinto idus Octob.* 1521. Clement VII confirmed the title. Chamberlayne says that the title was only renewed by Leo X; as *Apostolicus*, for instance, was renewed in the case of Maria Theresa, being, in fact, a very old title. (See *Apostolicus*.)

DEFFAND, Marie du; a French lady, distinguished alike for her talents and her intercourse with the literati of the last century. She was born in 1696, of a noble family, and received an education suitable to her rank. Her acquirements were very considerable, but no care seems to have been taken to regulate her temper and disposition, which were marked by a degree of selfishness which was conspicuous throughout her life. In 1718, she was married to J. B. J. du Deffand, marquis de la Lande, colonel of a regiment of dragoons. During the latter part of her long life, she became the centre of a literary coterie, which included some of the greatest geniuses of the age. Among the females remarkable for their wit and talents in the 18th century, madame du Deffand claims a distinguished place, though she left no monument of her abilities except her epistolary correspondence, which has been highly praised by her friend D'Alembert, as affording a model of style in that species of composition. She died in 1780, having reached the age of 84, during the last 30 years of which she had been afflicted with blindness. In 1810 was published *Correspondance inédite de Madame du Deffand avec d'Alembert, Montesquieu, le Président Hénault, la Duchesse du Maine; Mesdames de Choiseul, de Staël; le Marquis d'Argens, le Chevalier d'Aydie, &c.*, 3 vols. 8vo. Her letters to the celebrated Horace Walpole have likewise been printed.

DEFILE; a narrow way, admitting only a few persons abreast. The term is often erroneously confined to mountain passes. As they delay the march of troops, and expose them to the fire of the enemy, they must be avoided if possible, particularly by artillery and wagons. A defile is defended in different ways. When it is formed by heights (particularly if they are covered with wood), it is advisable to occupy the entrance, and station the troops *en masse* behind: when this is not the case, the best

way will be to render the passage as impracticable as possible, and to make a stand behind the outlet of the defile, so that the enemies advancing from it may be checked by an effectual fire, and prevented from developing themselves. A position before the defile, for the purpose of defending it, is only to be thought of when the passage of another division is to be covered. This method may be more or less varied in the defence of bridges. In passing a defile in sight of the enemy, after the usual precautions of patrols, &c., the van-guard must first march rapidly through, and take a position before the outlet, so as to cover the development of the succeeding masses, the preventing of which will be the object of the enemy. To defile is, therefore, to pass through a narrow passage. To march before any one with a narrow front, that is, *en colonne*, or by files, is also called *defiling*.

DEFINITION (from the Latin *definitio*) of a thing signifies, in lexicography, a concise account of its essential and characteristic points. A definition should embrace all the essential properties of the object intended to be defined, and not admit any which do not belong to it, which is often extremely difficult, on account of the shades and gradations by which different things are blended. A strictly accurate definition can be given of only a few objects. The most simple things are the least capable of definition, from the difficulty of finding terms more simple and intelligible than the one to be defined. Of course, every large dictionary abounds with definitions which explain nothing, since the thing defined cannot be made clearer by any definition. A good definition must give the mark of the genus (*nota generalis seu genus*) and of the species (*nota specialis seu differentia specifica*); for instance, a barn is a building (*nota generalis*) for the purpose of preserving corn, &c. (*nota specialis*). A definition may be analytic or synthetic.

DEFLAGRATION, and DEFLAGRATOR. (See *Galvanism*.)

DEFLECTION OF THE RAYS OF LIGHT is a property which doctor Hooke observed in 1674—5. He says he found it different from both reflection and refraction, and that it took place towards the surface of the opacous body perpendicularly. This is the same property which Newton calls *inflection*. It is called, by others, *diffraction*.

DEFOE, Daniel, a writer of great ingenuity and fertility, was born at London in 1663. His father's name was simply Foe.

He received his education at an academy at Newington Green, and he is not supposed to have attained to much classical acquirement. He commenced author at the age of 21, by a Treatise against the Turks, joined the insurrection of the duke of Monmouth, and had the good fortune to escape to London, where he engaged, first as a horse-factor, and then as a maker of bricks at Tilbury fort. His commercial speculations, however, failing, he became insolvent; and it is to his credit, that, having cleared his debts by a composition, he subsequently paid most of them in full, when his circumstances were amended. In 1697, he wrote an Essay on Projects. In 1701, appeared his satire, the True-born Englishman, the object of which was to show the folly of the popular objection to king William, as a foreigner, by a people who were themselves a mixture of so many races. In 1702, when the high church party seemed disposed to carry matters strongly against the Dissenters, he published the Shortest Way with the Dissenters, being an ironical recommendation of persecution, so gravely covered that many persons were deceived by it. It was, however, voted a seditious libel by the house of commons; and, the author avowing himself, to secure his printer and publisher, he was prosecuted to conviction, and sentenced to fine, imprisonment, and the pillory. He underwent the latter punishment with great equanimity, and was so far from being ashamed of it, that he wrote a Hymn to the Pillory, alluding to this circumstance. In February, 1703, while in Newgate, he commenced the Review, which is supposed to have given Steele the hint for his Tatler. He was at length liberated from Newgate by the interposition of Harley, and the queen herself sent money to his wife and family. In 1706, he published his largest poem, entitled *Jure Divino*, a satire on the doctrine of divine right. When the accession of the house of Hanover became an interesting topic, he wrote in its favor; but so obtuse was the public to his irony, that he was imprisoned for his productions as libels in favor of the pretender. The accession of George I produced him no further patronage, and he began another line of composition. In 1715, he published the Family Instructor, a work inculcating moral and religious duties in a lively manner, by narration and dialogue. To this work his well-known Religious Courtship, published in 1722, formed a third volume. In 1719, appeared the most popular of all his

performances—the Life and Surprising Adventures of Robinson Crusoe, the favorable reception of which was immediate and universal. It is unnecessary to dwell upon a work which every body has read, and which has been translated into all the languages of Europe; but it may be proper to mention, that the imputation of his founding it upon the papers of Alexander Selkirk, the Scottish mariner, left on the island of Juan Fernandez, appears to be altogether untrue. The success of Defoe in this performance induced him to write a number of other lives and adventures in character; as Moll Flanders, Captain Singleton, Roxalana, Duncan Campbell, and the Adventures of a Cavalier. In 1722, he published a Journal of the Plague in 1665, in the person of a citizen supposed to have been a witness of it. The natural manner in which it is written deceived the celebrated doctor Mead, who thought it genuine. In 1724, he published the Great Law of Subordination, and, in 1726, his Political History of the Devil, to which he afterwards added, in the same style of reasoning, wit and ridicule, a System of Magic. He is also author of a Tour through the Island of Great Britain, the Complete English Tradesman, a Plan of English Commerce, and various other productions. He died in April, 1731. A work has been lately published, called Memoirs of the Life and Times of Daniel Defoe, by Walter Wilson, three volumes, London, 1830.

DEFTERDAR, in the Turkish empire; the minister of the finances, and high-treasurer of the empire. He is different from the *kasnadar-baschi*, the treasurer of the sultan's private purse.

DEGERANDO. (See Gerando.)

DEGRADATION. The ecclesiastical censure, by which a clergyman is divested of his holy orders, is termed *degradation*. The ceremony consists chiefly in stripping off his clerical vestments. Geliot, in his *Indice armorial*, describes the degradation of Franget, a Gascon captain, for surrendering Fontarabia under Francis I. The accusation of treason was pronounced before 20 or 30 cavaliers. The culprit was armed at all points, and his shield, reversed, was suspended on a stake before him. By his side, twelve priests chanted the vigils of the dead. At the pause after each psalm, the officers stripped the knight of a piece of his armor, till he was quite bare. His shield was then broken into three pieces, and the king at arms poured a basin of hot water on his head. The criminal

was afterwards let down from the scaffold, by ropes under his arms, and, being placed on a bier, covered with grave-clothes, and preceded by a priest chanting a mass for the dead, was delivered to the civil judge and the executioner. His life, however, eventually was spared, since life, under such circumstances, was considered more bitter than death.

DEGREE, in algebra, a term applied to equations, to distinguish the highest power of the unknown quantity. Thus, if the index of that power be 3 or 4, the equation is respectively of the 3d or 4th degree.

DEGREE, in geometry or trigonometry, is the 360th part of the circumference of any circle; every circle being considered as divided into 360 parts, called degrees, which are marked by a small $^{\circ}$ near the top of the figure; thus, 45° is 45 degrees. The degree is subdivided into 60 smaller parts, called *minutes*; the minute into 60 others, called *seconds*; the second into 60 *thirds*, &c. Thus $45^{\circ} 12' 20''$ is 45 degrees, 12 minutes, 20 seconds. The magnitude or quantity of angles is estimated in degrees; for, because of the uniform curvature of a circle in all its parts, equal angles at the centre are subtended by equal

arcs, and by similar arcs in peripheries of different diameters; and an angle is said to be of so many degrees as are contained in the arc of any circle comprehended between the legs of the angle, and having the angular point for its centre. Thus we say "an angle of 90° ," or "of $45^{\circ} 24'$." It is also usual to say, "such a star is elevated so many degrees above the horizon," or "declines so many degrees from the equator;" or "such a town is situated in so many degrees of latitude or longitude." A sign of the ecliptic or zodiac contains 30 degrees.

Degree of Latitude is the space or distance, on the meridian, through which an observer must move to vary his latitude by one degree, or to increase or diminish the distance of a star from the zenith by one degree; and which, on the supposition of the perfect sphericity of the earth, is the 360th part of the meridian. The length of a degree of a meridian, or other great circle, on the surface of the earth, is variously determined by different observers, and the methods made use of are also various; and, therefore, without entering into the history of all attempts of this kind, we shall present our readers with the following

Table of the different Lengths of a Degree, as measured in various Parts of the Earth, the Time of its Measurement, the Latitude of its middle Point, &c.

Date.	Latitude.			Extent in English miles and decimals.	Measurers.	Countries.
1525	49°	$20\frac{1}{2}'$	N.	68.763	M. Fernel	France.
1620	52	4	N.	66.091	Snellius	Holland.
1635	53	15	N.	69.545	Norwood	England.
1644				75.066	Riccioli	Italy.
1669	49	22	N.	{ 68.945	Picard	France.
1718				{ 69.119	Cassini	
1737	66	20	N.	69.403	Maupertuis, &c. . .	Lapland.
1740	49	22	N.	69.121	Cassini and La Caille	France.
	45	00	N.	69.092		
				{ 68.751		
1744	0	0		{ 68.732	Juan and Ulloa	Peru.
				{ 68.713	Bouguer	
				{ 68.713	Condamine	
1752	33	$18\frac{1}{2}$	S.	69.076	La Caille	Cape of Good Hope.
1755	43	0	N.	68.998	Boscovich	Italy.
1764	44	41	N.	69.061	Beccaria	
1766	47	40	N.	69.142	Liesganig	Germany.
1768	39	12	N.	68.893	Mason and Dixon . .	U. States.
1802	51	$29\frac{1}{2}$	N.	69.146	Lieut.-col. Mudge . .	England.
1803	66	$20\frac{1}{2}$	N.	69.292	Swanberg, &c. . . .	Lapland.
1808	12	32	N.	68.743	Lambton	Mysore.
	44	$52\frac{1}{2}$	N.	68.769	Biot, Arago, &c. . .	France.

Ellipticities of the Earth, expressed in Parts of its equatorial Diameter.

Authors.	Ellipticities.	Principles.
Huyghens, . . .	$\frac{1}{579}$	Theory of gravity.
Newton,	$\frac{1}{230}$	
	$\frac{1}{314}$	Mensuration of arcs.
Maupertuis, &c.	$\frac{1}{129}$	
	$\frac{1}{213}$	
Swanberg, . . .	$\frac{1}{323.065}$	Rotatory motion.
Clairaut,	$\frac{1}{11.55}$	
	$\frac{1}{337}$	Vibrations of the pendulum.
Treisnoker, . .	$\frac{1}{329}$	Occultations of the fixed stars.
Laplace,	$\frac{1}{334}$	Precession, nutation, pendulum, theory of the moon, &c.
	$\frac{1}{306}$	

Degree of Longitude is the space between two meridians that make an angle of 1° with each other at the poles, the quantity or length of which is variable,

according to the latitude. The following table expresses the length of a degree of longitude in different latitudes, supposing the earth to possess a perfect sphericity :—

Deg. Lat.	English miles.	Deg. Lat.	English miles.	Deg. Lat.	English miles.	Deg. Lat.	English miles.	Deg. Lat.	English miles.
0	69.07	20	64.84	40	52.85	60	34.50	80	11.98
1	69.06	21	64.42	41	52.07	61	33.45	81	10.79
2	69.03	22	63.97	42	51.27	62	32.40	82	9.59
3	68.97	23	63.51	43	50.46	63	31.33	83	8.41
4	68.90	24	63.03	44	49.63	64	30.24	84	7.21
5	68.81	25	62.53	45	48.74	65	29.15	85	6.09
6	68.62	26	62.02	46	47.93	66	28.06	86	4.81
7	68.48	27	61.48	47	47.06	67	26.96	87	3.61
8	68.31	28	60.93	48	46.16	68	25.85	88	2.41
9	68.15	29	60.35	49	45.26	69	24.73	89	1.21
10	67.95	30	59.75	50	44.35	70	23.60	90	0.00
11	67.73	31	59.13	51	43.42	71	22.47	—	—
12	67.48	32	58.51	52	43.48	72	21.32	..	....
13	67.21	33	57.87	53	41.53	73	20.17	..	....
14	66.95	34	57.20	54	40.56	74	19.02	..	....
15	66.65	35	56.51	55	39.58	75	17.86	..	....
16	66.31	36	55.81	56	38.58	76	16.70	..	....
17	65.98	37	55.10	57	37.58	77	15.52	..	....
18	65.62	38	54.37	58	36.57	78	14.85	..	....
19	65.24	39	53.62	59	35.54	79	13.17	..	....

DEGREES, MEASUREMENT OF. After the immortal Newton had taught that the earth, on account of its motion round its axis, must be highest near the equator, and that the diameter of the equator must be longer, by one 230th part, than the diameter from pole to pole, the French wished to investigate the subject farther by actual measurement. Newton gave them warning that the difference between a degree at Bayonne and one at Dunkirk was so trifling that it could not be detected at all with the imperfect instruments then in use; and was, in fact, afraid that

they might come to a result directly opposite to what he conceived to be correct, and bring confusion into science. But his warnings were of no avail. The measurement was begun, and the fear of the great philosopher was realized; for the result was, that the axis of the poles was longer than a diameter of the equator, and that the earth was, in form, more like a lemon than an orange. For 40 years, disputes were maintained on this point, without settling the question; and, at last, the academy of sciences resolved, on the proposition of Condamine (q. v.), to

have a degree measured at the equator (the expedition went to South America in 1735), and one in Lapland (Kittis and Tornea being the extreme stations to which the expedition was sent in 1736). It was found that the northern degree was greater than that under the equator, and that Newton's conjecture was right. But the question still remained, How great is the flattening of our planet? The theory said, one 230th part, if the earth had been in a perfectly liquid state, when it began its rotation. The calculations, however, always gave different results, varying according to the different measurements adopted as the basis of them; for measurements had been made, not only in America and Lapland, but also in France, England, Hungary, and Italy. It was concluded, that the earth was not a regular body, but had great local inequalities. Though this was possible, yet the conclusion was too hasty, because these supposed inequalities might be caused by the insufficiency of the instruments, and by the smallness of the arcs measured. When the French established their new and admirable system of measures and weights upon the basis of the metre, which was to be the ten millionth part of the distance from the equator to the pole ($3\frac{1}{10} \cdot \frac{9}{10}$ English feet; see *Measures*), it was necessary to know, with accuracy, the circumference and the flattening of the earth. A measurement, therefore, took place in France, not of one degree, but of 10 degrees, from Dunkirk to Formentera. (See *Delambre*.) In Sweden, in 1802, the degree, which, 80 years before, had been measured by Maupertuis, was now measured again, with better instruments, and thus the circumference and flattening of the earth were pretty well ascertained. After the peace, the measurements of degrees, which were made in England, under general Roy, by lieutenant-colonel Mudge, were connected with those in France; and thus an arc of 20 degrees, from the Balearic islands, near the coast of Spain, over France and England, to the Orcades, has been measured, and the flattening of the earth has been determined as accurately as it can be done in Europe. The flattening has been found to be one 304th. In India, Lambton has begun the measurement of a degree. These measurements of degrees are among those enterprises which do mankind much honor, because they are not undertaken for the sake of immediate profit, nor of bare utility, but from an ardent desire of knowing the truth,

from the same deep thirst for knowledge, which has so often impelled men to explore the icy seas of the poles and the burning deserts of Africa. The history of such expeditions is better fitted to awaken a generous spirit in youth than the oft-repeated tale of conquest and bloodshed.

Measurement of a Degree of Longitude.

The degrees of longitude are largest under the equator, and diminish continually towards the pole. Under the equator, a degree of longitude contains 60 geographical, $69\frac{1}{2}$ statute miles. If the form of the earth is not entirely regular, the degrees of longitude on the same parallel of latitude cannot all be of the same length; and it has been proposed to investigate this by actual measurement. This task is, in the trigonometric part, as easy as the measurement of a degree of latitude; but in the astronomical part, it is 15 times more difficult. The difference of the longitude of two places is determined by the difference of the hour of the day, at the same point of time in the two; as a place, situated 15 degrees to the east of another, has noon a whole hour earlier. One hour, therefore, corresponds to 15 degrees, or $1042\frac{1}{2}$ statute miles under the equator, or 5,504,400 feet; a minute of time, to 91,740 feet, and a second of time, to 1529 feet. A mistake of a second of time, therefore, in calculating the longitude of two places, makes a corresponding error in space. To determine time, within two or three seconds, by means of rockets, at a distance of $1042\frac{1}{2}$ miles, is impossible; and, whilst the measurement of an arc, corresponding to this distance, trigonometrically, may be attended with an error to the amount of 200 feet, an astronomical measurement would leave an uncertainty of 2000 feet. The earlier measurements of the French were directed, in the North, by Maupertuis; in the South, by Bouguer. Detailed notices on the measurements of degrees are given by Delambre, in his *Astronomie*, iii, chap. 35. A popular description is given in the excellent work, *Anleitung zur Allgemeinen Kenntniss d. Erdkugel* (Introduction to a general Knowledge of the Globe, second edition, Berlin, 1803), by Bode. The latest information respecting this subject is given by captain Edward Sabine. He made observations with the pendulum, from lat. 13° S. to lat. 80° N. He calculates the flattening of the earth to be $\frac{1}{288.4}$; and if the measurements of Sabine, Kater, and the modern French ones by Biot, are connected, and the mean of the whole taken, the flattening will be

found to be $238\frac{1}{2}$.T. (See Sabine's *Account of Experiments to determine the Figure of the Earth, by Means of the Pendulum vibrating Seconds in different Latitudes*, London, 1825, 4to.)

DEGREE, in universities, denotes a distinction conferred on the students or members thereof, as a testimony of their proficiency in the arts or sciences, and entitling them to certain privileges. The degrees are much the same in all universities; but the laws thereof, and the previous discipline or exercise, differ. The degrees are, bachelor, master and doctor; instead of which last, in some foreign universities, is licentiate.

DEIDAMEA (*Deidameia*); daughter of Lycomedes: she bore Pyrrhus and Onites to Achilles, during his abode at Scyrus.

DEI GRATIA (*by the grace of God*); a formula which sovereigns add to their title. The expression is taken from an Epistle of the apostle Paul, and was used first by the clergy in the time of Constantine the Great. In the times of the Carlovingian race, the secular princes also assumed it. The high clergy of the Catholic church used it with an addition: "By the grace of God and the apostolic see."

DEIOTARUS, tetrarch of Galatia, received from the Roman senate the title of king of that province and Armenia Minor, on account of services rendered to the Romans in the Asiatic wars. In the civil war, he joined the party of Pompey. Cæsar took from him Armenia, obliged him to march with him against Pharnaces, and left him nothing but the title of royalty. He was accused of having plotted against the life of Cæsar, from which charge Cicero defended him in an oration yet extant. After the murder of Cæsar, he returned to his dominions, joined Brutus, and afterwards Augustus. He died, at an advanced age, 30 B. C.

DEIR; an Arabian word signifying *house*; as, Deir-el-Kamar, *the house of the moon*. It often occurs in geographical compounds.

DEISM (from the Latin *deus*), as a philosophical system; that which finds in God the cause of all things. It is, as such, opposed to *atheism*. In a religious point of view, it is used for the belief in natural religion, contradistinguished from the belief in revelation, and is considered, by many persons, almost equivalent to *atheism*, though this opinion can only be caused by ignorance. *Theism* has the same signification, and is derived from the Greek *θεός* (god). In India, there is a sect of pure deists, called Seiks.

DEJANIRA; daughter of Cæneus, king

of Calydon, a city of Ætolia; according to others, of Bacchus and Althæa, who, with her sister Gorgo, alone retained her form, when her other sisters were transformed, while mourning for their brother. She was betrothed to Acheloius, the god of the river of the same name, who, on her account, engaged in a combat with Hercules. Acheloius was overcome, and the maiden became the prize of the victor, who, on his return to his country, was stopped in his way by the river Evenus, which had overflowed its banks. In this emergency, the Centaur Nessus offered to take Dejanira across the river on his back. Hercules readily consented, and passed over the river first; but, when he had reached the opposite bank, he saw that the Centaur was attempting to offer her violence. Enraged at the sight, he pierced him with an arrow, which had been dipped in the blood of the hydra. Nessus, perceiving his death approaching, wished to be revenged, and gave to Dejanira his bloody tunic, telling her that, if her husband was unfaithful, she should persuade him to put this on, and it would reclaim him from his unlawful passion. The credulous Dejanira accepted the present. Hearing, subsequently, that Hercules was captivated by the charms of Iole, the daughter of Eurytus of Eubœa, she sent him the tunic of Nessus by a young slave, named Lichas, with the tenderest messages. Hercules joyfully accepted the fatal present, and hastened to make use of it; but was thrown into the most violent agony. In his fury, he hurled Lichas into the sea, where, by the compassion of the gods, he was changed into a rock. Then, having hewed down some trees on mount Ceta, and erected a funeral pile, he ascended the pile, and begged his friend Philoctetes to set fire to it. When Dejanira heard of the death of Hercules, she was so overcome by anguish, that she destroyed herself.

DEKEN, Agathe; a Dutch authoress, born in 1741, in the village of Amstelveen, near Amsterdam. She wrote Dutch novels and poems of merit; among others, *Liederen voor den Bærvenstand*. She died in 1804.

DELAMBRE; one of the most distinguished astronomers of our time, born at Amiens, in 1749; studied under the abbé Delille, who always remained his friend. He first applied himself to the languages, particularly most of the living ones, and made himself one of the best Hellenists in France. His studies were not directed to astronomy until his 36th year. He enriched the writings of Lalande with a commentary, and became the friend and

pupil of the author, who proudly called him his *best work*. In 1790, eight years after the discovery of Herschel, Delambre published the tables of that planet, although in that period, it had performed but a small part of its 80 years' course. He also constructed tables of Jupiter and Saturn, and of the satellites of Jupiter, which, with several treatises, procured him a reception into the national institute. He was engaged with Méchain, from 1792 till 1799, in measuring an arc of the meridian from Barcelona to Dunkirk for the verification of which he measured two bases of 6000 toises, one near Melun, the other near Perpignan. (See his *Base du Système Métrique décimal, ou Mesure de l'Arc du Méridien compris entre les Parallèles de Dunkerque et Barcelonne*, Paris, 3 vols., 4to.; and *Recueil d'Observat. Géodésiques faisant Suite au 3me vol. de la Base du Syst. Metr. rédigé par Biot et Arago*). He was made member of the *bureau des longitudes*. In 1802, Napoleon appointed him *inspecteur-général des études*, which post he resigned when chosen perpetual secretary of the class of mathematical sciences (1803). His first tables of the sun were published in 1792; in 1806, appeared his new ones. In 1807, he succeeded Lalande in the *collège de France*, and wrote his *Traité d'Astronomie théorique et pratique* (3 vols., 4to., 1814), *Histoire de l'Astronomie du moyen âge* (1819), *Hist. de l'Astron. moderne* (1821, 2 vols.) and *Hist. de l'Astron. du 18me. Siècle* (2 vols.); a collection of works such as no other nation can show. Delambre also distinguished himself, as perpetual secretary of the institute, by the justice and elegance of his *éloges*. He died in 1822.

DELAUVIGNE, Jean François Casimir; a dramatic poet, born in 1794, at Havre. He commenced his poetical career while a youth, by the dithyramb on the birth of the king of Rome (1811). His poem on the discovery of vaccination received, in 1814, the first of the secondary prizes from the French academy. He then applied himself to dramatic poetry, and published his first tragedy, *Les Vêpres Siciliennes* (1821), which was received with general applause; and has since written a second, *Le Paria*. The first piece, notwithstanding many faults in the plan and the delineation of most of the characters, displayed remarkable poetic genius: the vigorous sketch of the chief character, by which the whole action is animated, and his fine thoughts expressed in brilliant language, atone for many feeble passages and some false splendor. At the first

representation of this piece at the *Odéon* (1819), some verses against arbitrary governments and the insolence of ministers produced so much disturbance, that the police forbade the repetition of them; but they were still applauded, and this struggle between the police and the audience contributed not a little to give popularity to the production. In the second piece, the improvement of the poet is visible: he displays a great brilliancy of coloring, harmony of versification, and richness of ideas and images, though it is justly objected that he had not studied his subject profoundly, nor given it all the interest of which it is susceptible. In his elegies, *Les trois Messéniennes*, Delavigne bewailed the misfortunes of France. In 1819, followed two elegies *Sur la Vie et la Mort de Jeanne d'Arc*. His comedy *Les Comédiens*, 5 acts in verse, in the style of the *Métromanie*, is directed against the principles of the old French stage. His *Nouvelles Messéniennes* (1822) were produced by the Greek revolution. In 1823, his comedy *L'École des Vieillards* was received with general applause. In a new *Messénienne*, Delavigne expresses the grief of Europe at the death of lord Byron. It is in the 10th edition of his *Messéniennes et Poésies diverses* (Paris, 1824, 2 vols.). In 1824, Delavigne was made member of the French academy, and, in 1825, was offered a pension of 1200 francs from the civil list, which, however, as well as the cross of the legion of honor, he declined, that he might preserve his independence. (For his political correspondence with Lamartine, see *Lamartine*.)

DELAWARE; one of the United States, bounded N. by Pennsylvania, E. by Delaware river and bay, S. and W. by Maryland; lon. 74° 56' to 75° 40' W.; lat. 38° 29' to 39° 47' N.; 92 miles long, and 23 broad; square miles, 2120: population, in 1790, 59,094; in 1800, 64,272; in 1810, 72,674; in 1820, 72,749; white males, 27,904; white females, 27,377; free blacks, 12,958; slaves, 4509. It is divided into three counties, which are subdivided into 25 hundreds. Dover is the seat of government. Wilmington is the largest town. The other most considerable towns are Newcastle, Georgetown, Smyrna, Milford and Lewistown. Presbyterians are the most numerous denomination of Christians: there are, besides, a considerable number of Methodists. The legislature consists of a senate, chosen for three years, and a house of representatives, chosen annually on the first Tuesday in October. The governor is chosen by the people for

three years, but can hold the office only three years in six. The principal rivers besides the Delaware, which forms a part of the boundary, are Brandywine creek, Christiana creek, Duck creek, Mispillion creek, Indian river, Choptank and Nanticoke. Delaware is, next to Rhode Island, the smallest state in extent in the Union, and the least diversified in surface. The general aspect of the greater part is that of an extended plain, though the north-western part of the county of Newcastle is hilly or uneven. The heights of Christiana are lofty and commanding, and the hills of Brandywine are rough and stony; but in the lower country, there is very little diversity of level. The highest ridge between Delaware and Chesapeake bays passes through this state. On the summit of the ridge, there is a chain of swamps, from which a number of waters descend on the west to Chesapeake bay, and on the east to the river Delaware. Along the Delaware river, and for about 9 miles into the interior, the soil is generally a rich clay, which produces large timber, and is well adapted to the purposes of agriculture; but, between this tract and the swamps, the soil is light, sandy, and of an inferior quality. In the county of Newcastle, the soil is a strong clay; in Kent, it is mixed with sand; and in Sussex, the sand greatly predominates. The principal articles of produce are wheat, Indian corn, rye, barley, oats, flax, buck-wheat and potatoes. The county of Sussex contains some excellent grazing lands; and it exports great quantities of timber, obtained from Cypress swamp, on Indian river, which extends about 6 miles from E. to W., and nearly 12 from N. to S. The staple commodity is wheat, which is of a superior quality, and is highly esteemed for its uncommon softness and whiteness, and is preferred in foreign markets. Large establishments have been erected for manufacturing wheat into flour. Of these, the Brandywine mills, in the vicinity of Wilmington, are the most important. These are the finest collection of mills in the U. States, and are celebrated both for the excellence and the quantity of flour which they manufacture. Delaware contains very few minerals. In the county of Sussex, and among the branches of the Nanticoke, are large quantities of bog iron ore, well adapted for casting. Before the revolution, it was wrought to a great extent; but since that event, the business has declined.—Delaware was settled by the Swedes and Finns as early as 1627. The colony was formed under the auspices of

Gustavus Adolphus, king of Sweden, who named the country *Nova Suecia*. Hoar-kill (now *Lewistown*) was founded in 1630, but, the Dutch claiming the country, it passed under their power in 1655. In 1664, the colony on the Delaware fell, with other parts of New Amsterdam, into the hands of the English, and was granted by Charles II to his brother James, duke of York, who, in 1682, conveyed it, as far as cape Henlopen, to William Penn. In 1704, Delaware, though under the same proprietor, became a separate colonial establishment, and remained such until the revolution. Its constitution was formed in 1776. The Chesapeake and Delaware canal crosses this state. As a manufacturing state, Delaware holds a rank far above its relative extent and population. The works near Wilmington are extensive and highly valuable. As early as 1810, the value of the various manufactures exceeded \$1,733,000.

DELAWARE; a river of the U. States, which rises in Catskill mountains, in New York. In its course, it separates Pennsylvania from New York and New Jersey, and loses itself in Delaware bay, about 5 miles below Newcastle. It is navigable for a 74 gun ship to Philadelphia, 55 miles above the head of the bay, and about 120 from the ocean; for sloops to the head of the tide, at Trenton, 35 miles above Philadelphia; and for boats about 100 miles farther, though the boat navigation above Easton is very difficult. Its two most important tributaries are the Schuylkill and the Lehigh. The whole length, from its source to the bay, is about 300 miles. The principal towns on the Delaware, besides Philadelphia, are Easton and Bristol, Pa., Trenton, Bordentown and Burlington, N. J.

DELAWARE BAY; a large bay or arm of the sea, between the states of Delaware and New Jersey, formed by the mouth of the Delaware river and several other smaller ones. It is 65 miles long, and, in the centre, about 30 miles across, and about 18 at its mouth, from cape Henlopen, in lat. $38^{\circ} 47' N.$, lon. $75^{\circ} 6' W.$, to cape May, in lat. $38^{\circ} 57' N.$, lon. $74^{\circ} 52' W.$

DELAWARE BREAKWATER. The Delaware breakwater is situated at the entrance into the bay of Delaware, near cape Henlopen. The anchorage ground, or roadstead, is formed by a cove in the southern shore, directly west of the pitch of the cape and the seaward end of an extensive shoal called the *shears*; the tail of which makes out from the shore about

five miles up the bay, near the mouth of Broadkill creek, from whence it extends eastward, and terminates at a point about two miles to the northward of the shore at the cape. The breakwater consists of an insulated dike or wall of stone, the transversal section of which is a trapezium, the base resting on the bottom, whilst the summit line forms the top of the work. The other sides represent the inner and outer slopes of the work, that to the seaward being much greater than the other. The inward slope is 45 degrees; the top is horizontal, 22 feet in breadth, and raised $5\frac{1}{2}$ feet above the highest spring tide; the outward or sea slope is 39 feet in altitude, upon a base of $105\frac{1}{2}$ feet; both these dimensions being measured in relation to a horizontal plane passing by a point 27 feet below the lowest spring tide. The base bears to the altitude nearly the same ratio as similar lines in the profiles of the Cherbourg and Plymouth breakwaters. The opening or entrance from the ocean is 650 yards in width between the north point of the cape and the east end of the breakwater. At this entrance, the harbor will be accessible during all winds coming from the sea. The dike is formed in a straight line from E. S. E. to W. N. W.: 1200 yards is the length of this portion of the work, which is destined to serve the purposes of a breakwater. At the distance of 350 yards from the upper or western end of the breakwater (which space forms the upper entrance), a similar dike, of 500 yards in length, is projected in a direct line, W. by S. $\frac{1}{2}$ S., forming an angle of $146^{\circ} 15'$ with the breakwater. This work is designed more particularly as an ice-breaker. The whole length of the two dikes above described, which are now partly commenced, will be 1700 yards: they will contain, when finished, 900,000 cubic yards of stone, composed of pieces of basaltic rock and granite, weighing from a quarter of a ton to three tons and upwards. The depth of water, at low tide, is from four to six fathoms throughout the harbor, which will be formed by these works and the cove of the southern shore, and which is calculated to afford a perfect shelter over a space or water surface of seven tenths of a square mile. The great objects to be gained by the construction of an artificial harbor in this roadstead are, to shelter vessels from the action of waves caused by the winds blowing from the E. to the N. W., round by the N., and also to protect them against injuries arising from floating ice descending the bay from the N. W.

DELEGATE. (See *Delegation*.)

DELEGATES, COURT OF, is so called because the judges thereof are delegated, by the king's commission under the great seal, to hear and determine appeals in the three following cases:—1. Where a sentence is given in any ecclesiastical cause, by the archbishop, or his official; 2. when any sentence is given in any ecclesiastical cause, in the places exempt; 3. when a sentence is given in the admiral's court, in suits civil and marine, by order of the civil law. This commission is usually filled with lords spiritual and temporal, judges of the courts at Westminster, and doctors of the civil law.

DELEGATION; the investing with authority to act for another. Hence the name has been given to a body of persons thus deputed. Before the present constitution of the United States was adopted, the persons constituting the congress at Philadelphia were called *delegates*, and the body of representatives of a state in congress are still called the *delegation* of a state. In Maryland and Virginia, the most numerous branch of the state legislatures, which, in most of the other states, is called *house of representatives*, has the name of *house of delegates*. (See *Constitution*.) The name of *delegate* is also given to the representatives sent to the congress of the U. States from territories not yet formed into states. In Italy, branches of government are often called *delegazione*, and their members *delegati*. Thus there exist in the Lombardo-Venetian kingdom nine *delegazioni* for Lombardy, and eight for the Venetian part of the government, consisting of one *delegato*, a *vice-delegato*, and an adjunct.—In the civil law, *delegation* is that act by which a debtor transfers to another person the duty to pay, or a creditor transfers to another person the right to receive payment.

DELFT; the name of some celebrated Dutch painters, particularly of James (born 1619, died 1661) and William Delft (towards the end of the sixteenth century). Both were born at Delft, were portrait painters, and relations to the celebrated Mirevelt, also a native of this town.

DELFT; a considerable town of South Holland, between Rotterdam and Leyden, traversed by a canal which communicates with the Maese. Delft is tolerably well built, but dark; most of the streets are divided by narrow, stagnant canals, except in the centre of the town, where there are two spacious streets, with broad canals bordered with trees. The front of the stadthouse is extensive and curious, and

the interior contains some valuable paintings. In the old church are the monuments of the admirals Van Tromp and Pieter Heyn. Not far from it is the building where William I of Orange was murdered, in 1584. In the new church, which has a celebrated set of chiming bells, is the splendid monument erected in his honor, and, also, the monument of Hugo Grotius, who was born in Delft. The town has 13,000 inhabitants, and contains an artillery and engineer school. The manufacture of a kind of earthen ware called *Delft-ware*, in this place, is important. Here likewise are made several kinds of fine cloth and carpets. Butter, and, next to it, beer, are the principal objects of the wholesale trade; tobacco-pipes, also, are made in great quantities. 9 miles N. W. Rotterdam.

DELFTSHAVEN; a small, fortified town of Holland, on the Maese; population, 2700; 2 miles S. W. Rotterdam.

DELFT-WARE is a kind of pottery covered with an enamel or white glazing, which gives it the appearance and neatness of porcelain. Some kinds of this enamelled pottery differ much from others, either in sustaining sudden heat without breaking, or in the beauty and regularity of their forms, of their enamel, and of the painting with which they are ornamented. In general, the fine and beautiful enamelled ware, which approaches the nearest to porcelain in external appearance, is that which least resists a brisk fire. Again, those which sustain a sudden heat are coarse, and resemble common pottery. This kind of ware has its name from Delft, in Holland, where it is made in large quantities.

DELHI; a province of Hindostan; bounded N. W. by Lahore, N. by the Himalah mountains, which separate it from Thibet, E. by Kemaoon and Oude, S. by Agra, and W. by Agimere and Moulton; lying chiefly between lat. 28° and 31° N.; about 250 miles long, and 180 broad; population estimated at about 5,000,000—Hindoos, Mohammedans, and Seiks. The chief towns are Delhi, Sehaunpour, Sirhind, Tanaser, and Anop-sheer. The principal rivers are the Ganges and Jumnah. A great part of it is sterile for want of water. It was formerly much more wealthy and populous than at present. Having been the seat of various wars, it has been miserably laid waste, and in some parts almost depopulated. The most fertile parts yield good pasture, wheat, barley, and sugar-cane. The part east of the Jumnah, with a con-

siderable district round the city of Delhi, belongs, in fact, to the British; but its revenues are allotted to support the family and establishments of the emperor, or great mogul, now reduced to the humiliating state of dependence on a foreign power. The southern part is possessed by native chiefs in alliance with the British. The country north-west of the Jumnah, and south of the Setledge, is occupied by a number of petty Seik chiefs.

DELHI; a city of Hindostan; capital of the province of Delhi, and for many years of Hindostan; on the Jumnah; 92° N. N. W. Agra, 300 N. W. Allahabad; lon. 77° 9' E.; lat. 28° 43' N.; population variously estimated, from 100 to 200,000. The ancient name was *Indraput*, *Inderput*, or *Inderprest*; the Mohammedan name is *Shah-jehanabad*. It was for a long time the capital of Hindostan, the seat of the great mogul, the boast of India; and, during the era of its splendor, is said to have occupied a site 20 miles in length, and the ruins now cover nearly as great a space. It was taken, in 1193, by the Mohammedans, under Cuttubaddeen Khan, who fixed his residence here; and, on his succeeding to the throne, it became the capital of Hindostan. In 1398, it was taken, pillaged, and reduced to a heap of ruins, by Tamerlane. It afterwards partially recovered, till towards the end of the 16th century, when Akbar transferred the seat of royalty to Agra. In 1631, the emperor Shah Jehan founded the new city of Delhi, on the west bank of the Jumnah, near the ruins of the old city, and gave it the name of *Shah-jehanabad*. During the reign of Aurengzebe, the third son of Shah Jehan, the revenue of the city amounted to £3,813,594, and its population was computed at 2,000,000—probably an exaggeration. It continued to increase in splendor and importance till the invasion of Nadir Shah, in 1739, when 100,000 inhabitants were massacred, and £62,000,000 sterling of plunder are said to have been collected. It was again pillaged and depopulated in 1756, 1759, and 1760, by Ahmed Abdallah. Since 1803, it has been in reality subject to the British government, though still the residence of the emperor or great mogul, who has a nominal authority, but is virtually dependent on the British. Modern Delhi contains the remains of many splendid palaces, and is adorned with many beautiful mosques, still in good repair, the most remarkable of which is called *Jumnah Musjeed*. This mosque is 261 feet long, the whole front faced with white marble, surrounded at top with three

magnificent domes of white marble, flanked by two minarets. The city has two spacious streets, leading from the palace to the principal gates, and many good houses built of brick. "The inhabited part of Delhi," says bishop Heber, in his Narrative, "is about seven miles in circuit, seated on a rocky range of hills, and surrounded by an embattled wall, which the English government have put into repair. The houses are many of them large and high. There are a great number of mosques, with high minarets and gilded domes, and above all are seen the palace, a very high and extensive cluster of Gothic towers and battlements, and the Jumnah Musjeed, the largest and handsomest place of Mussulman worship in India. The chief material of all these fine buildings is red granite, inlaid, in some of the ornamental parts, with white marble; and the general style of building is of a simple and impressive character." Most of the streets are narrow and irregular, and the houses built without order, of brick, mud, bamboos and mats, generally covered with thatch, resembling a motley group of villages, rather than an extensive town. The bazars are but indifferently furnished. Cotton cloths and indigo are manufactured in the town and neighborhood. In the vicinity, on the banks of the Jumnah, corn, rice, millet and indigo are principally cultivated. The Baptists have a missionary here.

DELILLE, Jacques (also *Delisle, de Lille*); the most distinguished of the French didactic poets of modern times; born in 1738, at Aigueperse, in Auvergne. His name after the revolution was Montanier-Delille. He resembled Pope (who was his model) in personal deformity, as well as in exquisite versification. In the college of Lisieux, at Paris, he distinguished himself by his precocious talents; and in the college of Amiens, he began his metrical translation of Virgil's *Georgics*. He had translated this work by the end of his 23d year, but spent many years in retouching it. It was published in 1770, with a *Discours préliminaire*, and numerous annotations, which gave him also an honorable place among the French prose writers. Notwithstanding the jealousy of his rivals, Delille was invited to Paris, and was made professor at the *collège de la Marche*, and afterwards at the *collège de France*; and his translations were ranked by the French among their classics. Delille translated, also, the *Æneid* of Virgil (1803), and was received, in his 37th year, into the academy. Before this time, he

had produced his didactic poem, *Les Jardins, ou l'Art d'embellir les Paysages* (Paris, 1782), in four cantos. This was considered the best didactic poem in the French language, though inferior to his translation of Virgil. Delille received the lower ordinations, to be enabled to hold a benefice, from which, together with his salaries as professor, and member of the academy, and his own fortune, he derived, before the revolution, an annual income of 30,000 livres, of which he preserved, at a later period, only 600. He was also made a member of the national institute. Though an adherent of the old system, Robespierre spared him on every occasion. At his request, Delille wrote, in twenty-four hours, the *Dithyrambe sur l'Immortalité de l'Âme*, to be sung on the occasion of the public acknowledgment of the Deity. This performance made an impression even on the members of the committee of safety, but was not sung. In 1794, he withdrew from Paris, and gave himself up to the sublime scenery of the Vosges, to meditations on the destiny of man, and on the laws of poetry. In Switzerland, he finished his *Homme des Champs*, a didactic poem on the charms of rural life, called also *Georgiques Françaises*, which may be considered as a moral sequel to Virgil's *Georgics*. Delille labored on it for twenty years, principally during the reign of terror, in the vales of the Vosges, in 1794 and 1795; hence the deep melancholy of many passages. The sufferings of his country produced *Le Malheur et la Pitié*, four cantos (Lond. 1803), full of lovely and touching pictures, in harmonious verse. At London, he married (1802) mademoiselle Vaudchamps, for a long time the companion of his travels. Here he translated, in 15 months, Milton's *Paradise Lost*, perhaps the most poetical of all his works; but the exertion brought on a stroke of the apoplexy. After his return to France, he wrote his *Trois Règnes de la Nature*, and the admired poem *La Conversation*, a subject of which he was master. Its poetical character is the same as that of his other works. Lively feeling, richness of conception, animated descriptions, purity and great elegance of expression, harmonious and easy versification, are its chief excellences. Bouterwek justly remarks, "A didactic work, like Delille's elegant *Homme des Champs*, may have many charms of diction, without being a poem." Delille composed in his head, without writing, even the 30,000 verses of his translation of the *Æneid*, and, like Tasso, trusted them with more confidence

to his memory than to his tablets. But his bodily vigor diminished, as his mental powers increased. He grew blind, and died the first of May, 1813. In a poem not committed to paper, he had sung of old age, and his approaching death; of the vanities of the present, and the happiness of the future life. He was universally lamented, on account of his amiable character, as well as of his talents. After his death appeared *Le Départ d'Eden* (Paris).

DELISLE, or DE L'ISLE, Guillaume; a geographer, born at Paris, in 1675. He was instructed by Cassini, and soon conceived the idea of reforming the whole system of geography. He published, in his 25th year, a map of the world, maps of Europe, Asia and Africa, a celestial and terrestrial globe of a foot in diameter. By rejecting Ptolemy's statements of longitude, or rather by comparing them with the astronomical observations and the statements of modern travellers, he founded the modern system of geography. The number of his geographical maps of the old and new world amounts to 100. His last edition of his map of the world was published in 1724. These maps are valuable even at the present day. His brother Joseph Nicolas, born, in 1688, at Paris, devoted himself in his earliest youth to astronomy, under the direction of Lieutaud and Cassini, and was admitted into the academy of sciences. His observations on the transit of Mercury over the sun, in 1723, and of the eclipse of the sun, in 1724, increased his reputation. The empress Catharine I invited him to Petersburg, to establish a school for astronomy, to which the fame of Delisle soon gave celebrity. His leisure time was employed in travelling, for the purpose of making interesting collections in natural science and geography. On his return, his collections were purchased by the king, and Delisle himself was appointed inspector of them. He continued his observations till his death, in 1768. Among his pupils were Lalande and Messier. His most important geographical work, *Mémoires sur les nouvelles Découvertes au Nord de la Mer du Sud* (1752), contains the results of the Russian voyages to discover a passage from the Pacific ocean into the waters north of America. His *Mémoires pour servir à l'Histoire et aux Progrès de l'Astronomie, de la Géographie et de la Physique* (1738) remain unfinished. His *Avertissement aux Astronomes sur l'Éclipse annulaire du Soleil que l'on attend le 25 Juin, 1748*, gives a complete history of all annular eclipses of the sun.

DELLA MARIA, Dominique, a French composer, descended from an Italian family, was born at Marseilles, in 1778, composed, in his 18th year, an opera which was performed, with applause, in his native city, and went afterwards to Italy, where he enjoyed the instruction of several great masters, particularly of Paisiello, and composed six comic operas, of which *Il Maestro di Cappella* is the most distinguished. After his return to Paris, his opera *Le Prisonnier* increased his reputation, and the airs of his *Opéra Comique* became national favorites. In his works, the song is easy and agreeable, the style pure and elegant, the expression natural, the accompaniment easy, original, and pleasing. He played with extraordinary skill on the piano and the violoncello. He died in his 29th year (1806).

DELOLME, John Louis, born at Geneva, 1740 (according to some, in 1745), was a lawyer in his native city, and the part which he took in its internal commotions by a work entitled *Examen des trois Points de Droit*, obliged him to repair to England, where he passed some years in great indigence. He wrote for journals, frequented low taverns, was devoted to gaming and pleasure, and lived in such obscurity, that, when he became known by his work on the English Constitution, and some people of distinction were desirous of relieving him, it was impossible to discover his place of residence. His pride was gratified by this kind of low independence, and he rejected all assistance, excepting some aid from the literary fund, to enable him to return to his country. This was probably in 1775, since, from that time, he calls himself member of the council of the two hundred in Geneva. Among his peculiarities was this, that, although principally occupied with political law, he was never present at a session of parliament. At the time of his arrival in England, aristocratical arrogance and turbulence had reached its highest pitch in Sweden and Poland, and it was feared, not without reason, in England, that the same evils threatened that country. Delolme entered into an investigation of this subject. Hence originated his famous work, *Constitution de l'Angleterre, ou État du Gouvernement Anglais comparé avec la Forme républicaine et avec les autres Monarchies de l'Europe* (Amsterdam, 1771); and a work in English, called *A Parallel between the English Government and the former Government of Sweden* (London, 1772). In both, his principal object was to illustrate the excellence and sta-

bility of the English constitution. Its character of a spirited eulogium is undoubtedly the reason that the first politicians of England, lord Chatham, the marquis of Camden, and the author of the celebrated Letters of Junius, spoke so highly of this work of a foreigner. It is not a complete system of the political law of England, and has been reproached as being superficial; but it contains much ingenious reflection on the English constitution, on the energy arising from a happy union of royal power with popular liberty, and particularly on the value of an independent judiciary and the freedom of the press, subjected to penal laws, but not to a censorship. This work, translated by the author himself into English, in 1772 (fourth English edition, 1784, with observations by doctor Charles Coote), is still considered, in England, one of the most ingenious works on the English constitution. Delolme also published, in English, his History of the Flagellants, or Memorials of human Superstition (1783, in quarto); An Essay on the Union with Scotland (London, 1796, 4to.). On the occasion of the will of Mr. Thellusson, he wrote his Observations on the Power of Individuals to prescribe, by testamentary Dispositions, the particular future Uses to be made of their Property (London, 1798, 4to.). He died in July, 1806, at a village in Switzerland.

DELOLME, Marion, born in 1612, at Chalons, in Champagne, was the mistress of the seditious Cinq-Mars. (See *Richelieu*, Cardinal.) Even before the death of her lover, she formed new connexions, and her house was the rendezvous of the young courtiers. She permitted herself, in 1650, to be involved in the affair of the discontented princes. She escaped arrest only by a real or pretended sickness, and soon afterwards spread a report of her own death. She is said to have seen her own funeral from a window. She then went to England, married a rich lord, and, while returning, a widow, with a large fortune, was attacked by robbers, and forced to marry their captain. After becoming a widow a second time, she married a man named Lebrun, in the Franche-Comté, with whom she afterwards went to Paris, where, after the death of her friend, the famous Ninon de l'Enclos, she died in 1706, in great indigence. La Borde, in the appendix to the Letters of Ninon, which he published (Paris, 1816, 3 vols.), has related the adventurous life of Marion.

DELOS; the central island of the Cyclo-

des, in the *Ægean* sea, the birth-place of Apollo, and of Diana. Delos, according to the poets, was once a naked rock, floating about in the ocean, and was accidentally driven by the waves into the centre of the Cyclades. The earth had promised Juno, with an oath, not to grant a resting-place to the fugitive Latona (q. v.), where she might be delivered. The unhappy woman wandered restlessly over the earth, until she perceived the floating island. As this was not stationary, it was not comprehended in the oath of the earth, and offered her an asylum. She vowed to build a temple on its rocks, to which all nations should bring offerings. On the rude cliffs, under a shadowing tree, Latona bore the infant gods Apollo (who was hence called *Delios*) and Diana (who was called *Delia*). Both were, in after times, particularly worshipped on the island. Delos was thenceforward no longer the sport of the winds; from the foundation of the earth arose columns which supported it, and the fame of the isle spread over the world. Thus far mythological tradition.—At first, the island had kings of its own, who also held the sacerdotal office. In the course of time, it came under the dominion of Athens. Nothing was tolerated upon it, which bore the traces of death or war. The dead were buried in the adjacent island Rhenea. After the destruction of Corinth, the rich Corinthians fled hither, and made Delos the seat of a flourishing commerce. The greatest curiosity of the island was the temple and oracle of Apollo. The temple, founded by Erisichthon, son of Cecrops, and embellished successively by different states of Greece, was built of Parian marble, and contained, besides the beautiful statue of the god, a remarkable altar, from which the *Delian problem*, as it is called, had its name. The inhabitants, having consulted the oracle concerning the remedy of a plague which raged in Delos, were ordered to double the altar of Apollo, which was a cube. This famous geometrical problem of the duplication of the cube was solved in different ways, by several of the ancient mathematicians and philosophers. The oracles which Apollo uttered here were thought the most intelligible and sure. They were delivered only in summer; in winter, Apollo gave his responses in Patara, in Lycia. The Grecians celebrated the Delian festival here every five years; and the Athenians performed annually the beautiful pilgrimage, called *theoria*, with processions and dances. Delos was held to be a place of so great a

sanctity, that the Persians, when they made war against Greece, and had sent to Delos a navy of a thousand sail, out of reverence to the patron deities, forbore attacking the island. Delos was celebrated, in ancient times, for the number and the excellence of its artists, and the school which it founded. Pliny says that its bronze was excellent, and much esteemed. It was also celebrated for the fineness of its silver, which the Delians used with great skill and taste, in the formation of various utensils, vessels, statues of their gods, of heroes, animals. The statue of Jupiter Tonans, in the Capitol, was of Delian bronze. Cicero, in his oration for Roscius, has many eulogiums upon the fine vases of Delos and Corinth. The temple of Apollo, at Delos, was one of the most celebrated of its time in all Greece. Delos, now called *Ilegi*, is uninhabited, or is only the haunt of pirates; but splendid ruins of its former magnificence yet exist.

DELPHI, the seat of the most famous oracle of ancient Greece, was situated in Phocis, on the southern side of Parnassus. Apollo, according to fable, having killed the serpent Python (some call it *Delphine*), and determining to build his sanctuary here, perceived a merchant-vessel from Crete sailing by. He immediately leaped into the sea, in the form of an immense dolphin (hence he is called *Delphin*), took possession of the vessel, and forced it to pass by Pylos, and to enter the harbor of Crissa. After the Cretans had landed, he assumed the figure of a beautiful youth, and told them that they must not return to their country, but should serve as priests in his temple. Inspired, and singing hymns, the Cretans followed the god to his sanctuary, on the rocky declivity of Parnassus; but, discouraged by the sterility of the country, they implored Apollo to save them from famine and poverty. The god, smiling, declared to them the advantage which they would derive from serving as his priests. They then built Delphi, calling the city at first *Pytho*, from the serpent which Apollo had killed at this place. The oracles were delivered from a cave, called *Pythium*. Tradition ascribes its discovery to a shepherd, who pastured his flocks at the foot of Parnassus, and was filled with prophetic inspiration by the intoxicating vapor which arose from it. Over the cave, which was contained in a temple, was placed the holy tripod, upon which the priestess, called *Pythia*, by whose mouth Apollo was to speak, received the vapors ascending from beneath, and with them the

inspiration of the Delphian god, and proclaimed the oracles (hence the proverb, to speak *ex tripode*, used of obscure sentences, dogmatically pronounced). After having first bathed herself, and particularly her hair, in the neighboring fountain of Castalia, and crowned her head with laurel, she seated herself on the tripod, which was also crowned with a wreath of the same; then, shaking the laurel tree, and eating perhaps some leaves of it, she was seized with a fit of enthusiasm. Her face changed color, a shudder ran through her limbs, and cries and long protracted groans issued from her mouth. This excitement soon increased to fury. Her eyes sparkled, her mouth foamed, her hair stood on end, and, almost suffocated by the ascending vapor, the priests were obliged to retain the struggling priestess on her seat by force; when she began, with dreadful howlings, to pour forth detached words, which the priests collected with care, arranged them, and delivered them in writing to the inquirer. At first, the answers were given in verse, but in later times, the authority of the oracle being diminished, they contented themselves with delivering them in prose. This oracle was always obscure and ambiguous; yet it served, in earlier times, in the hands of the priests, to regulate and uphold the political, civil and religious relations of Greece. It enjoyed the reputation of infallibility for a long time; for the Dorians, the first inhabitants of the place, who soon settled in all parts of Greece, spread an unbounded reverence for it. At first, only one month in the year was assigned for the delivery of oracles; afterwards, one day in each month; but none who asked the god for counsel dared approach him without gifts. Hence the splendid temple possessed immense treasures, and the city was adorned with numerous statues and other works of art, the offerings of gratitude. Delphi was at the same time the bank, in which the rich deposited their treasures, under the protection of Apollo, though this did not prevent it from being repeatedly plundered by the Greeks and barbarians. The ancients believed Delphi to be the centre of the earth: this, they said, was determined by Jupiter, who let loose two eagles, the one from the east and the other from the west, which met here. The tomb of Neoptolemus (or Pyrrhus), the son of Achilles, who was killed here by Orestes, was also at Delphi. Not far from the tomb was the famous Lesche, adorned by Polygnotus with the history of the Trojan

war. (See *Polygnotus*.) In the plain between Delphi and Cirrha, the Pythian games (q. v.) were celebrated, in the month Targelion. These national games, and the protection of the Amphictyons, gave Delphi a lasting splendor. It is now a village called *Castri*.

DELPHINI, IN USUM. (See *Dauphin*.)

DELTA; Δ , a Greek letter, answering to D. The resemblance of the island formed by the alluvion, between the two mouths of the Nile, to a Δ , is the reason why it was called by the Greeks *Delta*. It contained Saïs, Pelusium, and Alexandria. It was divided into the great and small Delta. Islands at the mouths of other rivers, shaped like a Δ , have the same name: thus we speak of the *Delta* of the Mississippi.

DELUC, Jean André, a geologist and meteorologist, born in 1726, at Geneva, where his father was a watch-maker, passed his whole life in geological investigations, for the sake of which he made numerous journeys. He enriched science with very important discoveries. His theories and hypotheses, which he endeavored to accommodate to the historical accounts contained in the Holy Scriptures, have met with violent opponents. (See *Geology*.) He passed some time in England, as reader to the queen, and died in 1817, at Windsor. Among his numerous writings are his *Recherches sur les Modifications de l'Atmosphère* (Geneva, 1772, 2 vols. 4to.); *Nouvelles Idées sur la Météorologie* (London, 1786, 2 vols.); and his *Traité élémentaire de Géologie* (Paris, 1810, 8vo.).

DELUGE (from the Latin *diluvies*, *diluvium*, from *diluere*, to wash away); the universal inundation, which, according to the Mosaic history, took place to punish the great iniquity of mankind. It was produced, according to Genesis, by a rain of forty days, and a breaking up of "the fountains of the great deep," and covered the earth fifteen cubits above the tops of the highest mountains, and killed every living creature, except Noah, with his family, and the animals which entered the ark, by the command of God. After the flood had prevailed upon the earth a hundred and fifty days, and had decreased for an equal time, making its whole duration somewhat less than a year, Noah became convinced that the land had again emerged, by the return of a dove with an olive-branch, and landed on mount Ararat, in Armenia. The time when this chastisement took place was, according to the common computation, in the 1656th year of the world; according to Petavius, 2327

B. C.; according to Müller, 3547 B. C. Many other nations mention, in the mythological part of their history, inundations, which, in their essential particulars, agree with the scriptural account of Noah's preservation. Hence many persons have inferred the universality of this inundation. Fohi in the Chinese mythology, Sottivrata or Satyavrata in the Indian, Xisuthrus in the Chaldaean, Ogyges and Deucalion in the Greek, have each been recognised by many as the Noah of the Sacred Scriptures, under a different name. Even the American Indians have a tradition of a similar deluge, and a renewal of the human race from the family of one individual. All these individuals are said by their respective nations to have been saved, and to have become a second father of mankind. The many skeletons, also, found petrified on the tops, or in the interior of mountains, the remains of animals of hot climates in countries now cold, have been alleged as confirmations of a universal revolution on our planet, occasioned by the violent action of water, as the Mosaic relation states it to have been. On the other hand, *rationalists* and deists have objected, that such a general destruction of mankind, by which the innocent must have been punished like the guilty, is unworthy of the justice of God, the Father of his creatures; that the great advancement of civilization, and large population which history shows to have existed a few years after Noah, is inconsistent with such a general inundation; and that all the information which we have of it was written down at least 1000 years after it took place, so as to leave the universality of the flood a matter of great doubt.—An interesting work on this subject has been lately published, entitled *Ueber den Mythos der Sündfluth* (2d edition, Berlin, 1819, by Buttmann). This subject is of great interest, whether considered in connexion with sacred history and theology, with civil history, or with natural history. The works treating of it are far too numerous to be mentioned here.

DEMARARA, or DEMERARY; a province of English Guiana, which derives its name from the river Demarara or Demerary. (q. v.) It originally belonged to the Dutch, and was ceded to Great Britain in 1814. It extends about 100 miles along the coast, lying on the east of Essequibo, and on the west of Berbice. The soil is very fertile, producing abundant crops of sugar, coffee, cotton, rice, &c. The climate resembles that of South Carolina. For 20 miles up the river, the country consists of extensive

meadows, and is perfectly level; then appear some sand-hills; afterwards the country becomes mountainous and broken. Chief town, Stabroek. (For further information, see *Guiana*.)

DEMARCATION, LINE OF; every line drawn for determining a border, which is not to be passed by foreign powers, or by such as are at war with each other. Thus the pope drew a line of demarcation through the ocean, to settle the disputes between the Spanish and Portuguese, after the first discoveries in the fifteenth century. According to a treaty between the French republic and the king of Prussia, concluded at Basle, May 17, 1795, a line of neutrality was established, which removed the theatre of war from northern Germany. Also in the armistice of Pleswitz (1813), such an artificial limit was fixed between the French and the allied troops of Russia and Prussia.

DEMBEA; a large lake of Abyssinia, in a province of the same name, in the west part of that country. It is supposed to be 450 miles in circumference, and contains many islands, one of which is a place of confinement for state prisoners. The Bahr-el-Azrek, the Abyssinian Nile, flows through it.

DEMERY, OF DEMARARA; a river of South America, in English Guiana, which, after a course of about 200 miles, flows into the Atlantic, lon. 58° 25' W., lat. 6° 40' N. It is two miles wide at its mouth, and is navigable for ships of considerable burden nearly 100 miles. It affords an excellent harbor, but the bar will not admit vessels drawing more than 18 feet.

DEMESNE. (See *Domain*.)

DEMETER; the Greek name of the goddess called by the Romans *Ceres*. (q. v.)

DEMETRIUS; the name of several kings of Macedonia and Syria. Demetrius I, surnamed *Poliorectes* (the conqueror of cities), king of Macedonia, son of Antigonus, waged several wars, in particular with Ptolemy Lagus. He appeared before Athens with a fleet, expelled Demetrius Phalereus, who had been appointed governor of the place by Cassander, and restored to the people their ancient form of government. Having lost the battle of Ipsus, against Seleucus, Cassander and Lysimachus (301 B. C.), he fled to Ephesus, and thence to Athens, where he was not permitted to enter. Passing over to Corinth, he embarked on an expedition against the Thracian dominions of Lysimachus. He then went to Asia, to bestow his daughter, Stratonice, in marriage

on Seleucus, and on his way took possession of Cilicia, by which his friendship with Seleucus was broken off. He conquered Macedonia (294 B. C.), and reigned seven years, but lost this country by his arbitrary conduct. Deserted by his soldiers, he surrendered himself, at length, to his son-in-law, who exiled him to Pella, in Syria, where he died (284 B. C.) at the age of 54 years. The above-mentioned Demetrius Phalereus, a celebrated Greek orator, disciple of Theophrastus, devoted his first years to rhetoric and philosophy, but, towards the end of the reign of Alexander the Great, entered into the career of politics. He was made Macedonian governor of Athens, and archon (309 B. C.), and embellished the city by magnificent edifices. The gratitude of the Athenians, over whom he ruled, erected him as many statues as there are days in the year. But the envy of his enemies produced an excitement against him, and he was condemned to death, and his statues destroyed. He fled to Egypt, to the court of the Ptolemies, where he is said to have promoted the establishment of the library, and of the museum, the superintendence of which Ptolemy Lagus intrusted to him. Under the following king, Ptolemy Philadelphus, he fell into disgrace, and was banished to a remote fortress, where he died from the bite of an asp. Demetrius was among the most learned of the Peripatetics, and wrote on several subjects of philosophical and political science. But the work on rhetoric, which has come to us under his name, belongs to a later age.

DEMIDOFF, Nicolaus, count of, a member of the ancient family of Demidoff, which discovered and wrought the iron, copper, gold and silver mines in Siberia, and thus first introduced civilization into that country, was born in 1774, at Petersburg, was made privy-counsellor and chamberlain of the emperor Alexander, entered the military service at an early age, and retired with the rank of colonel. He visited all parts of Europe, for the purpose of introducing the arts of civilization into Russia, and established many manufactories with this view. In 1812, he levied a regiment at his own expense, with which he acted against the French, till they were entirely expelled from Russia. He then devoted himself to study, and to the improvement of his manufactories. The university of Moscow having lost all its collections of natural history by fire, he presented to it his own rich cabinet.

DEMIGODS. (See *Heroes*.)

DEMME, Hermann Christoph Gottfried, was born at Mühlhausen, in 1760, and died at Altenburg, in Saxony, in 1822. He was one of the most practical German theologians, and his sermons are much esteemed. He also wrote many other works, of a practical moral tendency.

DEMOCRACY. (See *Government, Forms of*.)

DEMOCRITUS, a philosopher of the new Eleatic school, a native of Abdera, flourished in the 72d Olympiad, and was born about 494 B. C. Some Magi and Chaldeans, whom Xerxes left on his return from his Grecian expedition, are said to have excited in Democritus the first inclination for philosophy. After the death of his father, he travelled to Egypt, where he studied geometry, and probably visited other countries, to extend his knowledge of nature. Among the Greek philosophers, he enjoyed the instruction of Leucippus. He afterwards returned to his native city, where he was placed at the head of public affairs. Indignant at the follies of the Abderites, he resigned his office, and retired to solitude, to devote himself exclusively to philosophical studies. We pass over the fables which have been related of Democritus, such as that he laughed continually at the follies of mankind (in contrast to the weeping Heraclitus), and give a short summary of his philosophical opinions. In his system, he developed still further the mechanical or atomical theory of his master, Leucippus. Thus he explained the origin of the world by the eternal motion of an infinite number of invisible and indivisible bodies, atoms, which differ from one another in form, position and arrangement, and are alternately separated and combined by their motions in infinite space. In this way the universe was formed, fortuitously, without the interposition of a First Cause. The eternal existence of atoms (of matter in general) he inferred from the consideration, that time could be conceived only as eternal, and without beginning. Their indivisibility he attempted to prove in the following manner: If bodies are infinitely divisible, it must be allowed that their division must be perceptible. After the division has been made, there remains either something extended, or points without any extent, or nothing. In the first case, division would not be finished; in the second case, the combination of points without extension could never produce something extended, and if there remained nothing, the material world would also be nothing; consequent-

ly, there must exist simple, indivisible bodies (atoms). From his position of the eternal change of the separating and combining atoms, follows also the other, that there are numberless worlds continually arising and perishing. In the atoms he distinguished figure, size, gravity, and impenetrability. All things have the same elementary parts, and their difference depends only on the different figure, order and situation of the atoms, of which every thing is composed. This difference of the atoms is infinite, like their number: hence the variety of things is infinitely great. Fire consists, according to him, of active globules, and spreads, like a light envelope, round the earth. The air is moved by the continual rising of the atoms from the lower regions, and becomes a rapid stream, which carries along with it the stars formed in its bosom. The following doctrines of his, concerning the soul, deserve to be mentioned: The soul consists, in as far as it is a moving power, of igneous atoms; but, since it is acquainted with the other elements, and any thing can be known only by its equal, it must be composed in part, also, from the other elements. The sense of feeling is the fundamental sense, and the least deceitful of all; for that alone can be true and real in the objects, which belongs to the atoms themselves, and this we learn with the greatest certainty by our feeling. The other senses show more the accidental qualities of things, and are consequently less to be relied upon. The impressions produced on the five senses are effected, partly by the different composition of the atoms in the organs of sense, partly by the different influence exerted by external bodies, which varies with the arrangement of the atoms of which they consist. In the act of vision, images separate from the external body, and enter the eye. The motion of a body (for instance, of the lips in speaking) divides the air, and gives it a motion, varying according to the direction of the moving body. The parts of air thus put in motion arrive at the ear, and produce hearing. In a similar way arise the sensations of tasting and smelling. The images of the objects received by the eye arrive through it to the soul, and produce within us notions. If, therefore, no notions come to the soul by means of the eye, its activity ceases, as is the case in sleep. The knowledge conveyed by the senses is obscure and deceitful, and represents mere motions of the exterior bodies. What we know by the way of reason has a higher degree of

certainly, yet it is not beyond doubt. The continuation of the soul after death was denied by Democritus, who believed it to be composed of atoms. He divided it into two parts; into the rational part, which has its seat in the breast, and the sensual part, which is diffused through the whole body. Both constitute only one substance. The greatest good, according to Democritus, is a tranquil mind. He applied his atomical theory, also, to natural philosophy and astronomy. The popular notions of the gods he connected with his system, perhaps merely to accommodate himself to the prevailing creed. Even the gods he considered to have arisen from atoms, and to be perishable like the rest of things existing. Democritus is said to have written a great deal, of which, however, nothing has come to us. He died 370 B. C., at an advanced age. His school was supplanted by that of Epicurus.

DEMOIVRE, Abraham; a mathematician of the last century. He was a native of Vitry, in Champagne, and was driven from his native country by the revocation of the edict of Nantes. He settled in London, and gained a livelihood by becoming a teacher of mathematics. He was particularly celebrated for his skill and accuracy as a calculator, whence he is thus referred to by Pope:—

“Sure as Demoivre, without rule or line.”

He died in 1754, at the age of eighty-six. His works are, *Miscellanea Analytica*, 4to.; *The Doctrine of Chances, or a Method of calculating the Probabilities of Events at Play*, 4to.; and a work on annuities; besides papers in the *Transactions of the royal society*, of which he was a fellow.

DEMON, DEMONIA, DEMONOLOGY, (Greek and Oriental). Good and evil, wisdom and folly, piety and superstition, have been connected with the belief in spirits. The name *demons* (*δαίμονια*, *δαίμονες*, *genii*), by which those spirits which are said to have some influence upon the destiny of men are generally called, directs us to Greece. We find demons spoken of by Homer. He called his gods demons: they address each other by this title, and *δαίμων* is so often synonymous with *god-like*, that the derivation of the word *demon* from *δαίμων*, intelligent, wise, is highly probable. Hesiod uses it in a different sense. Plutarch says, that Hesiod admitted four classes of rational beings—gods, demons, heroes and men. (Hes. *Op. et Dies*. 121—126.) A strict classification was not made until the popular belief

had been introduced into the schools of the philosophers. Aristotle divides the immortals into gods and demons; the mortals into heroes and men. In the Greek philosophy, these demons early played an important part. Thales and Pythagoras, Socrates and Xenophon, Empedocles and the Stoics, invented many fictions concerning them, each in his own way. The poetic Plato, however, goes further than any of the others. In the *Banquet*, the character of the demons is thus explained: “Demons are intermediate between God and mortals; their function is to interpret and convey to the gods what comes from men, and to men what comes from the gods; the prayers and offerings of the one, and the commands of the others. These demons are the source of all prophecy, and of the art of the priests, in relation to sacrifices, consecrations, conjurations, &c.; for God has no immediate intercourse with men, but all the intercourse and conversation between the gods and mortals is carried on by means of the demons, both in waking and in sleeping. There are many kinds of such demons, or spirits.” In other places, he says of them, they are clothed with air, wander over heaven, hover over the stars, and abide on the earth; they behold unveiled the secrets of the time to come, and regulate events according to their pleasure: every mortal receives at birth a particular demon, who accompanies him until his end, and conducts his soul to the place of purification and punishment. The people generally understood by them the godhead, as far as it guides the destinies of men, and divided them, in reference to the effects ascribed to them, into good and bad spirits—*Agathodemons* and *Cacodemons*. The Romans still further developed the Greek demonology, with less, however, of a poetical character, and mixed with Etruscan notions. We perceive in all this the original idea: wherever an inexplicable power operates in nature, there exists some demon. This idea was developed by the philosophers, who endeavored to regulate the popular belief, and to reconcile reason with this belief. In order to represent the idea of deity in its purity, they were compelled to displace, by degrees, the mythological notions of the people; and this could not be done in a less perceptible and obnoxious way, than by the introduction of demons. But, although Greek philosophers did this for Greece, we must not believe that these ideas, like the word *demon*, are of Greek origin: it is much

more credible, that the whole doctrine of demons was only transplanted into Greece. We ought to look for their real origin in the East. The Hindoos reckon, besides the highest being, Parama, 33,000 gods, to which they add an infinite number of servants of the gods. The highest rank among these gods was ascribed to the trinity, Brama, Vishnu, and Seeva, who, in eternal change, create, preserve and destroy. When the adorers of the destroyer die, he sends his servants to convey them to his presence, that he may make them participators in his happiness. The demons there are the Devetas. We find this doctrine systematically set forth in the religion of Zoroaster, or the Chaldaic-Persian magic, or doctrine of the magi, which is to be looked upon as a chief source of demonology. In order to explain the origin of evil, Zoroaster adopted, besides a good principle, a bad one also, and made the two the sources of all good and evil, explaining his ideas thus: There is a kingdom of light, and a kingdom of darkness. Ormuzd, the author of all good, resides in the first; in the other, Ahriman, the source of all evil, moral as well as physical. Around the throne of Ormuzd stand the seven Amshaspands (archangels), the princes of light. The Izeds, the genii of all that is good, of whatever kind, are subordinate to them; and to these the Feruers. In the same way the kingdom of darkness under Ahriman is arranged. His throne is surrounded by the seven superior Dives, the princes of evil, and an innumerable multitude of inferior Dives stand under them, like the Izeds under the Amshaspands. The two kingdoms carry on an everlasting war; but Ahriman will eventually be conquered, and the kingdom of darkness will be entirely destroyed. Heeren endeavored to show, that these systems are formed according to the constitutions of the Asiatic monarchies, but all evidently modified according to the place where, and the circumstances of the time at which, the lawgiver and founder of religion appeared. Zoroaster carried his general idea of the division between the kingdoms of good and evil into detail. All rational and irrational, living and dead beings, he classed under one or the other of these kingdoms; the pure men, animals and plants belonged to Ormuzd's, the impure (poisonous, pernicious), to Ahriman's kingdom. In this manner demonology, in the Parsee system, had attained an extent, and a systematical connexion, such as it had not elsewhere. The opinion of Horn (*Biblische Gnosis*), that the

Egyptians borrowed their notion of demons from the Parsees, deserves a closer investigation. We find, indeed, with the Egyptians, the moon, water, earth and air filled with demons, superintending the elements and bodies. Stones, metals and plants are under their influence, and human souls in their power—surely a very extensive kingdom of demons, but not presenting the striking dualism and parallelism of the system of Zoroaster. But supposing that the Egyptian and Persico-Chaldaic demonologies are not derived from the same source; they afterwards combined to form together a new one. Though the doctrine of demons came in different ways through Western Asia into Greece, yet Egypt was the chief source of the higher demonology of the Greeks, among whom it was spread by the Orphic hymns and the mysteries, and was cultivated by the philosophers until the birth of Christ. The *rationalists*, as they are called, who explain every thing in the Sacred Scriptures in a historical or natural way, say that, while it came in this way to the Greeks, the Hebrews received it in two other ways. At the time of the Babylonish captivity, they derived it from the source of the Chaldaic-Persian magic; and, even supposing that they were previously acquainted with the Elohim, or angels (it is remarkable that the latter are first mentioned in the history of the Chaldaic Abraham, and that the earlier prophets do not speak at all of them, while Daniel, on the contrary, mentions them frequently), yet the doctrine of these was first systematically developed during and after the Babylonish captivity. The same dualism, which we find in the system of Zoroaster, is here, also, perceived: there are good and bad demons: they are classified, and receive proper names. There are also seven good demons, composing the council of Jehovah, and standing continually before his throne. (*Job* xii. 15.) As for the second source of the demonology of the Hebrews, this nation had, during the reigns of the Seleucides and Ptolemies, a more active intercourse with Egypt and the Greeks, chiefly in Alexandria; and to the notions adopted from the system of the magi, or the Parsees, they united Egyptico-Greek ones; which connexion is chiefly perceivable in the New Testament. It was impossible to prevent the intermingling of Greek speculations. The voice of the prophets was already silent under Ezra and Nehemiah. Study and inquiries commenced; the popular belief and philosophy separated, and even the philoso-

phers divided themselves into several sects. Opposed to the ancient Pharisees we perceive the Sadducees and Essens, and no high priest nor sanhedrim could prevent the nation (which was already opposed by the Samaritans) from dividing itself into parties. This was the state of things when Christ appeared. Pythagorean and Platonic notions, intermingled with Oriental doctrines, had already unfolded the germ which produced the Hellenistic philosophy of the Jews, and a cabalism existed (cherished by the finest minds of the nation), in addition to the philosophy of the rabbins.—It may be observed, in reference to the doctrine of spirits, that the expressions of *demon* and *demoniacal* are more especially used to indicate bad, tormenting spirits. This is the origin of those ideas of demons as spirits which enter into the bodies of wicked men, and torment them, and of the means to be used against them, for instance, miraculous herbs, by means of which we are able to expel the demons. Thus the demons appear as inferior spirits of a (Persian) Satan, a passionate, malicious, tormenting spirit. The Christian authors made this bad meaning of demons the ruling one, so that the *demons* were opposite to the *angels*. By this opposition, the doctrine of spirits was transformed into angelology, that is, the doctrine of good angels, and demonology, the doctrine of bad angels; and the Jewish and Greek notions on the subject have been often blended together in Christianity. As Plato's mythology was an inexhaustible source of doctrines for the new Platonist, so demonology became an endless source of ingenious speculation among many of the early sects.* (See Swedenborg, *Angel, Genii, and Gabbais*.)

DEMONA, VAL DI; a province of Sicily, occupying the N. E. part of the country, extending from the straits of Messina to Catania; about 112 miles long, and from 60 to 70 broad in its widest part; population, as lately stated, 521,000. The Liparian islands are considered to belong to this part of the country. Silk is one of the chief productions of this valley, which yields, likewise, hemp, flax, olives, lemons, oranges, figs, currants and pistachio nuts. Sulphur is found in considerable quantity towards mount Ætna. Messina, the capital of Sicily, is situated in this province.

* A book of much interest, as showing the firm belief in demons at a comparatively recent period, is doctor Cotton Mather's *Magnalia Christi Americana* (London, 1702). Doctor Mather was a minister of Boston, Mass.

The other principal towns on the coast are Melazzo, Cefalu and Taormina.

DEMONSTRATION, in military language; a movement towards any place for the purpose of deceiving the enemy, and concealing the true design.

DEMOSTHENES, the most famous orator of antiquity, was the son of a sword-cutler at Athens, where he was born in 381 (according to some, in 375) B. C. His father left him a considerable fortune, of which his guardians attempted to defraud him: Demosthenes, at the age of 17 years, conducted a suit against them himself, and gained his cause. He studied rhetoric and philosophy in the schools of Callistratus, Isæus, Isocrates and Plato. But nature had placed great obstacles in his way, and his first attempts to speak in public were attended with derision. He not only had very weak lungs and a shrill voice, but was unable to pronounce the letter *r*. These natural defects he endeavored to remedy by the greatest exertions. He succeeded by the advice of the actor Satyrus, who advised him to recite with pebbles in his mouth, on the roughest and steepest places. To strengthen his voice, he exercised himself in speaking aloud on the sea-shore, amidst the noise of the waves. At other times, he shut himself up for months in a subterranean room, with his head half shaved, that he might not be tempted to go out, and endeavored to acquire dignity of manner by practising before a mirror, and transcribed the history of Thucydides eight times, for the purpose of forming his style. After such a laborious preparation, he composed and delivered his masterly speeches, of which his enemies said that they smelt of the lamp, but to which posterity has assigned the first rank among the models of eloquence—speeches in which he openly opposed the foolish wishes of the multitude, censured their faults, and inflamed their courage, their sense of honor, and their patriotism. He thundered against Philip of Macedon, and instilled into his fellow-citizens the hatred which animated his own bosom. The first of those orations, so famous under the name of *Philippics*, was delivered when Philip took possession of the pass of Thermopylae. The orator insisted on the necessity of immediately preparing a fleet and an army; urging the Athenians to begin the war themselves; to make Macedonia the theatre, and to terminate it only by an advantageous treaty or a decisive battle. They admired and approved his plans, but did not execute them. The celebrated Phocion, who knew the weak-

ness of Athens, unceasingly advised peace. Demosthenes went twice to the court of Philip to negotiate, but without success. On his return, he recommended war, and endeavored to arm not only Athens, but all Greece. When Philip had finally penetrated into Phocis, through the pass of Thermopylæ, and had taken possession of the city of Elatea, to the terror of Athens, Demosthenes obtained a decree of the people for fitting out a fleet of 200 vessels, marching an army to Eleusis, and sending ambassadors to all the cities of Greece, for the purpose of forming a universal confederacy against Philip. He was himself among the ambassadors, and prevailed on the Thebans to receive an Athenian army within their walls. He also exerted himself actively throughout Bœotia, and, by his efforts, a numerous army was collected to act against Philip. A battle was fought near Cheronea, and the Greeks were vanquished. Demosthenes was among the first who fled. Nevertheless, he was desirous of delivering a funeral oration over those who had fallen in battle. Æschines, his rival, did not fail to attack him on this account. The hostility between the two orators was the occasion of the speech *pro corona* (for the crown), which resulted in the triumph of Demosthenes and the exile of his adversary. Philip having been, soon after, assassinated, Demosthenes thought that Athens would be better able to maintain its liberty; but Alexander's dreadful chastisement of Thebes filled the Athenians with such terror that they sued for mercy. It was with difficulty that Alexander could be persuaded to desist from his demand of the surrender of Demosthenes and some other orators; for the Macedonians feared Demosthenes more than they did the armies of Athens. He was afterward fined 50 talents for bribery, and, neglecting the payment of it, was thrown into prison, from which he escaped, and fled to Ægina, where he remained till the death of Alexander. Then followed the war with Antipater. Demosthenes again appeared in public, and endeavored to persuade the small Grecian states to unite against Macedonia. The Athenians received him with honor; but the war was unsuccessful, and Antipater insisted upon his being surrendered to him. Demosthenes fled to the temple of Neptune, in the island of Calauria, on the coast of Argolis; but finding himself not secure, he took poison, which he always carried about with him. He died 319 B. C. (according to some, 322 B. C.), at the age of 60 or 62 years. His

character was not entirely free from vanity, ambition and avarice. Cicero pronounces him to be the most perfect of all orators. He always spoke as circumstances required, and was, by turns, calm, vehement or elevated. He carried the Greek language to a degree of perfection which it never before had reached. In energy and power of persuasion, in penetration and power of reasoning, in the adaptation of the parts to the whole, in beauty and vigor of expression, in strong and melodious language, he surpassed all his predecessors. Every thing in his speeches is natural, vigorous, concise, symmetrical. This alone can explain his great influence over his contemporaries. We have under his name 61 orations, 65 exordiums, and 6 letters, some of which are not genuine. Among the oldest editions of the orations, the best is that of Paris, 1570, in folio, with the commentaries of Ulpian. The first edition of his complete works, Greek and Latin, was edited by Hieronymus Wolf (Basil, 1549; reprinted 1572; and Frankfort, 1604, in folio). His orations are also contained in Reiske's edition of the Greek orators.

DEMOTIC or ENCHORIAL ALPHABET, from *δημος* (the people), is the name given by antiquarians to that alphabet which is used by the people, in contradistinction to an alphabet used by a certain class or caste; as, for instance, among the Egyptians. Thus we find on the famous Rosetta stone, which seems to have become, by the exertions of Young, Akerblad, Zoega, De Sacy and Champollion, the key to all the hieroglyphical documents handed down to us by the Egyptians, a Greek and two Egyptian inscriptions, one of which is written in the hieroglyphical, the other in the demotic alphabet.

DEMOUSTIER, Charles Albert, a French poet, born at Villers-Cotterets, in 1760, was, at first, a successful lawyer. He wrote comedies, operas and poems. They are full of affected wit and false brilliancy. His Letters to Emilie on mythology have made him known in Europe. It may be justly objected to them, that they are superficial, affected, and written in what the French call *style de madrigal*; yet they are, at the same time, distinguished for spirit, delicacy and ease. Of his plays, *Le Conciliateur*, *Les Femmes* and *Le Tolerant* have maintained a place on the stage. He died March 2, 1801.

DEMURRAGE, in law, is the detention of a ship; and is also, and more frequently, used to signify the amount to be paid,

by the charterer to the owner of a ship, for voluntary delay beyond a specified time. If the captain chooses to wait a longer time than that agreed upon for a cargo, the owner can claim demurrage only until the cargo is taken on board and the ship ready to sail, and not for the subsequent detention from other causes, although this would not have happened but for the detention for a cargo. Thus when a vessel was to be loaded at St. Petersburg for Leith, by the 1st of September, but the master waited until October 29 for a cargo, when he sailed from Cronstadt, but was soon driven back by unfavorable winds, and the frost, setting in, detained him there until the 11th of May following; after much litigation in Scotland, it was decided by the house of lords of Great Britain, that demurrage could be claimed only to October 29. It is to be observed, however, in this case, that the captain was at liberty to sail on the 1st of September, the time limited in the charter-party. The time of delay in port for a cargo, for convoy, &c., is usually stipulated in the charter-party, and also the allowance to be made in case of longer delay for those objects; and this time is sometimes specified in working-days or lay-days, as distinguished from holydays, when no cargo can be put on board. When a charter-party, made in England, relates to a delay in the river Thames, for a certain number of days, it will, in pursuance of a particular custom, be construed to mean working-days. But if the charter-party be made elsewhere, or, if made in England, relating to demurrage at any other place, if the intention is that it should allow a certain number of working-days, it ought to be so expressed.

DEMURRER; a pause or stop put to the proceedings of an action upon a point of difficulty, which must be determined by the court before any further proceedings can be had therein. He that demurs in law confesses the facts to be true, as stated by the opposite party, but denies that, by the law arising upon those facts, any injury is done to the party, or that he has made out a lawful excuse.

DEN (*Saxon*, valley, or woody ground), when added to the names of places, denotes that they are in a valley, or near woods.

DENARIUS; 1. a Roman silver coin, equal, at first, to 10 asses, whence its name; 2. a weight. The *libra*, or Roman pound, contained 96, the ounce 8, *denarii*; and the *denarius* 3 scruples. In modern governments, the *denarius* has also been intro-

duced as a weight. A French *denare* contained 63 grains.*

DENDERAH, ZODIAC OF. Near Denderah, a village of the Thebais, surrounded with palms, and lying about a league west of the Nile, the traveller from Cairo to Upper Egypt first acquires a distinct notion of an architecture such as no other country can show. Denderah lies under the 26th degree of north latitude, on the borders of the desert, upon the last tableland of the Lybian mountains, to which the inundation of the Nile extends. Its name is derived from the ancient Tentyra or Tentyris, the magnificent remains of which, called by the Arabians *Berbé* (the ruins), are a mile or two distant from it. We are indebted, for our knowledge of them, to the memorable campaign of the French in Egypt, whose enthusiastic descriptions and accurate investigations have drawn general attention to them. Through a portal half buried by rubbish, covered with hieroglyphics, and constructed of

* The value of the denarius is given incorrectly by several modern German writers, as by Schleusner, in his *Lexicon of the New Testament*; by Rosenmüller, in his *Scholia on the New Testament*; and by Kuinol, in his *Commentary on the Historical Books of the New Testament*. It is reckoned by them as equal to the eighth part of a reichsthaler (rix dollar) or 3 groschen, that is, about 9 cents, American money. The mistake may be thus accounted for: The writers mentioned refer to Eisenschmidius, *De Ponderibus et Mensuris veterum necnon de Valore Pecuniarum veteris*, published in 1703, reprinted 1737. The author of this work (p. 136) estimates $7\frac{1}{2}$ denarii as equal to an imperial or rix dollar, meaning the old rix dollar of the empire, a coin which, by proclamation of queen Anne, in 1704, was declared equal to 4s. 6d. sterling. He thus makes the value of the denarius $13\frac{1}{2}$ cents—as near an approximation as, perhaps, was to be expected from his imperfect modes of computation. But the writers above referred to, in following him, have substituted the present rix dollar of account, equal to about 72 cents, for the coin intended, and then reckoning the denarius loosely as the eighth part of a rix dollar, have thus estimated its value at about 9 cents. Winer, in his *Biblisches Realwörterbuch*, and Wahl, in his *Lexicon of the New Testament*, estimate its value at about 4 groschen, or 12 cents; Jahn, in his *Archæologia Biblica*, at $24\frac{1}{2}$ creutzers, of which 90 make a rix dollar, consequently at about $19\frac{1}{2}$ cents. For these mistakes it is not easy to account. There being no considerable difference in the estimate of the average weight of silver in the consular denarius, all these different estimates of its value are unfounded. That given in Arbuthnot's Tables, namely, $7\frac{3}{4}$ d. sterling, about 14½ cents, is sufficiently correct, and commonly adopted by English writers. In Robinson's translation of Wahl's *Lexicon*, the erroneous estimate of 9½ cents is given, in addition to the correct, or nearly correct one of 14 cents. Both estimates are also given in the valuable Greek *Lexicon* of Mr. Pickering.

huge blocks of sandstone, you come in sight of a temple, which forms the back ground of this splendid picture. All that you see here, say the French writers, from the colossal figures of Isis, which support the entablature of the vestibule, to the smallest hieroglyphic, appears to have come from fairy land. Neither Greece nor Rome, nor the rest of Europe, has produced anything similar. So universal was this impression, that the meanest soldiers of the army paused to examine these sacred relics, and declared with one voice, that this sight alone was enough to indemnify them for the fatigues of the campaign. The monuments of Thebes, with which they afterward became acquainted, could not efface this first impression; and the magnificent temple of Isis still appeared to them the most perfect monument of Egyptian art. Of the ancient Tentyrah, which may have existed in the times of Strabo and Theodosius, a *Typhæum*, similar to that of Edfuh, but larger, is yet standing. It is west of the northern gate, so buried under rubbish that the different sides are scarcely to be distinguished. But the admiration of the French was chiefly excited by the great temple, the whole of which is nearly in the shape of a T. The view is obstructed by ruins only on the eastern side. On account of the figures of Isis, of every size, which it contains, it is thought to have been an *Isæum*. Without the aid of drawings, any description of its vestibules, halls and cells, which are all covered with hieroglyphics, would be unintelligible. On the ceiling of the portico of this *Isæum*, astronomical figures and emblems were found nailed on the soffits: on the two extreme soffits were the 12 signs of the zodiac. This representation was repeated on the ceiling of an apartment in the upper story, on the left side of the vestibule. Like the others, this room was covered with hieroglyphics, and the planisphere, on the left side as you enter, occupied only half of the ceiling. It was first observed by general Desaix, who directed the attention of his companions to it. This is the planisphere of which so much has been written. Behind this large building, towards the south, is another temple, which was, perhaps, dedicated to Isis and Horus. Its exterior reminds us less forcibly than the *Isæum*, how many generations must have existed, before a nation could flourish possessed of sufficient courage, knowledge and elevation of mind for the invention of such works; and how many centuries must have

elapsed, before all this could have been forgotten, and men have sunk back to the rudeness of the present Arab inhabitants of these ruins. But the figures on the planispheres particularly attracted the attention of the learned Europeans, on account of their supposed connexion with the precession of the equinoxes. (See *Precession*.) In both, it was observed that the lion was represented as the first sign. This order it was supposed must have been adopted by design; for in the larger planisphere, on the ceiling of the portico, the signs are represented on two stripes, one of which runs in a direction toward the interior of the temple, the other toward the exterior; on the smaller (that of the upper apartment, now in Paris), the signs are represented in a spiral line, in the order in which we now place them: Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, Pisces, Aries, Taurus, Gemini, Cancer. Leo appeared, consequently, to be placed, intentionally, after the point of intersection of the ecliptic and equator. On the situation of those points of intersection, however, depends the place of the solstice, which must be half way between them. In the planisphere of Denderah, it is drawn in Cancer. If this is the winter solstice, as some suppose, the vernal equinox was then in Libra. At present, however, it is in Pisces, and consequently 7 signs, or 210° , farther back. As it is known that 2152 years of uniform motion are necessary for the recession of one sign, it follows that, to recede from Libra to Pisces, 7 times 2152, or about 15,000 years are necessary. This would be, accordingly, the minimum of the age of this zodiac, if we suppose that it is founded on real astronomical observations, and is not to be considered a mere astronomical problem. (See Rhode, *Versuch über das Alter des Thierkreises und den Ursprung der Sternbilder*, Berlin, 1809, 4to.) Other astronomers, in particular Littrow (*Wiener Zeitschrift*, 1822, No. 53, 54), and, yet earlier, the authors of the great description of Egypt, thought the solstice on the zodiac of Tentyra to be the summer solstice. The vernal equinox would then fall between Taurus and Aries, consequently 45° farther forward than at present. From this it would follow, that the zodiac would be as old as 45 times $71\frac{1}{2}$ years, or 3228 years. This last supposition would be justified if the constellation which is the first in the zodiac were that which the sun must enter first after the heliacal rise of Sirius. There are many reasons which induce us to believe this. The appear-

ance of Sirius followed a few days after the summer solstice: it was a sign of the rising of the Nile, and of the beginning of the agricultural year in Egypt. This reference to the beginning of the agricultural year adds great force to this supposition. The accompanying hieroglyphics, as the child on the lotus flower near Aries, the rising sun, the point of the vernal equinox, are additional arguments. Considerations drawn from astronomy and the progress of the arts, induced E. G. Visconti to believe this planisphere and the whole temple, which undoubtedly were executed at the same time, to be of a far more recent origin. He assigned this building to the time when the uncertain *Thoth*, the commencement of the uncertain Egyptian year, coincided with the sign of Leo, which was the case from the year 12 to the year 132 of our era. (See *Notice sommaire des deux Zodiaques de Tentyra*, in the 2d volume of Larcher's *Herodote*, page 567 et seq.) To this date, belonging to the first years of the Roman dominion, the authors of the great description of Egypt have opposed strong reasons. In case this hypothesis should not be approved, Visconti had another ready. Proceeding on the theory of De la Nauze, who took an Egyptian Normal year as the basis of his calculation, he assigned these monuments to the period of the Ptolemies. A single Greek inscription, in an obscure place in the *Isæum*, was not a very conclusive argument in favor of this hypothesis, which, besides, is exposed to strong objections, if we compare the architecture of these buildings with other monuments of that period. They are executed in so pure an Egyptian style, that they exclude every idea of foreign influence hostile to the religion of the country. No one, therefore, can think of ascribing them to the old enemies of the Egyptian worship, the Persians, those destroyers of temples. There is, then, no alternative but to refer their origin to a period when the country was under its native kings. Putting out of view the astronomical representations, the authors of the description of Egypt are inclined to assign the building of the temple, whose execution harmonizes so accurately with the original plan as to be evidently the creation of the same time, to that period when the Egyptian art appears to have reached its highest perfection, the period between Necho and Amasis, when magnificent edifices were erected in the Delta, and Memphis was in its splendor. The dispute concerning the antiquity of this monument is not yet fin-

ished, and was by no means brought nearer to a decision by mutilating the whole, and carrying a piece of it to Europe. Preconceived opinions have affected the discussion of this subject. Thus an essay of Dupuy on this zodiac was suppressed by the police of Paris, as tending to promote infidelity (August, 1822). A young Frenchman, S. Saulnier, whose ambition was excited by the rich spoils carried off by the English, conceived the idea of procuring this zodiac for his native country. As he was prevented from going to Egypt personally, he left the transportation of it to his friend H. Lelorrain, who embarked, in 1820, for Alexandria, provided with the necessary instruments. Mohammed Ali showed a deplorable readiness to permit the sacred monuments of Tentyra to be mutilated. Upon the roof of the temple Arabians had, in earlier times, fixed their abodes; it was necessary to remove their deserted huts; and their rubbish, together with that already accumulated, formed a plane upon which the blocks of sand-stone could slide down to the banks of the Nile. A vehicle of the invention of M. Lelorrain was used for this purpose. Lelorrain selected the small circular zodiac in the upper apartment. As the whole stone on which the zodiac was represented was too large to be carried off, extending, as it did, the whole width of the ceiling, and resting on the walls on each side, M. Lelorrain contented himself with the portion covered by the zodiac, a small part of which, projecting over the main stone, and contained on a contiguous one, he left, not thinking it worth the trouble of removing. The removal was effected by means of chisels, saws and gunpowder. The stone was exceedingly well preserved, only blackened by soot, perhaps of the time when the mysteries and the worship of animals were solemnized in these sanctuaries. This smoke may also have destroyed the colors by which, it is probable, the hieroglyphics were formerly distinguished. The stone is of the same kind of sand-stone of which all the monuments between Phylæ and Denderah are composed. Scarcely was this work of destruction finished, when another explorer, Mr. Salt, the English consul, laid claims to the booty, asserting prior rights to every thing dug up at Tentyra. The bashaw of Egypt decided for the Frenchman, because the zodiac was taken from the roof. Lelorrain at length arrived safe with his booty at Marseilles. Here a comparison with the plates in the great work on

Egypt showed that every thing was in its right place, but that the drawing had been embellished in a way which was not confirmed by the monument. In January, 1822, he arrived at Paris, where the proprietors caused a drawing to be taken by Gau, containing all the discernible figures. The French government purchased the planisphere for 150,000 francs. The disputes relative to the epoch of its origin were renewed with fresh ardor. St. Martin, in his *Notice sur le Zodiaque de Denderah*, etc., maintains that the monument was erected as early as 569, and not earlier than 900 B. C.; but his opinion is not satisfactorily proved; nor is that of Mr. Biot, which Jomard has controverted in the *Rév. Encycl.* (1822). On the other hand, Letronne, in his *Critical and Archæological Observations on the Signs of the Zodiac* (Paris, 1823), maintains that there is no monument among the signs of the Egyptian, Greek and Roman zodiacs older than the common era. With this opinion agrees also that of the abbé Halma, in his *Examen et Explication du Zodiaque de Denderah*, etc. (3 vols., Paris, 1822, with copper-plates). Letronne considers the zodiacs of Esné and Denderah as astrological curiosities of the times of the Roman emperors. The weight of opinion at present is, that these figures are inscriptions of about the same antiquity as the Christian era.

DENDRITES, or ARBORIZATIONS; an appellation given to figures of vegetables observed in fossil substances, and which are of two kinds, the one superficial, the other internal. The first are chiefly found on the surface of stones, and between the strata and the fissures of those of a calcareous nature. They are mostly brown, changing gradually to reddish-yellow. The internal dendrites are of a deep black. The most esteemed sorts are those found in agates, and particularly in the sardonyx, cornelian, and other precious stones brought from the East, and which are commonly denominated *Moka stones*.

DENGUE FEVER. (See *Fever*.)

DENHAM, Dixon, lieutenant-colonel, well known by his expedition into Central Africa, was born at London, in 1786, and, after finishing his studies at school, was placed with a solicitor, but, in 1811, entered the army as a volunteer, and served in the peninsular campaigns. After the general peace, he was reduced to half pay on the peace establishment, and, in 1819, was admitted into the senior department of the royal military college at Farnham. In 1823—4, he was engaged, in com-

pany with captain Clapperton and doctor Oudney, in exploring the central regions of Africa. (For an account of their expeditions, see *Clapperton*.) His courage, address, firmness, perseverance and moderation, his bold, frank, energetic disposition, and his conciliating manners, peculiarly fitted him for such an undertaking. The narrative of the discoveries of the travellers was prepared by Denham. In 1826, he went to Sierra Leone, as superintendent of the liberated Africans, and, in 1828, was appointed lieutenant-governor of the colony; but, on the 9th of June of the same year, he died of a fever, after an illness of a few days.

DENHAM, sir John, a poet, was born at Dublin, in 1615, the son of sir John Denham, chief baron of the exchequer in Ireland. He was educated in London and at Oxford. Although dissipated and irregular at the university, he passed his examination for a bachelor's degree, and then removed to Lincoln's Inn to study law. In 1641, he first became known by his tragedy of the *Sophy*. This piece was so much admired, that Waller observed, "Denham had broken out like the Irish rebellion, 60,000 strong, when no person suspected it." At the commencement of the civil war, he received a military command; but, not liking a soldier's life, he gave it up, and attended the court at Oxford, where, in 1643, he published the first edition of his most celebrated poem, called *Cooper's Hill*. He was subsequently intrusted with several confidential commissions by the king's party, one of which was to collect pecuniary aid from the Scottish residents in Poland. He returned to England in 1552; but how he employed himself until the restoration, does not appear. Upon that event, he obtained the office of surveyor of the king's buildings, and was created a knight of the Bath, and a fellow of the newly-formed royal society. A second marriage, at an advanced age, caused him much disquiet, and a temporary derangement; but he recovered, and retained the esteem of the lettered and the courtly until his death, in 1688, when his remains were interred in Westminster abbey.

DENINA, Giacomo Carlo, a historian, born in 1731, at Revel, in Piedmont, studied belles-lettres at Turin, and received the professorship of humanity at the royal school at Pignerol. When the chair of rhetoric at the superior college of Turin was vacant, Denina was made professor in the college and university. He now published the three first volumes of his *History of the Italian Revolutions* (Turin,

1769, 3 vols., quarto), containing a general history of Italy, which subjected him to some inconveniences, by exciting the ill will of the defenders of the privileges of the clergy. In 1777, he travelled, on account of his health, to Rome, made a stay at Florence, received an invitation to Prussia, went to Berlin in September, 1782, was presented to the king by the marquis Lucchesini, and appointed a member of the academy, with a salary of 1200 Prussian dollars. He had several conversations with Frederic the Great, an account of whose life and reign he afterwards wrote. He also published *La Prusse littéraire sous Frederic II* (3 volumes). In 1791, he made a journey to Piedmont, and published, on his return to Berlin, the *Guide littéraire*. As early as 1760, his *Discorso sopra le Vicende della Letteratura* appeared in Berlin. It is a valuable contribution to the history of literature, and has been translated into German and French. Most of his works were written at Berlin; as, for instance, his History of Piedmont and of the other Sardinian States; Political and Literary History of Greece; and Letters from Brandenburg. After the battle of Marengo, the council of administration appointed him librarian at the university of Turin. Before he entered upon this office, he wrote his *Clef des Langues, ou Observations*, etc., which he dedicated to the first consul. He received, in return, an honorable letter and a gold snuff-box, through Duroc. This favor was followed by the offer of the place of librarian to the emperor, upon which he repaired to Paris. In 1805 appeared his *Historico-statistical Picture of Upper Italy*. He died in 1813.

DENIS or DENYS, ST., ABBEY OF; a church celebrated in history. The saint (Dionysius) to whom it is consecrated, having been sent from Rome into Gaul to preach the gospel, died by the hand of the public executioner, about the end of the 3d century. Catulla, a heathen lady, affected by the martyr's constancy, obtained his body, which had been thrown into the Seine, buried it in her garden, became a Christian, and erected a small chapel over his tomb, which was afterwards rebuilt on a more extensive plan, by St. Genevieve, and became, in the 6th century, one of the most flourishing abbeys. This large edifice is still standing, a noble structure, the oldest Christian church in France. On the left was the principal entrance, a large door with two small doors at the sides, ornamented with statues of the ancient saints and French kings, carved in stone.

The interior of the church was enriched with pious offerings and works of art. In the large vaults under the choir reposed the remains of several kings of the first and second races, and all the rulers of the third race, from Hugh Capet to Louis XVI. At present, the heads of all the saints and kings at the entrance are wanting, and the vaults are vacant, all the bodies having been removed during the revolution. Oct. 16, 1793, at the time when the queen was beheaded in Paris, the coffin of Louis XV was taken out of the vaults of St. Denis, and, after a stormy debate, it was decided to throw the remains of all the kings, even those of Henry IV and Louis XIV, which were yet, in a good degree, preserved entire, and recognised with perfect certainty, into a pit, to melt down their leaden coffins on the spot, and to take away and melt into bullets whatever lead there was besides in the church (the whole roof, for example). Napoleon's decree of the 20th February, 1806, made St. Denis again the burial-place of the reigning family of France; the church was repaired and ornamented, and marked with the emblems of the new dynasty, particularly the large N. Napoleon had selected a vaulted room for the tomb of himself and his consort. Louis XVIII obliterated from St. Denis all traces of Napoleon's rule, buried whatever bones of his ancestors could be found, especially the relics of Louis XVI and his family, in the ancient sepulchre of the kings, and instituted canons, whose duty it is to protect the tombs within. These canons of St. Denis are the most distinguished in France, and form a convent, the abbot of which is a bishop.

DENIZEN. In England, a denizen is an alien born, who has obtained letters patent whereby he is constituted an English subject. A denizen is in a middle state between an alien and a natural born or naturalized subject, partaking of the nature of both. He may take lands by purchase, or derive a title by descent through his parents or any ancestor, though they be aliens.

DENMARK; the smallest of the northern European kingdoms. The oldest inhabitants of Denmark were Germans, brave and spirited men, who gained their support from the sea. The Cimbric, who derived their origin from them, dwelt in the peninsula of Jutland, the *Chersonesus Cimbrica* of the Romans. They first struck terror into the Romans by their incursion, with the Teutones, into the rich provinces of Gaul. After this, led by the mysterious Odin, the Goths broke into

Scandinavia, and appointed chiefs from their own nation over Denmark, Norway and Sweden. Skiold is said to have been the first ruler of Denmark. His history, however, and that of his posterity, is involved in fable. All we know with certainty is, that Denmark was divided, at this time, into many small states, that the inhabitants gained their subsistence by piracy, and spread terror through every sea, and along every coast to which they came. When the power of the Romans began to decline, the Danes and Normans became conspicuous in the South by their incursions upon the shores, which were formerly protected by the guard-ships of the Romans. The Normans (comprehending the people of Denmark, Sweden and Norway) landed in England A. D. 832, and established there two kingdoms. Under Rollo, in 911, they made a descent on the French coasts in Normandy, occupied the Faroe isles, the Orcades, the Shetland isles, Iceland, and a part of Ireland, and thence proceeded to Spain, Italy and Sicily. Wherever they came, they spread terror by their valor, ferocity and rapacity. These expeditions made little change in their national government: it still continued a federative system of many clans or tribes, each of which had its own head, and all were united under one sovereign. When the German kings of the Carlovigian race attempted to interfere with their domestic affairs, the tribes entered into a closer union, and the Norwegians and Danes formed two separate states. Gorm the Old first subdued Jutland, in 863, and united all the small Danish states under his sceptre till 920. His grandson Sweyn, a warlike prince, subdued a part of Norway in 1000, and England in 1014. His son Canute, in 1016, not only completed the conquest of England, but also subdued a part of Scotland, and, in 1030, all Norway. Under him the power of Denmark reached its highest pitch. Political motives led him to embrace the Christian religion, and to introduce it into Denmark; upon which a great change took place in the character of the people. Canute died in 1036, and left a powerful kingdom to his successors, who, in 1042, lost England, and, in 1047, Norway. The Danish kingdom was, after this, very much weakened by intestine broils. Sweyn Magnus Estritson ascended the throne in 1047, and established a new dynasty; but the feudal system, introduced by the wars of Sweyn and Canute, robbed the kingdom of all its strength under this dynasty, which furnished not a single worthy prince except

the great Waldemar, left the princes dependent on the choice of the bishops and nobility, plunged the peasants into bondage, caused the decay of agriculture, and abandoned commerce to the Hanse towns of Germany. With Waldemar III, in 1376, the male line of the family of Estritson became extinct. His politic daughter Margaret, after the death of her son Olave IV, A. D. 1387, took the helm of the Danish government, ascended the throne of Sweden and Norway, and established the union of Calmar (q. v.), in 1397. After the extinction of the princes of the family of Skiold, the Danes elected Christian I, count of Oldenburg, to succeed him, in 1448. This Christian was the founder of the royal Danish family, which has, ever since, kept possession of the throne, and from which, in modern times, Russia, Sweden and Oldenburg have received their rulers. He connected Norway, Sleswic and Holstein with the crown of Denmark, but was so fettered by his capitulations, that he seemed to be rather the head of the royal council than a sovereign king. His son, king John, was bound by a still more strict capitulation, in Denmark, 1481. In Norway, too, his power was more circumscribed. Holstein and Sleswic he shared with Frederic, his brother. King Christian II (q. v.), son of John, a wicked and cruel, but by no means weak, prince, attempted to throw off his dependence on the states; but, in doing it, he lost Sweden, which broke the union of Calmar in 1523; and, soon after, he was deprived of both his other crowns. Denmark and Norway elevated his father's brother, Frederic I, to the throne. Under this prince, the aristocracy gained the entire superiority; bondage was established by law; the reformation was introduced; and, in 1522, Norway was united with Denmark. Christian III, his eldest son, divided Sleswic and Holstein with his brothers, John and Adolphus, the latter of whom founded the house of Holstein-Gottorp; but this division was the ground of long and bitter disputes. He was succeeded, in 1559, by king Frederic II, who conquered the Ditmars, and became involved in a war with Sweden respecting the possession of Livonia. This war was concluded by the peace of Stettin, 1570. Christian IV, who succeeded in 1588, took part in the thirty years' war, and twice engaged in a war with Sweden; the last time with such unhappy consequences, that, by the peace of Brömsebro, in 1645, Denmark had to cede to Sweden Jämtland, Herjedalen beyond the mountains,

Gothland and Oesel, provinces which it had retained ever since the union; besides putting Halland in her hands for 30 years. The faults of the Danish form of government, and the restraints on the crown, had principally contributed to make the Danish arms unsuccessful. The same misfortune attended them also in the new war, begun with Sweden by king Frederic III, in 1657. In the peace of Roschild, in 1658, and that of Copenhagen, in 1660, he lost Schonen, Bleckingen, Bohus and Halland. This caused the abolition, in 1660, of the constitution of the states: the nation itself granted the king absolute power, and rendered the crown hereditary. Norway did the same in 1661. The Danish nobility, however, retained the most important offices of state, and the result did not answer the expectations which had been entertained of the new arrangement. Christian V and Frederic IV were conquered in the war with Charles XII. Denmark, however, after the fall of Charles XII, gained by the peace of 1720, at Fredericsburg, the toll on the Sound, and maintained possession of Sleswic. After this, the state enjoyed a long repose; but the wounds inflicted by its ill successes and its defective form of government, could not be healed by the peaceful system now adopted. Denmark, having but few resources, can prosper only by wise moderation and careful management. The political machine, once disordered, requires a long time for restoration. In 1726, Denmark united with the crown the county of Ranzau; in 1761, Holstein-Plön; and, in 1773, Holstein-Gottorp. In return for the latter, by a treaty with Russia, it ceded the counties of Oldenburg and Delmenhorst, which were acquired in 1667. In 1730, Christian VI succeeded Frederic IV, and left his crown, in 1746, to his son Frederic V. Christian VII (q. v.) received the sceptre in 1766. He governed entirely by his ministers. (See the article *Struensee*.) The present king, Frederic VI (q. v.) was declared of age at 16 years, and, in April 14, 1784, was appointed regent on account of the insanity of his father, whom he succeeded, after his death, A. D. 1808. In consequence of the defensive alliance with Russia, in 1788, a Danish auxiliary corps marched into Sweden without opposition; but, on the representations of England and Prussia, an armistice was concluded a fortnight after the commencement of hostilities. Thus ended this fruitless campaign, which imposed on the impoverished finances a burden of 7,000,000 rix dollars. Denmark

maintained her neutrality with more success, in 1792, when the allied powers wished her to take part in the war against France. But, by her accession to the Northern confederacy, in 1800, she was involved in a war with Great Britain, in which the Danish fleet was defeated at Copenhagen, April 2, 1801. The courage of the Danes, however, obtained for them a truce, upon which Denmark acceded to the treaty of Russia with England, completed July 20, evacuated Hamburg and Lübeck, of which she had possession, and received back her own colonies. At length, in 1807, this state was included in Napoleon's continental policy. A French army stood on the borders of Denmark, Russia had adopted the continental system at the peace of Tilsit, and England thought it her duty to prevent the accession of Denmark to this alliance. A fleet of 23 ships of the line was sent up the Sound, August 3, which demanded of Denmark a defensive alliance, or the surrender of her fleet, as a pledge of her neutrality. Both were denied. Upon this, a British army landed, consisting of 25,000 men, under lord Cathcart; and, after an unsuccessful resistance on the part of the Danes, who were unprepared for such an attack, Copenhagen was surrounded August 17. As the government repeatedly refused to yield to the British demands, the capital was bombarded for three days, and 400 houses laid in ashes, in the ruins of which 1360 of the inhabitants perished. September 7, Copenhagen capitulated, and the whole fleet, completely equipped, and including 18 ships of the line, 15 frigates, &c., was delivered up to the British, and carried off in triumph. The crews, who had fought on those days with distinguished bravery, were made prisoners of war. Great Britain now offered the crown-prince neutrality or an alliance. If he accepted the first, the Danish fleet was to be restored in three years after the general peace, and the island of Heligoland was to be ceded to the British crown. The crown-prince, however, rejected all proposals, declared war against Great Britain in October, 1807, and entered into a treaty with Napoleon, at Fontainebleau, October 31. Upon this, Bernadotte occupied the Danish islands with 30,000 men, in order to land in Sweden, against which Denmark had declared war in April, 1808. This plan was defeated by the war with Austria, in 1809, and the hostilities against Sweden in Norway ceased the same year. The demand made by the court of Stockholm, in 1813, of a transfer of Norway to

Sweden, was followed by a new war with this crown, and a new alliance with Napoleon, July 10, 1813. On this account, after the battle of Leipsic, the northern powers, who were united against France, occupied Holstein and Sleswic. Glückstadt and other fortifications were captured, and the Danish troops driven beyond Flensburg. Denmark now concluded a peace with England and Sweden, Jan. 14, 1814, at Kiel. She also entered into an alliance against France, and contributed a body of troops to the allied forces. She was obliged to cede Heligoland to Great Britain (receiving in exchange the West India islands), and Norway to Sweden (for which she was compensated by Swedish Pomerania and Rügen). A peace was concluded with Russia in February, 1814. Jan. 14, 1815, Denmark ceded Swedish Pomerania and Rügen to Prussia, and received for them Lauenburg and a pecuniary compensation. June 8, 1815, the king entered into the German confederacy with Holstein and Lauenburg, and received in it the tenth place, and three votes in the general assembly (the *plenum*); after which, by the appointment of a decemviral commission, preliminary measures were taken to introduce a representative government into Holstein.

Denmark consists of the islands of Zealand, Fühnen, Langeland, Laaland, Falster, Bornholm and Moen, the peninsula of Jutland and the duchy of Sleswic. To the Danish kingdom belong also two states of the German confederacy, the duchies of Holstein and Lauenburg; likewise the Faroe islands, Iceland, the western coast of Greenland, some places in Guinea, and the city and territory of Tranquebar, in the East Indies. Denmark Proper and Sleswic contain only 17,375 square miles; Iceland and the Faroe islands, 30,270; the German states, 3665; and the colonies, 7173. The whole kingdom, with its dependencies, contains 58,500 square miles, of which Iceland and the coast of Greenland compose 36,123. Denmark Proper is estimated to contain 1,230,000 inhabitants; Holstein and Lauenburg, 370,000; Iceland, in the year 1823, 49,269; the Faroe islands, 5300; and the rest of the colonies, 101,000; so that the whole kingdom contains 1,750,000, or, according to some accounts, 1,864,534 inhabitants. The people, partly Danes and partly Germans, speak Danish in Denmark Proper, Norse in Iceland and the Faroe islands, and German in the high and low German and Frisian dialects. Bondage no longer prevails among the peasants, but they con-

tinue to be attached to the soil in Denmark Proper. The principal island, Zealand (Dan. *Sjælland*), is separated by the Sound (q. v.) from Sweden, the island Fühnen (Dan. *Fyen*) by the Great Belt, from Zealand, and by the Little Belt from the peninsula of Jutland (Dan. *Jylland*): these three straits form the passage from the German ocean to the Baltic sea. The country is perfectly level, with the exception of a single ridge of moderate elevation, which runs through the duchies. The coasts are low, and, for the most part, protected against the encroachments of the waves by flats, and require artificial dykes only on the side of the German ocean. The soil consists partly of marshes and partly of heaths, and the country is moderately fruitful. By the improvident extirpation of the woods, which protected the northern and north-western coasts of Jutland against the sea, vast extents of fruitful territory have become barren and sandy deserts. The church at Skagen, in the most northern parish of Jutland, at present lies almost buried in heaps of sand, driven up by the sea. An attempt has lately been made to check this devastation, by planting firs, birches, &c., also certain herbs that flourish best in sand; by which means a great part of those sandy regions have once more put on a verdant dress. Besides the Elbe, the boundary stream of the kingdom, it has only a few rivers on the coast. There are many lakes in the interior, as the Schall and the Ratzeburger lakes in Lauenburg, Plöner and Selenzer lakes in Holstein; and several bays, the most considerable of which is situated in North Jutland, called the *Lämfjord*. The Cattegat or Skaggerack, between the coasts of Jutland and Sweden, is considered by some as a bay: it is connected with the Baltic by the Sound and the two Belts. The climate, for the most part, is temperate, but very wet. The staple productions of Denmark are grain, rape-seed, tobacco, &c.: 4,000,000 pounds of the last are raised annually, and sold mostly in foreign countries. Hemp and flax are not raised in sufficient quantities to satisfy the demand of the people: the same is the case with madder (which, however, thrives very well), and with hops. Horticulture is neglected in Denmark Proper. Sea-weed is used for stuffing cushions, &c., instead of horse-hair. Forests are rare, and the price of wood high; turf, however, is very abundant. The breeding of cattle furnishes the only important article of exportation: for example, every year Denmark Proper exports 16,000 horses and 7000

oxen. Olofsen fixes the number of horned cattle, not including those raised in the duchies, at 1,484,000 head: the sheep amount to 1,338,000 head, including 20,000 merinos. Swine and poultry, too, are raised in large numbers. The larger kinds of game are very rare. The fisheries supply a part of North Germany with herring, oysters, lobsters, &c. Among the minerals are clay, iron, copper, alum, lime (in Segeberg), and salt (less than is wanted) from salt-springs. The manufactures are few, and carried on principally in Copenhagen and Altona: the Danish gloves, which come from Jutland, are esteemed in Germany. Trade, especially to the West Indies, and navigation, have begun to revive. The Holstein canal joins the Baltic sea and the North sea. The charter of the Asiatic company was extended, in 1812, to 30 years after the peace; but the shares have fallen. Denmark now contains, without including Iceland and the Faroe islands, 100 cities, 37 boroughs, 2305 parishes and 5500 villages. The government is an absolute monarchy. The crown is hereditary both in the male and female line. The king's oldest son is styled the *crown-prince*; the other princes of the blood are called *princes of Denmark*. Copenhagen is the royal residence. The title of the sovereign, since Jan. 1, 1820, has been, *king of Denmark, of the Vandals and the Goths, duke of Sleswic, Holstein, Stormarn, the Ditmarsh, and of Lauenburg and Oldenburg*. The orders of knighthood are the order of the elephant and the order of the Danebrog (order of the royal banner). In Denmark Proper there are no estates. The highest council of state is the privy council, to which the administration of domestic affairs has belonged since 1814. The Lutheran is the prevailing religion, but unlimited toleration is extended to every religious sect, not excepting the Jews. There are two universities (at Copenhagen and Kiel). There is also an academy of arts, a royal society of sciences, and many private institutions and societies of learned men, 40 *gymnasias*, and 13 seminaries of teachers. Lancasterian or monitorial schools were first established in Denmark in 1823; but their progress has been rapid beyond example. In 1823, the system was introduced into 244 schools: in 1824, the number was 605; in 1825, 1143; in 1826, 1543; in 1827, 2003; in 1828, 2302; and in 1829, the additions made would carry it to 2616. The Sound dues now afford a revenue of more than 450,000 dollars. The public debt, it is con-

jured, amounts in silver to 10 million rix dollars banco of foreign, and 100 millions of domestic debt, including two recent loans in Hamburg and London. The value of bank-bills in circulation, in 1823, a little exceeded 21,325,000 rix dollars banco. Paper money is worth about 40 per cent. in comparison with specie; and a bank dollar in silver is worth 1½ Hamburg marks banco. The land force consisted, in 1823, of 30,838 men, exclusive of the militia. The marine is subject to a board of admiralty, or commissariate. In 1826, the navy consisted of 4 ships of the line, 7 frigates, 4 corvettes, 5 brigs, 1 schooner, and 80 gun-boats.

Danish Language, Literature and Arts. The Danish language is a daughter of the Low German and the original Norman, which was, in the 10th century, driven to Iceland. It is believed by many, that the Anglo-Saxon language is, in fact, the Danish, and that it has been retained in its purity by the Irish. The first cultivators of this language in Denmark, as in Sweden and Norway, were the Scalds, who wrote poems in the pure German dialect, and, following their princes and generals, sung in rhymeless verse the deities and exploits of their nation. After the introduction of Christianity (about 1000), historical poems only continued to be composed (till 1265). For the introduction of this religion into Denmark, at the same time with the art of writing, the foundation was laid by the German missionary, Ansgar. (See *Ansgar*.) Canute the Great (1015—1036), inspired by his wife, Emma, with zeal for Christianity, and a liberal spirit towards the clergy, sent Anglo-Saxon teachers to Denmark, established the bishoprics of Schonen, Zealand, and Fühnen, and spread Christianity through all the rest of the North. He sought to promote trade and commerce, coined new money, and established more fixed laws. Immediately after Christianity, chivalry, also, was introduced into Scandinavia, particularly by the French crusades, and found an easy reception among the inhabitants, who were extremely fond of bold adventures. Tournaments were so common at the Danish court, that every stranger who visited it was obliged to break a spear with some of the courtiers. The Danes engaged in the first crusade. This new spirit of chivalry had necessarily a favorable influence on poetry. The oldest Danish poetry extant is the epic of the Skyddingians, first published complete by Thorkelin (*De Danorum rel. Gest. Secul. III et IV, Poema Dan. Dialect.*

Anglo-Saxon, etc. Copenhagen, 1815, 4to.). Of a much later date (16th century) is the collection of the heroic ballads and romances of love (*Kjemperiser* and *Elskovsviser*), published by Wedel and Syv, and latest by Abrahamson, Nyerup and Rahbeck, 1812—14, in 5 vols., which has been translated into German by W. L. Grimm, who has done much for the northern poetry (*Altdänische Heldenlieder, Balladen, und Märchen*, Heidelberg, 1811). Nyerup and Rahbeck likewise published, a short time since, a selection from the manuscript Danish poems of the middle ages, with valuable commentaries. Their poetical value, indeed, is very unequal; but most of them contain genuine poetry, and much national spirit. The latest Danish dramatists have drawn much from these storehouses. Among the heroic poems, many illustrate the cycle of the old *Heldenbuch*, (q. v.). The first Danish historians are Sueno (Svend) Aagesen (about 1188), and the celebrated Saxo-Grammaticus, properly Lång, of Schonen (who died in 1204), both of whom, by the suggestion of Absalon, archbishop of Lund, wrote, the former a concise history of the Danish kings from 300 to 1186 (*Suenonis Aggonis Opuscula*, ed. Stephan. Sora, 1642), the latter a complete history of Denmark (*Historia, Libb. xvi.* ed. Stephanus Sora, 1644; Klotzius, 1771, 4to.), to the year 1186, in 16 vols. in a correct Latin style. The reformation, introduced in 1527, and still more the extension of trade, had a great influence on the intellectual progress of Denmark. In consequence of the reformation, the Germans obtained an important influence over the church and the literature of Denmark. The Danes studied in Germany. German was the language of the court, and Latin the language of the learned. The attempts of authors in their vernacular tongue were as yet insignificant. A Danish translation of the New Testament was made in 1524, on the model of Luther's. Danish became the language of literature, partly in the 16th, and still more in the 17th century, and was distinguished for its softness and euphony, and for the expressiveness of its abstract terms. The language of poetry seems, at present, to have left prose far in the rear. The first Danish grammar was edited by Erich Pontoppidan (Copenhagen, 1668). Many useful grammars were afterwards prepared by James Baden and others, and, in the 16th century, some Danish-Latin dictionaries. (See the *Literatura antiquissima*, of Olaf Worm, a Dane (Copenhagen, 1651), and others.) The Danish is the only

Teutonic language which has a real passive voice. In regard to prose, the Danish language has been highly enriched by Holberg (q. v.), who, in one view, may justly be called the father of modern Danish literature, having applied it to many branches of literature, and particularly to the drama. Much has been done for the improvement of the public taste by J. Wielandt (died 1730), J. Sch. Sneedorf (died 1764), in their journals, and by J. Baden (died 1804), who paid particular attention to the purity of the language, and discharged with success the office of a critic. Literary institutions were, moreover, established and supported by Frederic V, and Christian VII, which greatly promoted the native literature of the country. T. Rothe, P. F. Suhm (a Danish historian, who died in 1799), an excellent prose writer still living, Cnud Lyne Rahbeck (professor, and knight of the order of the Danebrog, who published various literary works, 1785—93, in three parts, consisting of dramatic works and narratives, and who exerted no small influence upon the Danish national taste, as editor of the *Northern Minerva* and *Danish Spectator*), J. Ch. Bastholm, Birkner, Rasmus, Nyerup, Anders Gamborg, Frederic Münter, and Baggesen, have well founded claims to the reputation of clear, strong, and agreeable writers. In practical science and natural philosophy, the Danes have distinguished themselves most. We must not omit the renowned astronomer, Tycho de Brahe (see *Tycho*), and the mineralogist, Olaf Worm, who died in 1654. Much has been done for the cause of education in Denmark, in modern times, by the establishment of schools, universities and literary societies. There are also institutions for instruction in gymnastic exercises, such as swimming, for instance, well worthy of general imitation. Geography and practical astronomy are under great obligations to Thomas Bugge (q. v.), who was invited to Paris in 1798, by the French directory, to take part in the establishment of the new system of weights and measures. Many learned men, whom he drew from obscurity, have contributed to give value to the *Transactions* of the scientific society at Copenhagen (now amounting to 24 vols.: the latest series is called *Det Kongelige Danske Vidensk. Selskaber Skrifter*). The late convulsed state of Europe excited in Denmark much attention to the military art, and all the foreign improvements were adopted. Denmark has always been more distinguished for its naval than its land

forces. The Danish admiralty deserves the general gratitude for the publication of the charts prepared under the direction of Paul de Löwenörn, and greatly increased in value by learned illustrations. Further improvements were made in this department by U. S. Rosenwinge, who died in 1820. The numerous editions of Lous's nautical works, among a people who despise all theory, if it cannot be reduced to practice, bear witness to their practical excellence. The investigation of the antiquities of the country has received much attention from the following scholars, some of whom are still living:—Viborg, N. E. P. Grundtvig, Sandtvig, Thorkelin, Thorlacius, Nyerup and Rahbeck. The two last published Contributions to the History of Danish Poetry (Copenhagen, 1800—8 in 4 vols.), and, with Abrahamson, the Collection of Poems of the Middle Ages. The poetry of the Danes, in modern times, has been splendid. It began with religious pieces and national songs, of which the Danes have a great number, and may be considered as having commenced with Andr. Chr. Arreboe, who died in 1637. The *Hexameron* of Arreboe is extremely heavy. Andr. Bording (died 1677) took Opitz for his pattern. Poetic vigor, however, is wanting in him and in his successors, Jens Steno Schestedt (died 1698), Paul Pettersen, the poet of the people, William Helt, who flourished about 1703, Nicholas Kingo (died 1703, while bishop), who celebrated the achievements of the Danish kings in a heroic poem, and George Lortetap (died 1722). Much improvement was introduced, about the middle of the 18th century, by the ardent enthusiasm of Louis Holberg, a Norwegian. He deserves to be particularly mentioned here, as an original comic and satirical poet. (For a further account of his works, see *Holberg*.) The society established in 1758, for the advancement of the fine arts, and the improvement of taste, brought into notice the works of men of talents, among whom the original Ch. B. Tullin (who died in 1765) was most distinguished. In the second half of the 18th century, a warm literary controversy commenced, and many estimable poets, including several Norwegians, made successful attempts in various departments of literature. Even at present, however, they are much given to the imitation of foreign models. Among late poets most distinguished, are the tragedian and lyric poet, John Ewald (q. v.), N. Weyer (1788, a poet of much talent; he is the author of *Poet. Forsøg*, Copenhagen, 1789), the lyric poet and dramatist,

Rahbeck, the satirical and comic poets, Guldberg, John. Herm. Wessel (died 1786), the next comic writer after Holberg, and famous for his comedy, *Love without Stockings*, and many comic poems. Rahbeck published the 4th edition of his poems in 1817. Other distinguished poets are P. A. Heiberg, En. de Falsen (died 1808), the lyric and dramatic Brun, Th. Thaarup (q. v.), who wrote much for the stage, J. C. Tode, Ch. Lovinus, Sander, Præm, the successful poet of the people, Frimann, Rein-Storm (the last are Norwegians), a female writer named Brun (q. v.), who has written spirited poetry in the German language, Jens Baggesen (q. v.), a lyric poet, full of animation and strength, though at times heavy, and Oehlenschläger. (q. v.) His best pieces are *Hakon Jarl*, *Planatoke*, *Axel und Walburg*, *Correggio*, *Aladdin*, *The Shepherd's Boy*. The last mentioned poets are to be numbered, also, among German authors, as they all write in that language likewise. B. S. Ingemann (q. v.) now shares the public favor with Oehlenschläger. Of late years, much has been translated from the German. An epic poem, called the Deliverance of Israel, in 18 cantos, by J. M. Herz, which obtained the prize of the society of fine arts, notwithstanding this honor, seems to have met but a cold reception from the public. Copenhagen could probably boast of the youngest authoress in Europe. Virgilia Christ. Lund, at the age of only ten years, published, in 1820, a piece called *Two for One*, and subsequently a small dramatic piece, *The faithless Maid* discovered. The irritability of poets is nowhere more striking than in Denmark, where they are constantly quarrelling. This polemical spirit is very strong in N. F. Sev. Grundtvig, by whom two quarto volumes of the *Chronicles of Denmark*, by Saxo Grammaticus, have been translated into Danish (Copenhagen, 1818—19), and given to the public.

The musical productions of Denmark have been inferior in richness and abundance to the literary. Thorwaldsen (q. v.) has roused the ambition of his country to aspire to excel in the fine arts. Under his direction, many promising Danish youth, as, for instance, Freund, have been and are still receiving instruction. Lahde has published sketches of the works of Thorwaldsen, with poetical explanations by Oehlenschläger. Intellectual activity is kept up, in Denmark, by many excellent periodicals. There are many well-ordered literary societies; and lately the study of the Scandinavian language and antiquities

has grown so fashionable, that a Scandinavian literary society was instituted at the commencement of the present century. The Transactions of this society amount already to 16 vols. (Copenhagen, 1819), and contain a variety of excellent treatises. The Arnæ-Magnæan commission, and the royal society for the preservation of antiquities, protect the monuments of antiquity that belong to the country; and the promotion of mental cultivation is intrusted to the northern society of science, the society for the encouragement of the fine arts and of taste, the society of medicine and rural economy. All these attempts of the Danish literati have been encouraged by the government. The measurement of a degree from Lauenburgh to Scagen has been continued without intermission, under the direction of professor Schumacher. It is conducted on strictly scientific principles, and the instruments are excellent, made by Reichenbach, and furnished by the government. This measurement will perhaps determine, at last, whether confidence ought to be placed in the French surveyors, or the English under Mudge, or in neither of them. The government assist in the publication of many excellent works, because the Danish public is so small that they would not pay the expense of printing them. In this way the *Flora Danica*, for example, is published; also Thorlacius and Werlauf's editions of the Norwegian History of Snorro Sturleson, and the Law of Lagaboter Gulething, by king Magnus. The inquiries into the origin of the northern languages, which Rask (q. v.), it is well known, has sought for on Caucasus itself, were encouraged by the government, which also promoted the publication of Nyerup's *Catal. Librorum Sanscritanorum, quos Bibl. Univ. Hafniensis vel dedit vel paravit Nath. Willich* (Copenhagen, 1821). The collection of medals at Copenhagen received its present importance from the care of the reigning king. The fund *ad usus publicos* is applied to the support of distinguished young men on scientific journeys. In the year 1829, Mr. Bowring was in Copenhagen, collecting materials for an English translation of ancient Danish ballads, and the most celebrated lyrical pieces of modern Danish poets.

DENNER, Balthasar, a celebrated portrait painter, was born at Hamburg in 1685, and died at Rostock in 1749. He was especially distinguished for the remarkable exactness of his execution, or rather the almost microscopic accuracy of his

paintings. He learned to draw at Altona, and to paint in oil at Dantzic, and afterwards travelled. All the northern princes invited him to their courts to paint their portraits. The emperor Charles VI paid him 4700 florins for the head of an aged woman. It is now in the imperial gallery at Vienna. Denner likewise painted the head of an old man for the same prince, a pendant of the former, which is also a masterpiece. There are some beautiful portraits painted by him in Munich.

DENNER, John Christian, invented the clarinet. He was born at Leipsic in 1655, and went to Nuremberg with his parents in his eighth year, where he was employed in making wind instruments, especially flutes. He died in 1707.

DENNEWITZ; a small town in the march of Brandenburg, famous for the battle between the French and Prussians, Sept. 6, 1813, the former commanded by Ney (under whom were Oudinot, Bertrand, Regnier and Arrighi), the latter by Tauenzien and Bülow. 40,000 Prussians maintained their ground for several hours against 80,000 French; and, on the arrival of the Russian and Swedish battalions, victory declared in favor of the allies, who, after the Russians and Swedes came up, were far superior in numbers. The French were defeated, and fled in disorder, with their auxiliaries, consisting of Bavarians, Wurtembergians, Saxons and Poles. This battle was a consequence of the battle at Grosbeeren. (q. v.)

DENNIE, Joseph, born in Boston, Aug. 30, 1768, was the son of a respectable merchant. He early evinced a decided fondness for polite literature, and entered Harvard college in 1787. He left this institution in 1790, and entered the office of a lawyer at Charleston, N. H. At the expiration of three years, he made a successful *début* at the bar. From Charleston he soon removed to Walpole, where he opened an office, but gained very little business, owing to his literary taste and irregular habits. For four months, he officiated as reader of prayers for an Episcopalian congregation at Claremont. In the spring of 1795, he endeavored to establish, at Boston, a weekly paper under the title of *The Tablet*. This, however, survived but a short time. Not long after, he returned to Walpole, to act as editor of the Farmer's Museum, a journal in which he published a series of essays, with the signature of *The Lay Preacher*. In 1799, he went to Philadelphia, in consequence of being appointed a clerk in the office of the secretary of state. On the

dismissal of his patron, Mr. Pickering, he left the department, and engaged in the conduct of a literary journal, the *Port Folio*, for which his name and talents acquired considerable patronage and celebrity. His reputation, his colloquial powers, and amiable disposition, attracted to him a large number of literary disciples and coadjutors. With industry and discretion, he might have gained independence and permanent happiness; but he was deficient in both qualities, and gradually destroyed, by his imprudence, his bodily constitution, as well as all hopes of fortune. Jan. 7, 1812, he died—a victim to anxiety and complicated disease. Mr. Dennie possessed a brilliant genius, a delicate taste, a beautiful style, a ready pen, a rich fund of elegant literature, an excellent heart, and a captivating countenance and manner, and, with a proper exercise of industry and judgment, might have acquired a lasting reputation.

DENNIS, John; an English dramatist and critic. He was the son of a citizen of London, where he was born in 1657. Having completed his studies at Cambridge, he made the tour of France and Italy, and, on his return, devoted himself to literary occupations, living upon his fortune, which had been left him by an uncle. In 1697, he produced a comedy, entitled *Plot and no Plot*, which was followed by several dramatic pieces and poems of little value. He also became a political writer for the whig party. The irritability of his disposition, heightened, probably, by the unprosperous state of his finances, involved him in perpetual broils, and made him a sort of standing jest with the wits of his time. Having written a tragedy entitled *Liberty Asserted*, which became popular during the war with Louis XIV, in consequence of the abuse of the French with which it abounded, Dennis thought that monarch would never forgive the insult: when, therefore, the treaty of Utrecht was about to be concluded, he entreated the duke of Marlborough to save him from being delivered up to the French government, as a state criminal. The duke told him that he thought he might make himself easy; for though he had, he conceived, done as much harm to the French as Mr. Dennis, he had not thought it necessary to seek for personal indemnity. When his *Appius and Virginia* was performed, he introduced a new method of imitating thunder, said to be still used at the theatre. The tragedy was soon set aside; but some time after, Dennis, being present at the representation of *Mac-*

beth, perceived that his new invention had been adopted; on which he exclaimed, "S'death! how these rascals use me; they will not let my play run, yet they steal my thunder." He wrote some severe strictures on Addison's *Cato* and Pope's *Rape of the Lock*. Pope, in return, gave him a place in the *Dunciad*, and, in conjunction with Swift, produced a sarcastic tract, entitled *A Narrative of the deplorable Frenzy of Mr. John Dennis*. After he had dissipated his fortune, the duke of Marlborough procured him the place of land waiter at the custom-house. This he disposed of, reserving only a temporary annuity; and in his old age, his necessities were relieved by a benefit at the Haymarket theatre, to which his former antagonist, Pope, contributed a prologue. He died soon after, January 6, 1734.

DENON, Dominique Vivant, baron de, was born Feb. 4, 1747, at Chalons-sur-Saône, of a noble family. He was destined to study law at Paris, where he was favorably received in society; and his talent and inclination led him to devote himself to the arts. A comedy which he wrote, called the *Good Father*, gained him the favor of the ladies. His amiable manners made him a favorite of Louis XV, who appointed him *gentilhomme ordinaire* about his person. He was afterwards attached to an embassy at St. Petersburg, where Catharine, however, observed him with a jealous eye. Subsequently he was intrusted with a diplomatic mission to Switzerland. On this occasion, he drew Voltaire's likeness (engraved by St. Aubin), and the well known picture *Le Dejeûner de Fernelly*. He then occupied, during seven years, a place in the French embassy at Naples. His residence in this city, and repeated visits to Sicily and Malta, gave him an opportunity of exercising his talent for drawing and engraving. Denon had the principal direction of the artists engaged in preparing the abbé St. Non's *Voyage pittoresque de Naples et de Sicile*, and the text was chiefly taken from his journal. This elegant work appeared at Paris, in 1788. The remainder of Denon's journal, relating to Sicily and Malta, appeared separately, in 1788. His career at Naples was interrupted by the death of the minister Vergennes, his patron, or, according to some, by the displeasure of the queen, Maria Caroline. But still his love for the study of the great masters detained him in Italy. He resided at Venice during several years, where he shone in the circles of the countess Albrizzi, who was distinguished for her amiable and in-

telligent character, and loved to be surrounded by men of talent. Denon was not forgotten in her *Ritratti*, where she bestows the greatest praise on his character, his passion for the arts, his cheerfulness and amiable disposition, and excuses the raillery with which he attacked the foibles of others. The observation and restraint, to which the revolution subjected Frenchmen in foreign countries, compelled him to leave Venice. After a short stay in Florence and Switzerland, he was obliged to return to France during the reign of terror; but he made himself agreeable to Robespierre, and was, in consequence, subsequently accused of devotion, at that time, to Jacobin principles. During this period, he exercised himself in engraving. At last, he became acquainted with Bonaparte, and immediately united himself with him. He accompanied the general in his campaigns to Italy and Egypt, and Desaix to Upper Egypt. The work which was the result of this journey, was an addition to Denon's fame, particularly the engravings which ornament it (Paris, 1802, 2 vols. fol., and 3 vols. 12mo., without engravings). Denon, in this, has shown himself a very able artist. Nature, animate and inanimate, the monuments of centuries, and the Arabian flying through the Desert, are represented with great fidelity. When he returned to Paris with Bonaparte, he was appointed general director of the museums, and all the works of art executed in honor of the French successes—monuments, coins, the erection of the triumphal pillar in the Place de Vendome, &c. He accompanied Napoleon in all his campaigns, and employed himself in drawing, and in selecting those masterpieces in the conquered countries, which were taken to Paris as trophies. In 1815, he was compelled to witness the restoration of the spoils. After the abdication of the emperor, he retained his office, but was deprived of it in 1815, in consequence of having joined Napoleon on his return from Elba. He retained, however, his place in the institute. From that time he lived retired, and the preparation of engravings and lithographs of his splendid collection of works of art, formed the occupation of his last years. He died at Paris, April, 28, 1825. His mind was active to the last. Denon much resembled Voltaire in his old age. In 1826 appeared at Paris the *Description des Objets d'Art composant le Cabinet de feu M. le Bar. V. Denon*, in 3 vols. (*Monumens antiques, tableaux et estampes*). The cabinet was sold by auction.

DENSITY, strictly speaking, denotes vicinity or closeness of particles; but in mechanical science, it is used as a term of comparison, expressing the proportion of the number of equal *moleculæ*, or the quantity of matter in one body to the number of equal *moleculæ* in the same bulk of another body. Density, therefore, is directly as the quantity of matter, and inversely as the magnitude of the body. Since it may be shown experimentally, that the quantities of matter, or the masses in different bodies, are proportional to their weight; of consequence, the density of any body is directly as its weight, and inversely as its magnitude; or the inverse ratio of the magnitudes of two bodies, having experimentally equal weight (in the same place), constitutes the ratio of their densities. No body is absolutely or perfectly full of matter, so as to have no vacuity or interstices: on the contrary, it is the opinion of Newton, that even the densest bodies, as gold, &c., contain but a small portion of matter, and a great portion of vacuity; or that they contain a great deal more pores or empty space than real substance.

DENSITY OF THE EARTH. The determination of the density of the earth, as compared with that of water, or any other known body, is a subject which has excited considerable interest amongst modern mathematicians; and nothing can, at first sight, seem more beyond the reach of human science, than the due solution of this problem; yet this has been determined, and on such principles, that, if it be not correctly true, it is probably an extremely near approximation. The first idea of determining the density of the earth was suggested by M. Bouguer, in consequence of the attraction of Chimborazo, which affected his plumb-line while engaged with Condamine in measuring a degree of the meridian, near Quito, in Peru. This led to the experiments on the mountain Schellien, in Scotland, which were carried on under the direction of doctor Maskelyne, and afterwards submitted to calculation by doctor Hutton, who determined the density of the earth to be to that of water as $4\frac{1}{2}$ to 1. But, in consequence of the specific gravity of the mountain being assumed rather less than it ought to have been, the above result is less than the true density, as has since been shown by doctor Hutton and professor Playfair, the former of whom makes it, in his corrected paper, as 99 to 20, or nearly as 5 to 1. The same problem has been attempted on similar principles, but in a totally dif-

ferent manner, by the late Mr. Cavendish, who found the density of the earth to be to that of water, as 5.48 to 1. Taking a mean of all these, we have the density of the earth to that of water, as 5.24 to 1, and which, as we before observed, is probably an extremely near approximation.

DENTIFRICE; a preparation for cleaning the teeth, of which there are various kinds: generally, however, they are made of earthy substances mixed with alum. Those formed of acids are very pernicious.

DEODAND (*Deo dandum*); a thing to be given or dedicated to God. Persons who have attended trials for homicide will have observed that the indictment, in setting forth the manner of the death, alleges it to have been occasioned by a blow with a certain weapon, &c., "of the value of," &c. This allegation of the value of the thing which caused the death, arose from the English law of *deodands*. It is provided in the Mosaic law, (*Exod. xxi. 28*), that "If an ox gore a man, that he die, the ox shall be stoned, and his flesh shall not be eaten." So, by the law of Athens, whatever was the cause of a man's death, by falling upon him, was destroyed, or cast out of the territory of the republic. This, says Mr. Christian, in his notes upon Blackstone's Commentaries, was one of Draco's laws; and perhaps we may think the judgment that a statue should be thrown into the sea for having fallen upon a man, less absurd, when we reflect that there is sound policy in teaching the mind to contemplate with horror the privation of human life, and that familiarity even with an insensible object, which has been the occasion of death, may lessen that sentiment. This reflection, suggested by Mr. Christian in reference to the Athenian law, does not seem to be the motive for the rule of the common law of England, that whatever chattel causes the death of a person, shall be forfeited. It is an ancient doctrine mentioned by Bracton (*Omnia quæ movent ad mortem sunt Deo danda. l. 3. c. 5.*), and its origin is attributed to the notion, that where a man was suddenly cut off in his sins, expiation ought to be made for the benefit of his soul; and, accordingly, the chattel, which occasioned his death, should be forfeited to the king, to be devoted by him to pious uses. The statute of 4 Edward I, st. 2, relating to coroners, provides that "horses, boats, carts, mills, &c., whereby any are slain, that properly are called *deodands*, shall be valued and

delivered unto the towns," which thereupon became answerable to the king for their value; in whose behalf the sheriff might levy the amount upon the inhabitants of the town. Accordingly, in all indictments for homicide, in England, the grand jury specify the instrument that immediately caused the death, and its value, that the king may claim the deodand; for it is no deodand unless it is so found by the jury, and hence the practice of finding the instrument and its value, in indictments in the United States, or at least in some of them, although they have no deodands. Though these forfeitures were originally incurred to the king, yet he might grant them away to the lord of the manor or territory upon which the death happened, as he was accustomed to grant the right of waifs and wrecks. The deodands have been generally so granted; and these grants may probably be the reason that this ancient singularity has so long remained a part of the English law; for the right to the forfeiture has thus become a subject of private property, and so not liable to be impaired by the legislature without compensation to the parties interested. The old books contain a good deal of quaint and curious law on this subject. It will be observed, that no distinction is made, whether the death is felonious, excusable, justifiable, or purely accidental, or whether the instrument, by which it is occasioned, belongs to the person committing the homicide or to another; for, says the Doctor and Student, if a man kills another with my sword, still the sword is forfeited; but if a person be killed by falling from a thing standing still, as a cart, it is not forfeited; if, on the contrary, a horse, ox, or other animal kill a person by its own motion, by running over him or otherwise, it is a deodand. It is said, however, that if the instrument of the death is standing still, only the part which immediately occasioned the death is forfeited; as, if one attempts to climb up the wheel of a cart that is standing still, and falls, and is thereby killed, only the wheel is forfeited; but if it be in motion, the entire cart is a deodand. Only chattels are forfeited; any thing attached to the freehold, as the wheel of a mill, or a bell hanging in a steeple, is not so; and no deodand occurs, unless the death happens within a year and a day after the accident. A sale of the article does not exempt it from forfeiture; as if a horse strikes a man, and is afterwards sold, and the man dies within the year and day, the horse

is forfeited. It is not surprising that so whimsical a law should be very negligently executed; the juries are very apt to mitigate the forfeitures by finding that only some trivial thing, or only a part of an entire thing, was the occasion of the death; and the court has generally refused to interfere in behalf of the lord of the franchise, to assist him in enforcing his claim to the whole article. There are no deodands on the high seas, though it has been said, that, if a man fall overboard from a vessel in a fresh water river, and is drowned, the vessel and cargo are strictly a deodand; and the above statute of Edward I, we observe, mentions boats as one species of deodand. But in this case the jury would probably find the death to have been occasioned by the winds or the water, and would have a precedent sufficiently analogous; for the books maintain that if a man, riding over a river, is thrown off his horse by the violence of the water, and drowned, the horse is not a deodand, for the death was occasioned by the current.

D'EON (the chevalier). Eon de Beaumont, Charles Genevieve Louise Auguste André Timothée d', equerry to Louis XV, chevalier, doctor of law, parliamentary advocate, military officer, royal censor, diplomatist, &c., known until 1777 by the name of the *chevalier d'Eon*, was born at Tonnerre, in 1728. His brilliant qualities enabled him to act a conspicuous part in the world. He gained a greater notoriety by the mystery long kept up in regard to his sex. While an advocate, he studied, in his leisure hours, politics and belles-lettres, and wrote an *Essai historique sur les différentes Situations de la France, par Rapport aux Finances*, followed by two volumes, entitled *Considérations politiques sur l'Administration des Peuples anciens et modernes*. To these works he owed the honor of being proposed, by the prince of Conti, minister of Louis XV, as envoy on a difficult mission to the Russian court. Here his insinuating manners gained him the favor of the empress Elizabeth, and for five years he was the medium of a secret correspondence between her and the king of France. In consequence of his services at this court, he was made successively lieutenant and captain of dragoons, and received a pension of 2400 livres. He returned to France in 1758, and subsequently distinguished himself in the military service. After the conclusion of peace, he went to London as secretary of legation, under the duke of Nivernois, and obtained possession of some important pa-

pers. On the return of the duke, he remained as resident, and afterwards as minister plenipotentiary in London. Every thing seemed to favor him, when secret intrigues suddenly disappointed his fair prospects. France had concluded a disadvantageous peace with England, and the negotiators of it were fearful of having their conduct exposed. The chevalier was the confidant of Louis XV, and might make the dreaded disclosures. This was reason enough for ruining him. He was dismissed from his employment, and lived 14 years at London, in a kind of banishment. Though the king had consented to his disgrace, he assigned him a pension of 1200 livres. D'Eon still remained true to his native land, and rejected several offers of the English court. The king heard of his conduct, and wished to restore him, but the chevalier insisted on having his innocence publicly acknowledged, before accepting any favors. In the mean time, Louis XV died. During the residence of D'Eon in England, suspicions arose as to his sex, which led to several extraordinary wagers. In July, 1777, a curious trial took place before lord chief-justice Mansfield, on an action brought against Mr. Jaques, a broker, who had received several premiums of 15 guineas, to return 100, whenever it should be proved that the chevalier was a woman. M. Louis Legoux and M. de Morande, on the trial, deposed to this as a fact, which was supposed to be so well established, that the defendant's counsel pleaded that the plaintiff, at the time of laying the wager, knew that the court of France, relative to the grant of a pension, had treated with D'Eon as a woman; and thence inferred that the wager was unfair. This objection was not held good, and Hayes, the plaintiff, obtained a verdict. It was, however, afterwards set aside, on the ground of the illegality of the wager. After the decision of this cause, D'Eon put on female attire, and continued to wear it till his death. In 1777, he returned to France, and made his appearance at Versailles, where the minister honorably received him, but on condition that he should wear in future the female dress. D'Eon, however, went to Tonnerre, without observing the command, and did not appear as *la chevalière d'Eon* till his second return to Paris. His change of dress drew him into a quarrel at the opera, and, for fear of the consequences, he was sent to Dijon, where he was treated with respect. In 1783, he went to London. Meanwhile the French revolution broke

out, and deprived him of his pensions; upon which he returned to France, offered his services to the national assembly in 1792, was rejected, went back to England, and was put, as an absentee, on the emigrant list. From this time misfortunes crowded upon him. He lived in great poverty, and attempted to support himself by giving lessons in fencing, but was not very successful, and depended in a great measure for subsistence on the aid of his friends. Among these was Elisée, first surgeon of Louis XVIII, who aided him till his death in London, in 1810, and attended the dissection of his body. The account of this witness, with other undeniable evidence, leaves it beyond doubt, that D'Eon was of the male sex. What political reasons could have induced a soldier and a knight of St. Louis to assume female attire, is not known. In 1775 appeared the *Loisirs du Chevalier D'Eon*, in 14 vols. 8vo. *L'Espion Chinois*, 6 vols. 12mo., has also been ascribed to him.

DEPARTMENT; the distribution of a thing into several parts; thus, in France, *Le département des tailles, des quartiers, &c.*; that is, a distribution of the public taxes, or an allotment of quarters to the soldiery, &c. Hence it is used, secondly, to denote a distribution of employments, and especially

the divisions of the ministry. Finally, it is applied to territorial divisions. In this sense, it has become important in modern statistics. At the time of the French revolution, when the former division of the kingdom into provinces was abolished, and succeeded by a division of it into departments, this division was determined partly by the number of inhabitants, partly by extent of territory, and partly by the amount of direct taxes. A decree for this purpose was adopted November 4th, 1789, by the constituent assembly; and the abbé Siéyes drew up the plan, intended to extinguish the old spirit of hatred among the provinces. The whole kingdom was at first divided into 83 departments, which were subsequently increased, by the gradual extension of the empire, to 130, and were reduced by the peace of 1814 to 86. (See *Prefecture*, and *France*.) Each department is subdivided into cantons, and these again into communes. This division of territory has been adopted in the states of Bavaria, Würtemberg, Baden and others. The representatives in the French chambers are elected by the departments. The following list contains the names of all the departments, and the provinces to which they formerly belonged:—

Région du Nord.

Ancient Provinces.	Departments.	Total Pop.	Pop. sq. l.	Chief Places.
Flanders.	Nord.	962,648	3,208	Lille.
Artois.	Pas-de-Calais. . . .	642,969	1,978	Arras.
Picardy.	Somme.	526,282	1,697	Amiens.
Normandy. . . .	Seine-Inférieure. . .	688,295	2,137	Rouen.
	Eure.	421,665	1,405	Évreux.
	Calvados.	500,956	1,776	Caen.
	Manche.	611,206	1,808	Saint-Lô.
	Orne.	434,379	1,361	Alençon.
Ile-de-France. . .	Seine.	1,013,373	46,062	Paris.
	Seine-et-Oise. . . .	440,871	1,536	Versailles.
	Seine-et-Marne. . .	318,209	1,060	Melun.
	Oise.	385,124	1,266	Beauvais.
Champagne. . . .	Aisne.	489,560	1,305	Laon.
	Ardennes.	281,624	1,005	Mézières.
	Marne.	325,045	766	Châlons-sur-Marne.
	Aube.	241,762	805	Troyes.
	Haute-Marne. . . .	244,823	753	Chaumont.
Lorraine.	Meuse.	306,339	975	Bar-le-Duc.
	Moselle.	409,155	1,410	Metz.
	Meurthe.	403,038	1,567	Nancy.
	Vosges.	379,839	1,287	Épinal.

Région du Centre.

<i>Ancient Provinces.</i>	<i>Departments.</i>	<i>Total Pop.</i>	<i>Pop. sq. l.</i>	<i>Chief Places.</i>
Orléannais.	{ Loiret.	304,228	869	Orléans.
	{ Eure-et-Loir.	277,782	904	Chartres.
	{ Loir-et-Cher.	230,666	688	Blois.
Touraine.	{ Indre-et-Loire.	290,160	892	Tours.
Berry.	{ Indre.	237,628	644	Châteauroux.
	{ Cher.	248,589	666	Bourges.
Nivernais.	{ Nièvre.	271,777	730	Nevers.
Bourbonnais.	{ Allier.	285,302	764	Moulins.
Marche.	{ Creuse.	252,932	848	Guéret.
Limousin.	{ Haute-Vienne.	276,351	976	Limoges.
	{ Corrèze.	284,882	961	Tulle.
Auvergne.	{ Puy-de-Dôme.	566,573	1,333	Clermont-Ferrand.
	{ Cantal.	262,013	1,027	Aurillac.

Région de l'Ouest.

Maine.	{ Sarthe.	446,519	1,373	Le Mans.
	{ Mayenne.	354,138	1,287	Laval.
Anjou.	{ Maine-et-Loire.	458,674	1,197	Angers.
Bretagne.	{ Ille-et-Vilaine.	553,453	1,541	Rennes.
	{ Côtes-du-Nord.	581,684	1,615	St. Brieuc.
	{ Finistère.	502,851	1,389	Quimper.
	{ Morbihan.	427,453	1,204	Vannes.
	{ Loire-Inférieure.	457,090	1,193	Nantes.
Poitou.	{ Vienne.	267,670	731	Poitiers.
	{ Deux Sèvres.	288,260	900	Niort.
	{ Vendée.	322,826	891	Bourbon-Vendée.
Aunis.—Saintonge et Angoumois.	{ Charente Inférieure.	424,147	1,158	La Rochelle.
	{ Charente.	353,653	1,178	Angoulême.

Région de l'Est.

Alsace.	{ Haut-Rhin.	408,741	2,043	Colmar.
	{ Bas-Rhin.	535,467	2,231	Strasbourg.
Franche-Comté.	{ Haute-Saône.	327,641	1,178	Vesoul.
	{ Doubs.	254,314	956	Besançon.
	{ Jura.	310,282	1,146	Lons-le-Saulnier.
Bourgogne } (Burgundy) }	{ Yonne.	342,116	870	Auxerre.
	{ Côte-d'Or.	370,943	799	Dijon.
	{ Saône-et-Loire.	515,776	1,153	Mâcon.
	{ Ain.	341,628	1,260	Bourg.
Lyonnais.	{ Rhône.	416,575	2,833	Lyons.
	{ Loire.	369,298	1,442	Montbrison.

Région du Sud.

Languedoc.	{ Haute-Loire.	285,673	1,175	Le Puy.
	{ Ardèche.	328,419	1,368	Privas.
	{ Lozère.	138,778	510	Mende.
	{ Gard.	347,550	1,198	Nîmes.
	{ Hérault.	339,560	1,041	Montpellier.
	{ Tarn.	327,655	1,170	Alby.
	{ Aude.	265,991	828	Carcassonne.
	{ Haute-Garonne.	407,016	1,312	Toulouse.

<i>Ancient Provinces.</i>	<i>Departments.</i>	<i>Total Pop.</i>	<i>Pop. sq. l.</i>	<i>Chief Places.</i>
Roussillon.	Pyrénées-Orientales.	151,372	688	Perpignan.
Comté-de-Foix.	Ariège.	247,932	1,011	Foix.
	Dordogne.	464,074	973	Périgueux.
	Gironde.	538,151	978	Bordeaux.
	Lot-et-Garonne	336,886	1,161	Agen.
Guienne-et-Gascony.	Lot.	280,515	1,038	Cahors.
	Tarne-et-Garonne.	241,586	1,220	Montauban.
	Aveyron.	350,014	755	Rhodes.
	Landes.	265,309	553	Mont-de-Marsan.
	Gers.	307,601	896	Auch.
	Hautes-Pyrénées.	222,059	902	Tarbes.
Béarn.	Basses-Pyrénées.	412,469	1,018	Pau.
	Isère.	525,984	1,160	Grenoble.
Dauphiny.	Drôme.	285,791	850	Valence.
	Hautes-Alpes.	125,329	545	Gap.
Comtat-Venaissin et Comtat d'Avignon.	Vaucluse.	233,048	1,259	Avignon.
	Basses-Alpes.	153,063	560	Digne.
Provence.	Bouches-du-Rhône.	326,302	1,226	Marseilles.
	Var.	311,095	818	Draguignan.
Corsica.	Corse.	185,079	420	Ajaccio.

DEPHLOGISTICATED AIR. (See *Oxygen*.)

DEPLOY; to display, to spread out. A column is said to deploy, when the divisions open or extend to form line on any given division.

DEPORTATION; a kind of banishment in use even among the Romans (first introduced by Augustus); by virtue of which the condemned person was sent to a foreign uninhabited country, usually an island, his estate confiscated, and himself deprived of the rights of a Roman citizen. This punishment differs from other kinds of banishment in this, that the person thus punished is not permitted to choose his place of exile. During the French revolution, this punishment was revived in lieu of the guillotine. The merit of its restoration has been at different times ascribed to Boulay, to the bishop of Autun, and to Talot. For the most part, the condemned were transported to Cayenne or to Port-Marat (*Port-Dauphin*) on the island of Madagascar. Towards the end of Robespierre's administration, this punishment was most frequent. According to the French penal code of 12th February, 1810, deportation is even now one of the punishments established by law in France; but, nevertheless, it is not easily put in execution. It is ranked as the third degree of infamous punishments (only capital punishment and consignment to labor for life, together with *trailing the ball*, as it is called, are ranked before it), and gives rise to civil death. The person

deported loses the control of his property, is deprived of the power of making contracts, and his heirs enter into possession of his estate in the same manner as though he were actually deceased; yet the government can grant him, in the place of his banishment, which is always assigned without the main land of European France, the ordinary civil privileges, or a portion of the same. If a person deported return to France without the leave of the government, he is immediately condemned to the before-mentioned punishment of hard labor for life. If he have fled to a foreign country and soil, and ever comes again into the power of the French government, he is again remitted to the place of his banishment. Deportation, or transportation, is also one of the legal punishments in England. (See *New South Wales*.) (For the number of persons transported to New South Wales, see *Crime, the Statistics of*, page 24.)

DEPOSITION, in law; testimony given in court by a witness upon oath. It is also used to signify the attested written testimony of a witness by way of answer to interrogatories. These interrogatories are usually put in writing, and must be short and pertinent, and not such as will lead the witness to give a turn to his answer favorable to one of the parties. The witnesses are examined before magistrates, having a general authority given them by statute to take depositions, by commissioners appointed by the court which has

cognizance of the case. If the witnesses are foreigners, residing beyond sea, they are examined upon oath, through skilful sworn interpreters. The deposition of a heathen, who believes in the Supreme Being, taken by commission according to the forms used in his country in giving evidence, is admissible. By the practice of some countries, the commissioners are sworn to secrecy, and the deposition cannot be made public till the papers containing it are opened in court. After a witness is fully examined, the examinations are read over to him, and he is at liberty to alter or annul any thing; and then the examinations are complete.—Depositions are frequently taken conditionally, or *de bene esse*, as it is called; for instance, when the parties are sick, aged, or going abroad, depositions are taken, to be read in court, in case of their death or departure before the trial comes on. So depositions in *perpetuam memoriam rei*, or for the purpose of perpetuating testimony, are taken under the direction of a court of chancery, or, in some of the U. States, without any application to chancery, by magistrates authorized by statute.

DEPPING, George Bernhard; a learned German, residing at Paris, born at Münster, in Westphalia, in 1784. He has written various works, including several for the instruction of youth, and has superintended the publication of many others. His *Histoire générale de l'Espagne*, commenced in 1811, has not been completed. He assists in the *Biographie Universelle*, in the *Revue Encyclopédique*, the continuation of the chronological work *Art de vérifier les Dates*, &c. We are also indebted to him for a collection of the best Spanish Romances; *La Suisse* (Paris, 1822, 4 vols.); *La Grèce* (Paris, 1823, 4 vols.); *Voyage d'un Étudiant dans les 5 Parties du Monde* (Paris, 1822, 2 vols.)

DEPTFORD; a town of England, county of Kent, at the confluence of the Ravensbourne with the Thames. It is very irregularly built, and contains two churches, besides several places of worship for dissenters. There is a royal dock-yard here, with fine wet docks, and numerous buildings for the manufacture and preservation of naval stores. There are also several private docks in the neighborhood, for building and repairing merchantmen. There are two hospitals belonging to the society of the Trinity-house. This society was founded in the reign of Henry VIII, by sir Thomas Spert, for the increase and encouragement of navigation,

and for the good government of the seamen, and the better security of merchant ships on the coasts. Population, including Greenwich, 40,574. 4 miles E. London.

DEPUTIES, CHAMBER OF. (See *Charte Constitutionnelle*.)

DERBY; a county in the north of England. Derbyshire is noted for its mineral productions—lead, iron, coal, lime and Derbyshire spar. It has extensive quarries of grit, which afford excellent mill-stones. A singular kind of lead ore is found in a vertical position, which, on being probed by a sharp-pointed instrument, emits a crackling noise, and explodes violently in a few minutes. A remarkable substance, called *elastic bitumen*, is exclusively the product of Derbyshire. Many chasms and spacious caverns are found here.

DERBY; a town of England, the capital of Derbyshire, on the Derwent, which is crossed by a stone bridge. The church of All Saints has a tower rising 180 feet, in rich Gothic. Its architecture is greatly and justly admired. Besides the parish churches, there are places of divine worship for Presbyterians, Independents, Baptists, Methodists, Roman Catholics, Quakers, Swedenborgians, and Revivalists, or Primitive Methodists. Manufactures to a large extent are carried on in this town, particularly in silk and cotton, porcelain and spar. There are, besides, manufactures of iron, lead pipes, lead shot, white and red lead, tin plate, and other commodities. It returns two members to parliament. Population, 17,423; 120 miles N. W. by N. London; lon. 1° 25' W.; lat. 52° 58' N.

DERBYSHIRE SPAR. (See *Fluate of Lime*, in article *Lime*.)

DERFLINGER, George, baron of (originally *Dörfling*), a field-marshal of Prussian Brandenburg, and one of the first heroes of the Prussian military state, founded by Frederic William, the great elector, was born in 1606, according to some authors in an Austrian village near the Ens, but according to Pauli, was the son of a Protestant peasant in Bohemia. He was at first a tailor, and wished to remove to Berlin, on account of the disturbances in Bohemia, to avoid the religious oppression exercised after the battle at the Weisseberge. But, not being able to get ferried across the Elbe, on account of his want of money, he threw his bundle into the stream, and betook himself to the sword. He served a long time as a soldier under general Thurm, and, while yet only a dragoon, indulged the hope of becoming a general. He then entered the Swedish

service, under Gustavus Adolphus, and afterwards served under Bauer (q. v.) and Torstensohn. Having carried queen Christina intelligence of the victory at Leipsic (1642), to which his regiment of horse had greatly contributed, he was appointed by her a major-general. After the peace, he was dismissed, as a foreigner, from the Swedish army, went to Brandenburg, and entered the service of the elector, Frederick William, in 1654, as major-general of the cavalry. He distinguished himself in all the campaigns of the great elector against the Poles, Swedes and French, by his sagacity, activity and valor. He was also employed in embassies; and the emperor Leopold, at the request of his sovereign, raised him, in 1674, to the rank of baron of the empire. He died in 1695.

DERSCHAWIN, Gabriel Romanowich, born in 1743, at Kasan, belongs, with the lately deceased Cherskoff and the tragic poet Oseroff, among the most eminent poets of Russia. In 1760, he entered a corps of engineers, as a common soldier, and distinguished himself in the field, particularly in 1774, against the rebel Pugatscheff. Even at this time, his poetic genius began to dawn. Under Catharine, he rose, in 1800, to be treasurer of the empire, and, in 1802, became minister of justice. But he soon retired from business, and devoted his life to the muses. His Ode to God is much celebrated, and was translated into Latin by Czersky, at Wilna, in 1819. The emperor of China caused it to be translated into Chinese, and hung up in an apartment of his palace, printed on silk, in letters of gold. His Waterfall has also great merit. In other poems, his loftiness sometimes degenerates into bombast. Some of his poems have been translated into English by Bowring. (See his *Specimens of Russian Poetry*.) Derschawin's poems appeared in 1808, in four volumes. He also wrote political and topographical works. Derschawin died July 8, 1819.

DERVISE (*Persian*; póor); the name of a certain class of religious persons in Asia. It denotes the same amongst Mohammedans as *monk* with the Christians. The observance of strict forms, fasting, and acts of piety, give them a character of sanctity amongst the people. They live partly together, in monasteries, partly alone, and from their number the Imans (q. v.) are generally chosen. Throughout Turkey, they are freely received, even at the tables of persons of the highest rank. Among the Hindoos, these monks are called *fakirs*. There are, throughout Asia,

multitudes of these devotees, monastic and ascetic, not only among the Mohammedans, but also among the followers of Brahma. There are thirty-two religious orders now existing in the Turkish empire, many of which are scarcely known beyond its limits; but others, such as the Nacshbendies and Mevlevies, are common in Persia and India. All these communities are properly stationary, though some of them send out a portion of their members to collect alms. The regularly itinerant dervises in Turkey are all foreigners, or outcasts, who, though expelled from their orders for misconduct, find their profession too agreeable and profitable to be abandoned, and therefore set up for themselves, and, under color of sanctity, fleece honest people. All these orders, except the Nacshbendies, are considered as living in seclusion from the world; but that order is entirely composed of persons who, without quitting the world, bind themselves to a strict observance of certain forms of devotion, and meet once a week to perform them together. Each order has its peculiar statutes, exercises and habits. Most of them impose a novitiate, the length of which depends upon the spiritual state of the candidate, who is sometimes kept for a whole year under this kind of discipline. In the order of the Mevlevies, the novice perfects his spiritual knowledge in the kitchen of the convent. Dancing, or something like it, forms an essential part of the duties of some of the orders. The dances of the greater number are called *devr* (circle), because they consist in a movement forwards of the right foot, accompanied with violent contortions of the body, all the performers joining hand in hand, and standing in a circle. The longer the dance, and the louder the shout of *Ya Hu*, or *Ya Allah*, the greater is the merit: these exercises are therefore often persevered in till a fainting fit or spitting of blood concludes the exhibition. The exhibitions of the Ruffaries are the longest, and most comprehensive of all. Towards the close of them, the performers are worked up into a sort of frenzy. Previous to this time, two of the dervises put spits, swords, daggers, &c., into the fire, that they may be presented red hot to the sheikh or chief, when the excitement reaches its highest pitch. The sheikh blows upon them, just touches them with his mouth, and delivers them to the most eager of the fraternity: they are seized, licked, gnawed, and held in the mouth till the glow disappears. Others of the fraternity seize the

swords, cutlasses, &c., which are hanging on the walls of the room, and slash their sides, arms and legs unmercifully. The sheikh concludes the whole by going round, examining the wounds, blowing upon them, and anointing them with his saliva, which, together with a few prayers, effects a cure in twenty-four hours! The sheikhs of all orders have the credit of possessing miraculous powers. The interpretation of dreams, the cure of diseases, and the removal of barrenness, are the gifts for which the dervises are most in repute.

DERWENT WATER, or the Lake of Keswick; a beautiful lake in the county of Cumberland, England, in the vale of Keswick, lying between the mountain of Skiddaw on the north, and the craggy hills of Borrowdale on the south, whence it derives its chief supplies of water.

DESAIX DE VOYGOUX, Louis Charles Antoine, a French general, born in 1768, at St. Hilaire d'Ayat, of a noble family, entered the regiment of Bretagne, in 1784, as under-lieutenant. He contributed, Dec. 1793, to the capture of the Haguenau lines, which the left wing, where he was stationed, first broke through. He served, in 1794, in the northern army, under Pichegru, and repeatedly distinguished himself. Attached to the army of the Rhine, under Moreau, 1796, he defended the bridge of Kehl in November of that year. In 1797, he accompanied Bonaparte to Egypt, contributed to his first victory, and was thence sent to the conquest of Upper Egypt, where Murad Bey, notwithstanding his defeat, incessantly harassed his conqueror. Bonaparte soon returned to Europe, as did Desaix himself, after the treaty of El-Arish, concluded by him with the Turks and English. On his arrival in France, he learned that Bonaparte had departed for Italy, hastened to join him, and took command of the corps of reserve. A third part of the French army was already disabled, when Desaix's corps arrived (June 14, 1800) on the field of Marengo. (q. v.) He immediately advanced to the charge, but fell, mortally wounded by a cannon-ball, just as victory declared for the French. His body was carried to Milan, embalmed, and conveyed to the hospitiun on the St. Bernard, where a monument is erected to him. (See *Bernard, St.*) Another monument, erected to him on the plains of Marengo, where he fell, was destroyed by the Austrians, in 1814. Desaix was as just and disinterested as he was brave. The inhabitants of Cairo gave him the title of the *just sultan*.

DESATIR is a lately discovered collection of sixteen sacred books, consisting of the fifteen old Persian prophets, together with a book of Zoroaster. This, at least, is what the book itself pretends to be. The collection is written in a language not spoken at present any where, and equally different from the Zend, the Pelvi and modern Persian. The last of the fifteen prophets, Sasan, who lived at the time of the downfall of the Sassanides, when the Arabians conquered the country, literally translated the Desatir, and accompanied it with commentaries. This work was afterwards, until the 17th century, one of the chief sources of the ancient Persian religious doctrines, interwoven with astrology and demonology; and, after having been forgotten for about a century and a half, a learned Parsee discovered it at Ispahan. His son, Molla Firuz, was induced by the marquis of Hastings to publish an edition of the Desatir at Bombay, in 1820, to which Erskine added an English translation. Erskine, however, considers the collection as spurious; and Sylvester de Sacy (*Journal des Savants*, Feb., 1821) believes that the Desatir is the work of a Parsee in the 4th century of the Hegira, who, as he thinks, invented the language, in order to give to the collection, which is itself an assemblage of old traditions and significant mysteries, an air of genuineness. Joseph von Hammer, on the contrary, is said to consider it as genuine. At all events, it is interesting to learn from this work, with greater accuracy, an old religious system of the East, in which are to be found, with pandæmonism and the metempsychosis, the elements of the worship of the stars, of astrology, the *theurgy*, the doctrine of amulets, as well as the elements of the Hindoo religion, particularly the system of castes, and many elements of the Christian religion. Yet no trace of any connexion with the Zendavesta and the magic of the Parsees has been found in the Desatir.

DESAULT, Peter Joseph; one of the most celebrated surgeons of France; born Feb. 6, 1744, at Magny-Vernais, in the former Franche-Comté. He was designed for the church, early studied mathematics and philosophy, and was led by his inclination to the surgical profession; in consequence of which he entered the military hospital at Bèfort, where his diligence and talent for observation supplied the defects of a suitable instruction; and his situation was favorable for obtaining a knowledge of the treatment of wounds from fire-arms, in which department he

afterwards rose to great eminence. He went to Paris in 1764, and was one of the numerous scholars of the celebrated Petit. Two years afterwards, he became a lecturer, and, though his delivery was bad, he soon became celebrated by introducing a new method of teaching anatomy. While lecturing on the parts of the human body, he treated of the diseases incident to each. After having been several years principal surgeon of the hospital *de la charité*, where he increased his reputation by introducing new methods of treatment, or by improving and simplifying those already in use, he was put at the head of the great *Hôtel-Dieu* in Paris, in 1788. Here he founded a surgical school, in which have been educated many of the most eminent surgeons of Europe. His principal merits were, that he brought accuracy and method into the study of surgery; improved the treatment of fractured bones, by adopting improved bandages; first introduced into France the clinical method of instruction in surgery, and infused into his scholars a generous attachment to their profession. He was distinguished for the skill and boldness with which he performed operations. This happy natural talent, this surgical instinct, that guided him in the most difficult cases, compensated for his want of professional learning, to which he was so indifferent, that, in his later years, he read very little; and, as he was entirely ignorant of internal diseases, he was indignant, when, at the foundation of the *école de santé*, in which he became professor of clinical surgery, the study of medicine and surgery were connected. He died, while attending upon the son of Louis XVI, in the Temple, of a violent fever, June 1, 1795. Desault wrote only two small treatises; but the *Journal de Chirurgie*, in which his scholars published his lectures delivered in the *Hôtel-Dieu*, and the *Œuvres Chirurgicales*, edited by Bichat under Desault's name, contain his whole system.

DESCARTES, René (Renatus Cartesius), an original thinker, and reformer of philosophy, with whom the modern or new philosophy is often considered as commencing, was born in 1596, at La Haye, in Touraine, and died at Stockholm, in 1650. While pursuing his education in the Jesuits' school at La Fleche, where he studied philology, mathematics and astronomy, his superior intellect manifested itself. After having read much, without coming to any certain conclusions, he travelled. Both his birth and inclination

led him to embrace the military profession, and he fought as a volunteer at the siege of Rochelle, and in Holland under prince Maurice. While he served in Holland, a mathematical problem in Dutch, pasted up in the streets of Breda, met his eye. Not being acquainted with the language, he asked a man who stood near him to translate the problem to him. This man happened to be professor Beecman, principal of the university of Dort, and himself a mathematician. He smiled at the question of the young officer, and was greatly surprised, the next morning, to find that he had solved it. From hence Descartes went to Germany, and entered the Bavarian service. His situation, however, affording him little opportunity for pursuing his favorite studies, he left the army in 1621, and visited Moravia, Silesia, Poland, Pomerania, and the shores of the Baltic. In order to see West Friesland with advantage, he purchased a boat, and embarked with a single valet. The sailors, thinking him a foreign merchant, with much money in his baggage, resolved to kill him. Imagining him ignorant of their language, they conversed of their plan openly. Descartes, seeing his danger, drew his sword, addressed them in their own tongue, and threatened to stab the first man that should offer him violence. The sailors were overawed, and gave up their design. After a variety of travels, he remained in Holland, where he composed most of his writings, from 1629 to 1649, drew about him many scholars, and was engaged in many learned controversies, especially with theologians. His celebrated system abounds in singularities and originalities; but a spirit of independent thought prevails throughout it, and has contributed to excite the same spirit in others. It has done much to give to philosophical inquiries a new direction, and found many adherents, especially in England, France and Germany. Descartes founds his belief of the existence of a thinking being on the consciousness of thought: "I think, therefore I exist" (*cogito, ergo sum*). He developed his system with much ingenuity, in opposition to the empiric philosophy of the English, and the Aristotelian scholastics, and adopted the rigorous, systematic or mathematical method of reasoning. From his system originated the notion among the moderns, that the very existence and certainty of philosophy consists in definitions, arguments, and a methodical arrangement of them. The thinking being, says Descartes, or the soul, evidently differs from

the body, whose existence consists in space or extension, by its simplicity and immateriality (whence, also, its immortality), and by the freedom that pertains to it. But every perception of the soul is not clear and distinct; it is in a great degree involved in doubt, and is so far an imperfect, finite being. This imperfection of its own leads it to the idea of an absolutely perfect being. (He, therefore, here makes use of the (so called) *ontological* proof of the existence of God, in a different manner from that in which Anselm of Canterbury had, somewhat earlier, employed the same; and hence the name of the "Cartesian proof".) He placed at the head of his system the idea of an absolutely perfect being, which he considers as an innate idea, and deduces from it all further knowledge of truth. The principal problems of metaphysics he conceived to be substantiality and causality. He contributed greatly to the advancement of mathematics and physics. He made use of the discoveries and observations of others, defining them accurately, and assigning them their place in his system. The higher departments of geometry (to which he successfully applied analysis), as well as optics, dioptrics and mechanics, were greatly extended by him, their method simplified, and thereby the way prepared for the great discoveries made in the sciences by Newton and Leibnitz; for instance, he contributed much to define and illustrate the true law of refraction. His system of the universe attracted great attention in his time, but has been long since exploded. It rests on the strange hypothesis of the heavenly vortices, immense currents of ethereal matter, with which space is filled, and by which he accounted for the motion of the planets. He labored much to extend the Copernican system of astronomy. Descartes loved independence; he nevertheless suffered himself to be persuaded to go to Stockholm, upon the invitation of queen Christina, who was very desirous of his society. He died at that place, 4 months after his arrival. His body was carried to Paris in 1666, and interred anew in the church of St. Genevieve du Mont. Descartes was never married, but had one natural daughter, Francina, who died in his arms, in her fifth year, and whose loss he felt acutely. His works have at various times been published, singly and together; as, for instance, at Amsterdam, 1692, 9 vols. 4to. Baille and Tarpelius have written his life. (See his letters; also the eulogies on him by Gaillard,

Thomas and Mercier, and Leibnitz's account of him in his letters.)

DESCENT, in law, is the transmission of the right and title to lands to the heir, on the decease of the proprietor, by the mere operation of law. A title by descent is distinguished from a title by purchase, which latter includes title by devise, as well as by grant. The law of descent is, accordingly, the law relating to and regulating the inheritance of estates. Wherever there is an exclusive property in lands possessed by individuals, or, in other words, wherever the soil is held by distinct, permanent proprietaries, the law provides for the disposition of the possession in case of the death of the proprietor, without any designation of heirs by himself. It is a theory of all states, that the title to lands is originally in the government. Thus, in all the American states, the government granted the title originally; and, in case of a vacant possession, the title now reverts, by escheat, to this original grantor. The government considers itself to be the heir to all its subjects or citizens, who leave no other heir. In some countries, as in Egypt, particularly, the government is the perpetual and practical owner of the soil, and stands in the relation of landlord to all the cultivators, who are its tenants, and pay regular rents. It is a theory of the tenures of lands in England, that they are generally held, directly or indirectly, of the king, as superior lord. This is only the theoretical remnant of the principle, that the property in the soil belongs originally to the sovereign; and the title is held by the subject in England upon certain conditions; for the lands of a traitor are forfeited, which makes allegiance one of the conditions of the tenure. Though there are countries in which the sovereign is the sole landed proprietor, while in others he is the heir of the landed proprietors, whose estates are accordingly for life, yet most countries provide for the transmission or descent of property in lands to the heirs of the proprietor; one distinction in the different laws being, that some codes, or the provisions relating to some particular kinds of estate, do not permit the occupant or proprietor, for the time being, to alter the disposition made by the law. Thus, before the conquest, lands were devisable in England, and the proprietor could appoint by will who should inherit them after his death; but it was one part of the policy of the feudal law, which was introduced into England after the conquest, to take away this power, and make lands descend

only according to a prescribed rule. But expedients have been resorted to in England to break entails, and give the present proprietor the power of disposing of the lands during his lifetime. These expedients are denominated a *fine* and a *common recovery*. In the case of entailed estates, the successive possessors do not, in fact, come in as inheritors to the preceding occupiers, but in virtue of the grant or original constitution of the estate; and these grants make the law for these particular species of estates. Estates of this description were formerly much more numerous in the U. States than at present. But they were never much favored, and after the revolution, the laws leaned still more against them, so that at present they are but few. But in Great Britain and the continent of Europe, a very large part of the soil is held by this species of title. The rule determining to whom an estate belongs, on the decease of the proprietor, is that of consanguinity, or relationship by blood, though with some exceptions, as in the case of the portion or the use of a portion of a man's property, given, by the laws of England and the United States, to his widow. The rules of descent, designating what relations shall inherit, and their respective shares, will be determined by the genius and policy of the government and institutions. Hence the practice of entailments in the feudal system. And wherever the government is founded in family privileges, or very intimately connected with them, as is the case in all governments where the hereditarily aristocratical part of the community have a great preponderance, the sustaining of families will very probably be a characteristic feature in the code of laws. Thus, in England, all the lands of the father, unless otherwise directed by will, go to the eldest son; and accordingly all the eldest sons, who receive any benefit from this law of descent, are naturally the supporters of aristocratical privileges. It has accordingly been predicted, that the provision introduced into the French laws, since the revolution, for equalizing inheritances, and thus dividing estates, and forming a numerous body of small proprietors, will have a rapid and powerful influence in giving a popular character to the government and institutions of the country. Some remnant of this family policy, which prevails so generally in Europe, appears in the early laws of the American colonies and provinces, in the preference given to eldest sons, by assigning them a double portion

of the inheritance. This distinction probably resulted very much from the mere force of habit and custom. It is, however, not improbable that a reverence for the Levitical code might have led some of the colonies to this distinction in favor of the first-born. This is an argument made use of in the pragmatic sanction, published by the Spanish king, March 29, 1830, annulling the rule of the Salic law, which excludes females from the succession. In this decree, an argument is cited from the petition of the cortes of 1789, in favor of the right of the eldest, which is vindicated, 1. from the order of nature; 2. from the Old Testament; 3. from usage; from all which the petition infers, that "the advantage of being the first-born is a particular mark of the love of God." But the distinction in favor of the eldest son, which existed in the colonies now constituting the U. States, has been abolished since the establishment of independence. A compendious notice of the various laws of the several U. States on the subject of the descent of real estate, will be found in the first volume of the American Jurist and Law Magazine. These laws are founded upon the principle of equal distribution, both of real and personal estates, among heirs of the nearest surviving degree, and the representatives of deceased heirs of the same degree; the representatives of a deceased heir who, when alive, was of the same degree with the nearest that survive, being entitled collectively to the share which would have come to such deceased heir, had he been living. This general principle is adopted from the English statutes of the 22d and 23d of Charles II, relating to the distribution of personal property; for the English law makes a great distinction as to the descent of real and personal estate, whereas, in the U. States, they descend and are distributed upon the same general principle, though there are some differences in the particular provisions. But this right of taking by representation is very variously modified in the different states. To make the subject better understood, a word ought to be said on the subject of affinity, or degrees of consanguinity, which is very lucidly treated in Blackstone's Commentaries. Kindred in blood are divided into three general classes, viz. 1. descendants; 2. ancestors; 3. collateral relatives, that is, those who have descended from the same common ancestor. The civil law computes the degrees by counting the generations up to the common ancestor, as father, grandfather, great grandfather; or

mother, grandmother, great grandmother; and from him or her down to the collateral relative, as brother, cousin, &c., making the degree of relationship the sum of these two series of generations. Every person has two sets of ancestors, the paternal and maternal, and therefore two sets of collateral relatives. There is also a distinction of collateral kindred, into those of the whole blood, and those of the half blood. Our limits will not allow us to state the various regulations in England and the U. States, as to the rules of inheritance among kindred of these different kinds; they are thus generally noticed, merely for the purpose of intimating some general diversities in the rules of descent. Thus in England and France, it is a rule, that real estate cannot ascend, that is, cannot go to father, grandfather, &c. on the decease of the son, grandson, &c.; for which the quaint reason is given by Bracton, that the *weight* of the inheritance makes it *descend*. Notwithstanding this supposed downward tendency of an inheritance in land, it is, in defect of descendants, made by the American laws to ascend, as well as to pass off collaterally; and this is the rule respecting personal estate, both in England and the U. States. Another distinction is made by the English laws, between collateral relatives of the whole and half blood, as the latter cannot inherit real estate; but in respect to personal estate in England, and both personal and real estate in the U. States, no distinction of this sort is made. Another diversity in the laws of inheritance relates to the distinction of male and female heirs. The Jewish law preferred the male heirs, and the present laws of Vermont (1830) give a similar preference. But the laws of the U. States generally, in regard both to real and personal estate, and those of England respecting the latter, make no distinction on account of the sex of the heirs.

DESEADA, DESIRADA, or DESIDERADA; the first of the Caribbee islands discovered by Columbus in the year 1494; belonging to France, about 10 miles long, and hardly 5 broad. The soil is, in some places, black and good; in others, sandy and unproductive; 16 miles E. Guadeloupe; lon. 61° 15' W.; lat. 16° 30' N.; population, about 1000.

DE SERRE, Hercule, count, a French minister of state, who, in 1822, was appointed ambassador at the court of Naples, was born at Metz, in 1774, of a noble family of Lorraine. In 1791, he emigrated, and served in several campaigns, in the army of the prince of Condé. He

then lived a long time in Germany, in Biberach, a small place in Suabia, as a schoolmaster. Here he acquired his perfect knowledge of the German language and literature. He afterward obtained permission to return to France, and became a lawyer. Napoleon appointed him *avocat-général* to the court of appeal at Metz, and first president of the court of appeal at Hamburg, where he acquired esteem by his integrity, talents and moderation. He left Hamburg just before the siege, in 1813. In 1814, Louis XVIII. appointed him first president of the court of appeal at Colmar. During the hundred days, he resided with the king in Ghent. Being chosen a deputy by the department of the Upper Rhine, in 1815, the energy with which he opposed the ultra-royalist majority attracted the attention of the ministry, and gained him the confidence of the nation. From 1816 to 1818, he filled the chair of president of the chamber of deputies with dignity and impartiality; at the same time he was a member of the committee of legislation in the council of state. In December, 1818, the king appointed him keeper of the seals and minister of justice. He pursued the policy of Decazes, and distinguished himself, in 1819, by his defence of the three laws proposed for the regulation of the press, 17th May, 26th May, 9th June, which took the place of the censorship then existing. He also opposed, with vigor, the change of the law of elections. In his speech, March 23, 1819, he denounced the party spirit of the ultras as the cause that the crimes committed in the south of France, in 1815, had remained unpunished. He opposed, however, the demands of the liberals for the restoration of the regicides, by his famous *Jamais* (17th May, 1819). He afterwards separated himself from the *doctrinaires*, whose principles he had hitherto maintained, and supported the proposal of Decazes, of February, 1820, to change the law of election of 1817. When the excitement of parties in regard to the three projects of the late premier had reached its height, he completed the triumph of the ministry and the moderate right side, by advocating the amendments of the proposed new law of election (9th June, 1820). As the principal supporter of the new law of election, in 1820, he was of the greatest service to the royalists, but lost the favor of the liberals. The king created him a count, and bestowed on his son an income of 20,000 francs per annum. De Serre himself had no fortune and a numerous family.

The new elections of 1820 and 1821 brought a great number of ultra-royalists into the chamber of deputies, and a strong opposition was formed, on the part of the right side, against the ministry. The leaders, Corbière and Villèle, endeavored to obtain seats in the ministry, and their influence finally effected the change of the 14th Dec., 1821; De Serre, Pasquier, Latour-Maubourg, Siméon, Portal and Roy left the ministry, and Peyronnet succeeded De Serre as minister of justice and keeper of the seals. De Serre is said to have contributed, himself, to the nomination of the latter. He did not join the opposition, though he was adverse to the plan of the new ministry for abolishing the jury in trials for abuses of the press; and he declared, in the chamber of deputies (February, 1822), through his friend Froc de la Boulaye, that he was more fully convinced than ever of the expediency of a jury. The ministry, however, succeeded in its object. Infirm health prevented count De Serre from taking part in the discussions on this occasion. In May, 1822, he was sent ambassador to Naples, where he died July 21, 1824.

DESETER; a soldier who quits his regiment without leave. If an armed soldier deserts a post where he is placed on duty, the offence, we believe, in all armies, is punished with death; but simple desertion, not. In the English army, however, death is the punishment for desertion in any shape. In the U. States, the same law exists, but it will, probably, soon be changed.

DESEZE, Raymond, the advocate who defended Louis XVI before the bar of the national convention, belongs to an ancient family. His father was a celebrated parliamentary advocate at Bordeaux, in which town Raymond was born, in 1750. Raymond Deseze studied the law from inclination, and displayed uncommon talents in his profession. He made himself known to the minister De Vergennes, by his defence of the marchioness D'Anglure, and was induced by this minister to settle in Paris. His fame was already established, when he was associated with Malesherbes and Tronchet, in the responsible office of defending Louis XVI. He had only four nights for drawing up the articles of defence. The days were occupied in examining the papers connected with the cause, and in the necessary conversations with his colleagues. Notwithstanding this, his defence was a masterpiece, and the only reproach which can be cast upon Deseze is, that he did not overstep the

limits of the advocate, and take the higher ground of a statesman. It was evident that the result would not reward his exertions. He survived the reign of terror. On the return of the Bourbons, Deseze was crowned with marks of honor, and appointed first president of the court of cassation and grand-treasurer of the royal order. In 1815, he followed the court to Ghent, and was made a peer of France and member of the academy.

DESFONTAINES, Pierre François Guyot, abbé, born at Rouen, in 1685, died at Paris, in 1745, was one of those French literati who are known to us more from their controversies with Voltaire, and his biting attacks, than from their own productions. Voltaire, by the superiority of his wit, succeeded in gaining many to his opinions; but impartial judges have long agreed, that he was not altogether correct, and that the criticisms of the abbé Desfontaines, though severe, are by no means unjust. One of the works of the abbé, which had the misfortune to excite the particular displeasure of the poet, was the well known *Dictionnaire Néologique*, of which the 6th edition appeared in 1750 (Amsterdam and Leipsic), and which was intended to guard the purity of the French language, as the great writers of the 17th century had formed it; and, in this respect, it has certainly proved of much service.

DESHOULIERES, Antoinette; a French lady of much literary reputation. Her maiden name was *Du Ligier de Lagarde*. She lived at Paris from 1638 till 1694. With a prepossessing appearance she combined a distinguished talent for light and agreeable poetry, which she cultivated under the direction of the poet Hainault. She was acquainted with the Latin, Spanish and Italian languages, and studied philosophy in her later years, during which she had to endure continual sickness. Voltaire was of opinion, that of all the French poets of her sex, she had the greatest merit. Several learned societies elected her a member, and her agreeable manner, her animation and wit, which sometimes, but rarely, gave way to a gentle melancholy, made her the centre of attraction in the best societies at that period. For reasons unknown to us, she was imprisoned, in February, 1658, at Brussels, by the Spaniards; but her husband, an officer, procured her deliverance. Her works appeared, together with those of her daughter Antoinette Therese (died 1718),—who also devoted herself to poetry, but with less success,—at Paris, in 1753, 2 vols., 12mo., and at Brussels, in 1740,

2 vols., under the title *Œuvres de Madame et de Mademoiselle Deshoulières*. They contain, 1. pastoral poems, which may still be numbered amongst the best French works of the kind (the finest of these, however, *Les Moutons*, is taken, nearly word for word, from a poem of Antoine Cotel or Coutel, and madame Deshoulières has only the merit of having modernized the old style and expressions); 2. odes, which are, in general, very poor; 3. a tragedy, *Genesrich*, in which so little talent was displayed, that she was advised, according to the French proverb, *revenir à ses Moutons*; 4. poetical letters; 5. madrigals, epigrams and small poems, of which some are full of excellent and witty remarks, which have become proverbial from their truth. Frederic II had a selection of her poems published together with Chalieu's, under the title *Choix des meilleures Pièces de Madame Deshoulières et de l'Abbé de Chaulieu* (Berlin, 1777). This selection is little known.

DESIGN, in painting; the first plan of a large work, drawn roughly, and on a small scale, with the intention of being executed and finished in large. (See *Drawing*.)—In music, *design* means the invention and execution of the subject, in all its parts, agreeably to the general order of the whole.—In manufactures, *design* expresses the figures with which the workman enriches his stuff or silk, and which he copies after his own drawing, or the sketches of some artist.—In building, the term *ichnography* may be used, when by *design* is only meant the plan of a building, or a flat figure drawn on paper; when some side or face of the building is raised from the ground, we may use the term *orthography*; and when both front and sides are seen in perspective, it may be termed *scenography*.

DESMOLOGY (from the Greek *δεσμός*, a ligament, and *λογος*); that branch of anatomy which treats of the ligaments and sinews. (See *Anatomy*.)

DESMOULINS, Benoît Camille, born in 1762, was conspicuous during the first period of the French revolution. His exterior was mean; he was of a dark complexion and repulsive expression. From the commencement of the revolution, he was connected with Robespierre, with whom he had studied at college. From the secret meetings which he had at Mousseaux with the duke of Orleans, it may be inferred that he was, at first, only the agent of this prince. He chose the *palais royal* for the usual scene of his citizen-apostleship, and was constantly

seen there surrounded by many orators, who, with him, prepared the plan for the taking of the Bastille. After this first triumph, he endeavored to excite the minds of the people by his orations or his publications, and called himself *procureur-général de la lanterne*. He then became one of the founders of the club of the *Cordeliers*, connected himself intimately with Danton, and remained faithful to him. On the flight of Louis XVI to Varennes, he was one of the instigators of the assembly of the *champ de Mars*. He was particularly active in the tumult of June 20, 1792, and on the 10th of August. About this time, he was secretary to the minister of justice, Danton, and prepared with him the scenes of September. As deputy of Paris, in the national convention, he defended the duke of Orleans, December 16. Jan. 16, 1793, he gave his vote for the death of Louis XVI. His friendship for Danton was the cause of his fall. Robespierre, at the head of the committee of public safety, was making rapid progress towards tyranny. Danton, assisted by the leaders of the *Cordeliers*, intended to resist this committee, and Camille commenced the attack in his journal *Le Vieux Cordelier*, in which he declared himself against the terrorists, and even made use of the word *clemency* (*clemence*). Upon this, he was, at the instigation of St. Just, whom Camille had also attacked in his journal, imprisoned on the night of the 31st of May, 1794, together with those who were called his accomplices, brought before the revolutionary tribunal, June 4, and condemned to death, "because he had dishonored the revolutionary system, and had attempted to reestablish monarchy." June 5, he was taken, after a violent struggle, to the place of execution. His wife, whom he adored, and who returned his affection,—a beautiful, courageous and spirited woman,—desired to share her husband's fate. Robespierre ordered her to the scaffold ten days after Desmoulins' death. During her trial, she evinced a wonderful tranquillity, and died with much greater firmness than her husband.

DESNOYERS, Auguste-Boucher, an engraver, member of the institute, honorary member of the academies at Vienna and Geneva, born in 1779, at Paris, where his father was castellan in the service of Louis XVI, commenced his career as a historical painter, and studied in Rome, where he copied many paintings in water-colors. After this, his taste was directed towards engraving, in which art Tardieu was his instructor. His first great attempt, in 1805,

La Vierge, dite la belle Jardinière, of Raphael, the plate of which he executed in a year, succeeded remarkably, and laid the foundation of his fame. His engraving of Napoleon, in his coronation costume, a full length figure, from Gerard's painting, in 1805, is equally grand and highly finished. It is now seldom to be met with. It is 2 French feet high, and 18 inches wide. The emperor gave Desnoyers the order for it, and paid him 50,000 francs for the plate, which he left to the artist, after having received a thousand copies. Desnoyers likewise engraved the likeness of the young king of Rome, from Guerin's painting. We owe to him, also, the two excellent engravings of *Phèdre et Hippolyte* and the *Vierge au linge*. Desnoyers is an industrious artist: he himself makes the drawings for his plates. His style is noble and simple, and he is fortunate in his choice of subjects. Amongst his best works, besides the portrait of the emperor, are his *Belisaire*, engraved in 1806, from Gerard's painting, his *Vierge aux Rochers*, from Leonardo da Vinci, and his *Madonna da Foligno*, from Raphael. Some are of opinion, that the *Vierge aux Rochers* is his best production; others prefer the *Madonna da Foligno*. A more recent work of his, which appeared in 1822, is the *Madonna del Pesce*, from Raphael's picture in the Escorial.

DESPARD, Edward Marcus, an officer in the English army, was an Irishman by birth, and, in the American war, served in the troops of the line. In 1779, he went to Jamaica, where he acted as an engineer. He afterwards assisted in the capture of the Spanish establishments on the Mosquito shore, of which he was subsequently appointed superintendent. In 1786, some disputes arose in the colony, and he was suspended from his functions. He arrived in Europe in 1790, bringing with him the most honorable testimonies to his conduct. His applications to government for redress, and for the payment of sums which he claimed as due to him, were unavailing; and the disappointment probably soured his mind. In November, 1802, he was arrested, as the head of a conspiracy to kill the king and overthrow the government. All the conspirators, except Despard, were persons of the lowest classes, and many of them common soldiers. Their leader and seven of his accomplices were executed. The scheme of Despard was so absurdly arranged, and his means so utterly inadequate to the success of the plot, that some supposed him to be deranged; while others absurdly as-

cribed the affair to the machinations of Bonaparte, who shortly after declared war against England.

DESPOT (from the Greek *despótēs*); originally, a *master*, a *lord*: at a later period, it became an honorary title, which the Greek emperors gave to their sons and sons-in-law, when governors of provinces. Alexis III, surnamed *Angelus*, towards the end of the 12th century, is said to have first introduced this title, and to have made it the first in rank after that of emperor. Thus there was a despot of the Morea, of Servia, &c. The Turkish designation of the princes of Moldavia and Walachia (*hospodar*) is a remnant of this title. At present, *despot* means an absolute ruler, as the emperor of Russia; but, in a narrower sense, it conveys the idea of tyranny, as, in fact, the possession of absolute power and the abuse of it are two things bordering very closely on each other.

DESSAIX, Joseph-Marie, count (who must not be confounded with *Desaix*), was born in Savoy, in 1764, and was pursuing his medical studies in Paris, when, in consequence of the events of 1789, he joined the national guard of that city. In 1792, he proposed the raising of the free legion of the Allobroges, composed of foreigners in France, and soon became colonel of that corps. He distinguished himself particularly at the siege of Toulon, and was offered the command of a brigade, which he declined. After having served in Italy, he was chosen (1798) member of the five hundred, from the department of Mont Blanc. He was appointed general of division in 1809, and grand officer of the legion of honor in 1811. In 1814, he commanded the levy *en masse* in the department of Mont Blanc, and delivered the country from the invading forces. In the same year, he was named chevalier of St. Louis, but, in the hundred days, accepted the command of a division, and has since lived in retirement at Ferney.

DESSALINES, Jean-Jacques, emperor of Hayti, was a slave in 1791, when the insurrection of the blacks occurred in that island. His master was a shingler of houses, and Jean Jacques was bred to the same trade. His talents for war, his enterprise, courage, and unscrupulous conduct, raised him to command among the insurgent Negroes; and, when Le Clerc invaded the island, in 1802, Dessalines and Christophe stood next in reputation and rank to Toussaint-Louverture. (See *Toussaint*.) After the deportation of the latter, Dessalines, Christophe and Cler-

vaux took the command, and maintained a desperate and sanguinary warfare against the French, until the latter evacuated the island. This happened in November, 1803. The black chiefs immediately proceeded to proclaim the island independent, restoring its Indian name of *Hayti*, and nominated Dessalines governor-general for life, with absolute power. Dessalines now gave full scope to his savage character. He began by ordering a general massacre of the white French, without distinction of age or sex, stimulating the Negroes to glut their vengeance for the wrongs they had undergone. In October, 1804, he assumed the title and state of *emperor of Hayti*; and, in May ensuing, he promulgated a new constitution, containing provision for permanently organizing the imperial government. His reign, however, was brief; for the people, aided by the troops, sick of his atrocities, and wearied out by his suspicious and vindictive conduct, conspired against his life, and he was killed by one of his soldiers, Oct. 17, 1806, who thus ended a despotism stained by every barbarous enormity. (Malo's *Hist. d'Hayti*, published in 1825, pp. 270—304; Franklin's *Hayti*, ch. 6 and 7.)

DESSAU, Anhalt; one of the three principalities of the German house of Anhalt. It contains 360 square miles, and 56,000 inhabitants. The revenue is estimated at 510,000 guilders. Since 1807, the princes have borne the title of *duke*. The capital is Dessau, on the Mulda, with 9400 inhabitants, fine parks, &c. Four miles and a half from this city is Wörlitz, distinguished by its beautiful park, belonging to the duke. (See *Anhalt*.)

DESSOLES, Jean-Joseph-Paul-Angustin, marquis, lieutenant-general and peer of France, minister of state, &c., is descended from a noble family in Gascony. He was born at Auch, in the department of Gers, July 3, 1767, and received a careful education. At the commencement of the revolution, he enrolled himself among the volunteers, served, in 1792, as captain in the western army of the Pyrenees, was made adjutant to general Reynier, and placed on the general staff. In 1796, he was adjutant-general and chief of battalion in the army of Italy, under Bonaparte, and carried to Paris the news of the preliminaries of peace concluded at Leoben in 1796. Upon this, he was appointed general of brigade, defeated the Austrians in the Valteline, near Santa Maria, and became (April, 1799) general of division and chief of the general staff under Scherer, in the army of Italy, where he gained

Moreau's esteem and friendship. Dessoles particularly distinguished himself, together with his friend Gouvion St. Cyr, by his heroic conduct in the battle of Novi. When Moreau commanded the army on the Rhine, in the spring of 1800, Dessoles was appointed, at his request, chief of his general staff. This famous campaign, and the battle of Hohenlinden, established the military fame of Dessoles, whose reports must still be considered as models. In 1803, after Mortier's departure, he commanded, for a time, the army of Hanover, in which country he gained general esteem by his disinterestedness and moderation. On Bernadotte's arrival, he returned to Paris, and, together with Macdonald and Lecourbe, warmly defended Moreau on the occasion of his trial. He soon after retired to his estate at Auch. In 1808, the emperor intrusted him with the command of the army in Spain—an office which he discharged with equal bravery and humanity. From 1810 to 1812, he again lived as a private individual in France, for his opinions did not agree with the emperor's plans. Notwithstanding this, Bonaparte appointed him, in 1812, chief of the general staff, in the corps commanded by the viceroy; but, on the conquest of Smolensk, disapproving the invasion of Russia, he retired to reëstablish his health, and returned to Paris, where he was connected with Talleyrand. March 31, 1814, the provisional government gave him the command of the Parisian national guard. He declared himself, with Talleyrand, on the night of 6th April, before the emperor Alexander, opposed to the regency of the empress Maria-Louisa, proposed by Bonaparte as a condition of his abdication, and in favor of the reëstablishment of the Bourbons. Soon after, he was nominated military commandant of the department of the Seine, and chief of the general staff of the national guard of France, commanded by Monsieur, the king's brother. Louis XVIII made him peer and minister of state. During the hundred days, he lived retired on his estate. July 7, 1815, he re-entered the chamber of peers, and Louis XVIII appointed him a member of the privy council. But, disapproving the system of the ultras, and expressing himself in favor of constitutional principles in the chamber of peers, he was compelled to renounce the command of the national guard, October, 1815, which was then conferred on the duke of Reggio. He divided his time between his estates and Paris, where he was active in the committees of the chamber of peers. Dec. 29, 1818, he

was appointed to the department of foreign affairs, in the ministry formed by Decazes, and received the presidency of the ministry, taking the place of Richelieu. At the same time, the king made him marquis. He still remained true to constitutional principles, and warmly opposed any change in the law of election of 1817; this was the cause why he and his colleagues, St. Cyr and Louis, left the ministry of the count Decazes (q. v.), Nov. 17, 1819. The baron Pasquier took his place. Dessoles at that time was called, by the nation, in honor of his firmness, *le ministre honnête homme*. The king, who had conferred upon him, in 1814, the grand cross of the legion of honor, in 1818 the command of the order of St. Louis, and, in 1820, the command of the order of the Holy Ghost, retained him as minister of state, and often requested his opinion as a member of the privy council. These situations he, however, lost (1822), partly in consequence of the principles which he expressed on the occasion of the election of the deputies in the month of May, partly from his connexion with the present opposition. Dessoles is distinguished as a statesman by his candor, firmness and frankness.

DESULTORES (from *desilio*, I vault); the Latin name for vaulters or leapers, who jumped from one horse to another. The Scythian, Indian and Numidian cavalry were very expert *desultores*, and each man carried at least two horses to the field. When one was weary, he jumped with great agility upon another, which he led by his hand. The Greeks and Romans introduced the same practice in their games, races, and funeral solemnities, but never, as far as we know, in war. Homer describes a vaulter of this sort, who performed his feats on four horses at once (*Iliad*, xv. 673.); and Livy (xxiii. 29) describes a kind of Numidian cavalry, in Asdrubal's army, in Spain, in which the soldiers had two horses each, and, in the heat of an engagement, frequently leaped, fully armed, from one to another. Ælian gives a similar account of a tribe dwelling not far from the Danube, who, on this account, were called *Amphippi*.

DESTOUCHES, Philippe Nericault, one of the best French comic poets, was born at Tours, in 1680. According to the general opinion, he left his father's house when young, and joined a company of strolling players, among whom he distinguished himself by the propriety of his conduct. Having delivered a harangue at the head of his troop, before M. de Puysieux, then

ambassador in Switzerland, this statesman was struck with the talent which he displayed, took him into his service, and formed him for diplomacy. According to the account given by the relations of Destouches, who considered the profession of a player dishonorable, he studied with success at Paris, where he devoted himself to poetry; and, at the age of 20, entered the army as a volunteer, and was present in several engagements. Having written the comedy called *Curieux Impertinent*, while in winter quarters, and read it in several societies, M. Puysieux was struck with it, and persuaded the author to turn his talents to diplomacy. In Switzerland, he wrote several plays, which met with great applause. By his knowledge of diplomacy, he likewise gained the favor of the regent, who sent him to England, in 1717, as an assistant to the abbé Dubois. When Dubois returned to France, Destouches remained in England, where he married. He acquitted himself so well in the business intrusted him, that the regent promised to give him a proof of his satisfaction which would surprise all France; but upon the death of this prince, he lost his protector and his expectations. He retired to his country seat at Fort-Oiseau, near Melun, and endeavored to forget the caprice of fortune in the study of philosophy and devotion to the muses. Cardinal Fleury wished to send him to St. Petersburg as ambassador, but he declined the offer. He died in 1754, leaving a son, who, by order of Louis XV, superintended the publication of his works. After Molière and Regnard, Destouches is considered the best French writer in the department of comedy. His comedies *Le Glorieux* and *Le Philosophe marié* are considered among the best French works of their class. But, as he made the comic effect subordinate to the moral, his productions have something of the character of sentimental comedy (*la comédie larmoyante*). He excels most in the drawing of character, and exhibits a fertile imagination, pleasing wit, elegance, vivacity and decorum. His numerous epigrams are poor. An elegant edition of his works appeared, in 1750, in 4 vols., 4to.

DETONATION; a sudden combustion and explosion.

DETROIT; a city, port of entry, and capital of Michigan, in Wayne county, on the west side of the river Detroit, between lakes St. Clair and Erie, 18 miles N. of the west end of the latter, and 9 S. of the former; 300 S. by E. Michilimackinac; 302 W. by S. Buffalo; lon. 82° 58' W.; lat.

42° 24' N. : population, in 1810, 770; in 1820, 1422, exclusive of the garrison. It is finely situated, regularly laid out in a square three quarters of a mile on each side, with spacious streets, having an elevation of about 40 feet above the river, of which it commands beautiful views. It contains a handsome Catholic church of stone, besides several other public buildings. The town is defended by fort Shelby, which is a regular work of an oblong form, covering an acre of ground; and the barracks adjoining are capable of quartering several regiments. It is advantageously situated, and has a considerable and growing commerce, and is a place of importance in the fur trade. In 1825, as it appears from the custom-house books, there were 270 arrivals, and the same number of clearances of vessels, at and from this port. It was wholly destroyed by fire in 1805; but the streets have been since laid out regular and wide, and the town built in an improved style. Detroit was settled by the French from Canada as early as 1683. In August, 1812, it was taken by the British, under general Brock, but it did not long remain in their possession.

DETROIT RIVER, or STRAIT OF ST. CLAIR; a river or strait of North America, which runs from lake St. Clair to lake Erie. *Detroit* is the French word for *straits*; and the name was given by the French, the first white men who settled here. Its course is nearly S., with a gentle current, and sufficient depth of water for the navigation of large vessels; the banks are covered with settlements, and the country is exceedingly fertile. Near the banks of the river are many fine orchards of apple-trees, pear-trees and cherry-trees, producing as fine fruit as any in the U. States, and presenting a very agreeable view as one sails up the river. It is 27 miles long, and three quarters of a mile wide opposite to Detroit, enlarging as it descends.

DEUCALION, father of Hellen, ancestor of the Hellenes, was the son of Prometheus and Pandora. He led a colony from Asia into Greece, and established himself in Lycorea on mount Parnassus, from whence he afterwards made an incursion into Thessaly, and expelled the Pelasgi. In his time was the celebrated flood (the deluge of Deucalion, in the 16th century B. C.). It was caused by the river Peneus, and is thus described in fable:—Jupiter, determining to destroy mankind by water, on account of their impiety, brought a flood upon the earth, by means of a violent rain; Deucalion

saved himself, and his wife Pyrrha, on the top of mount Parnassus. After the flood had subsided, they consulted the oracle of Themis, to know what they must do to repair the loss of mankind; and were directed to throw behind them the bones of their mother. Understanding their mother to signify the earth, and her bones the stones, they did as the oracle directed. The stones thrown by Deucalion became men, and those thrown by Pyrrha became women. Many other circumstances are related by the ancient writers concerning this deluge, which bear a resemblance to those related in the Scriptures of the deluge of Noah. (See *Deluge*.)

DEUSE, or DUSE; an evil spirit. This word is only used as an exclamation; as, "What the deuse is the matter?" It is generally derived from *dusius*, a Latinized term of the Gauls. St. Augustine (*De Civitate Dei*, 15, 23) has the words *Quosdam dæmones quos dusios Galli nuncupant*. Isidorus, in his glossary annexed to Martinus, suggests that *dusius* may be a corruption of the name of *Drusus*, son of Tiberius, notorious for his German victories, whose name may have been perpetuated as a term of terror among the conquered people. Isidorus also suspects that the word *droes*, used among the Dutch as we use *deuse*, has the same origin. Another derivation, also, might be suggested. *Teut* or *Deut* was the name of a deity among the ancient Germans. May not the Saxons have continued to swear by this name, even after their baptism, and have carried it with them to England? Their continuing to use the word would not be more surprising than the practice of the Italians, who still retain the exclamations *per Baccho* (by Bacchus)! *per Venere* (by Venus)! &c.

DEUTERONOMY; the last of the books of Moses. The word is derived from the Greek *deuteros*, second, and *nomos*, the rule, or law, because the book of Deuteronomy is a repetition which the legislator made to the Israelites, just before his death, of the law which he had before delivered to them at large.

DEUX-PONTS; the French name for the German city *Zweibrücken*, in Latin *Bipons*, all which names signify *Two-Bridges*. In English, the French name is used. Deux-Ponts belongs at present to the circle of the Rhine, of the kingdom of Bavaria, and was formerly the capital of the duchy of Deux-Ponts. (See *Bavaria*.) By the peace of Luneville, the duchy was ceded, with all the left bank of the Rhine, to France, and afterwards

composed a part of the department of the Donnersberg. It contains 70,000 inhabitants, on 763 square miles. By the peace of May 30, 1814, it was restored to Germany. Madder and hops are important articles of agriculture in this district. The city of *Deux-Ponts* is small, and agreeably situated, in lon. 7° 25' E., lat. 49° 16' N.; and contained, in 1822, 800 houses, and 6332 inhabitants, exclusive of the suburbs, which contained 826 inhabitants. Here is a high school, and a court of appeal for the Bavarian circle of the Rhine. The manufactures are of cloth, leather and tobacco. The well-known editions of Greek, Roman and French classics, called *Bipont editions*, were published here by a society of learned men. The publication commenced in 1779.

DEVA; a Sanscrit word, meaning *God*. It occurs in various geographical compounds.

DEVEREUX, Robert, earl of Essex, was born in 1567, and educated at Cambridge. In his 17th year, he was introduced at court; in 1586, distinguished himself at the battle of Zutphen, so as to be created a knight banneret, and on his return became master of the horse. The queen assembling her army at Tilbury, to resist the Spanish invasion, Essex was appointed general of the horse, and received the order of the garter. In 1591, he was sent, with 4000 men, to the assistance of Henry IV, then fighting against the league, but effected nothing of consequence. He, however, retained the queen's favor, was soon after created a privy counsellor, in 1596 was appointed joint commander with lord Howard, in a successful expedition to the coast of Spain, and on his return was made master-general of the ordnance. In 1597, he was created earl marshal of England. On the breaking out of the rebellion of Tyrone, Essex was appointed governor of Ireland. He attempted to quell a rebellion at Munster, before he proceeded against Tyrone, which so much reduced his army, that, not being able to meet the Irish leader, he entered into a negotiation. These transactions displeased the queen, and several sharp letters passed, which determined him to confront his enemies at home. He accordingly left Ireland, contrary to orders, and hastened to the court, without changing his dress, where, finding the queen in her bed-chamber, he fell upon his knees, and was received better than he expected. He was, however, soon after strictly examined by the council, and deprived of all his employments but that of master of the horse.

He might, however, have regained the queen's favor, had not her refusal to renew to him a monopoly of sweet wines so irritated him, that he indulged himself in freedoms of speech concerning her, which she could never forget. He also carried on a secret correspondence with the king of Scotland, the object of which was, to procure a public declaration of his right of succession to the English throne; and he would have engaged his friend, lord Mountjoy, deputy of Ireland, to bring over troops to compel this measure. He then entered into a conspiracy to seize on the queen's person, remove his enemies, and settle a new plan of government. Believing that this was discovered, he endeavored to raise the city of London in his favor: here, however, he was disappointed; for, instead of meeting with friends, he was proclaimed a traitor, and the streets were barricadoed against his return. He was soon invested by the queen's forces, and obliged to surrender at discretion. He was committed to the Tower, with the earl of Southampton, his chief adherent, and a jury of peers was appointed for their trial. Being found guilty, he received his sentence like a man prepared for his fate. The queen long hesitated as to signing the warrant for his execution, but, being persuaded by his enemies that he wished to die, and interpreting his silence into obstinacy, at length signed it; and the earl was executed within the Tower, on the 25th of February, 1601. In the height of his favor, he had received a ring from the queen, as a pledge, on the return of which she would pardon any offence he might commit. This ring he is said to have intrusted to the countess of Nottingham, his relation, but the wife of his enemy, the admiral, who would not suffer her to deliver it to the queen, and thereby the proffered clemency was frustrated. The countess, on her death-bed, having confessed the secret to the queen, the latter was greatly agitated, and told her "that God might forgive her, but she never could." Essex was rash, violent and presumptuous, but at the same time brave, generous and affectionate. He was the friend and patron of literature, and wrote well himself in prose, and attempted verse, though without much success. He erected a monument to Spenser, gave an estate to Bacon, and encouraged Wotton and other men of learning. His fate has formed the subject of four tragedies.

DEVEREUX, Robert, earl of Essex, son of the preceding, was born in 1592. He was entered at Merton college, in his 10th

year, and, in 1603, king James restored him to his hereditary honors. He was betrothed, at the age of 14, to lady Frances Howard, but the marriage was not consummated until his return from his travels. The affections of the young countess had, in the mean time, been gained by James's unworthy favorite, Carr, earl of Somerset; the consequence of which was, a scandalous suit against the earl of Essex for impotency. A divorce followed, and the lady married Somerset. In 1620, Essex joined the earl of Oxford, in an expedition to the Palatinate, and, in 1624, commanded one of the English regiments raised for the United Provinces. On the accession of Charles I, he was employed as vice-admiral in an expedition against Spain; and after a second marriage, in which the conduct of the lady rendered a divorce necessary, he dedicated himself solely to public life. In 1635, he was second in command of a fleet equipped against France and Holland, and, in 1639, was made lieutenant-general of the army sent against the Scottish rebels. His services were coldly received, until, in 1641, popular measures being thought necessary, he was made lord chamberlain. At this time, such was his popularity, both parties strenuously sought to gain him: the king made him lieutenant-general of all his armies south of the Trent, the house of lords made him chairman of their standing committee, and, when the people became tumultuous, the house of commons requested a guard under his command. When the king retired from the capital, he required his household nobles to attend him, which Essex declining to do, was deprived of his employments. This step fixed him in opposition, and, in 1642, he accepted the command of the parliamentary army. He probably imagined the contest might be terminated without any radical change of government, as he always seemed attached to the principles of the constitution. He commanded at the battle of Edgehill, captured Reading, raised the siege of Gloucester, and fought the first battle of Newbury. His want of success, in 1644, in the west, and the inclination he showed for peace, began at length to lower his interest with the parliamentary party; and, the self-denying ordinance throwing him out of command, he resigned his commission with visible discontent. He died suddenly, in September, 1646, and was buried in Westminster abbey, with a public funeral.

DEVIATION. In the law of marine in-

surance, deviation is an unnecessary departure from the usual course of the voyage insured. Necessary causes of departure from the customary line, are stress of weather, want of repair, joining convoy, danger from an enemy, mutiny, &c.; and, even in these cases, the shortest and easiest courses must be taken, or a deviation will be incurred. Deviation, from the moment at which it commences, discharges the insurer from all subsequent responsibility, and entitles him to retain the premium.

DEVICE, or BADGE, in heraldry; a name common to all figures, ciphers, characters, rebuses, mottoes, &c., which, by their allusions to the names of persons, of families, &c., denote their qualities, nobility, or the like. Device, in this sense, is of a much older standing than heraldry itself; being that which first gave rise to armorial ensigns. Thus the eagle was the device of the Roman empire. S. P. Q. R. was the device of the Roman people, and still continues to be what is called the escutcheon of the city of Rome. The first devices were mere letters placed on the borders of liveries, housings and banners, and at length on shields. Thus the K was the device of the French kings of the name of Charles, from Charles V to Charles IX. Badges, impresses and devices were greatly in vogue in England, from the reign of king Edward I until that of queen Elizabeth, when they sunk into disuse. *Device* is now taken, in a more limited sense, for an emblem, or a representation of some natural body, with a motto, or sentence, applied in a figurative sense. Thus a young nobleman, of great courage and ambition, bore for his device, in a carousal at the court of France, a rocket mounted in the air, with this Italian motto, *Poco duri, purchè m'innalzi* (May I continue but a short time, provided I mount high). A device is, therefore, a painted metaphor. Devices are used on coins, counters, seals, shields, triumphal arches, artificial fire-works, &c. The French have distinguished themselves in the invention of devices, especially since the time of cardinal Mazarin, who had a great fondness for them. The Italians have reduced the making of devices to an art, and laid down laws and rules for this purpose.

DEVIL. Most of the old religions of the East acknowledged a host of demons, who, like their gods, were not originally considered, in a moral point of view, as good or bad, but merely as exercising a salutary or injurious influence. In

the latter case, they were looked upon as punishing spirits, without inimical or wicked purpose. Seeva, the judging and destroying god of the Indian mythology, is a symbol of the great power of nature, which is alternately beneficial and injurious, but in itself neither good nor evil. The doctrine of Zoroaster, who adopted an evil principle, called *Ahriman*, opposed to the good principle, and served by several orders of inferior spirits (in order to explain the existence of evil in this world), spread the belief in such spirits among the people. The Greek mythology did not distinguish with the same precision between the good and bad spirits. The Titans, it is true, struggled against the gods, but not for any merely moral reason, and the gods are not represented as patterns of pure morality. The caco-demons of the Greek mythology, as, for instance, the Furies, always appear more in the character of punishing than of malignant spirits. On the contrary, Hecate, the goddess of the lower world and of enchantment, and the Lamia, corresponding to the witches of the modern popular belief, have more of what we understand under the diabolical character. Typhon, who partakes in the fate of the Titans, properly belongs to the Egyptian mythology, in which he appears as the origin of evil, under the figure of a horrid monster. Similar to him is Beelzebub, or Beelzebub, who, from the mythology of Western Asia, was introduced into the belief of the Hebrews. But as the captivity of the Hebrews in Babylon had in many respects a decisive influence upon their way of thinking and prevailing notions, by the acquaintance which they there acquired with the ideas of the Chaldeans, the idea of the devil, as the principle of evil, resembling Ahriman, first appeared among the Jews after that captivity. He is called *Satanas*, in Greek, *διαβολος*, the fiend, destroyer, antagonist. The word *devil* is derived from *διαβολος*. This Satan, however, is to be distinguished from the one in the book of Job. The latter is no fiend, but the accuser before the throne of the Almighty, and belongs to the heavenly servants of God. All the conceptions of evil spirits, which had been entertained before the Christian era—the impure Beelzebub, whose breath scattered pestilence; Belial, the prince of hell; Samael, the seducer and destroyer; Lucifer (the Phosphoros of the Greeks), who lives in the fire; Asmodeus, the devil of marriage—were now amalgamated with that idea of the evil principle, which the Jews had acquired

in Babylon. Thus the Jewish doctrine of evil spirits and their chief was developed. Insane persons, and patients suffering from nervous diseases, which manifest themselves by epileptic fits, were considered as subject to his influence; and people suffering under such diseases were said to "have a devil." The founder of the Christian religion not only did not contradict this doctrine, but made use of it in the instruction of the people, according to several passages of the New Testament. Yet the whole doctrine received from the New Testament a new character; for the devil and his auxiliary spirits are represented there as originally created good, but as having fallen from virtue, and the favor of God, owing to ambition, or other evil dispositions. The Satan of the New Testament is a rebel against God. Endowed with the intellect and power of angels, he uses them since his fall to entangle men in sin, and obtain power over them. He is "the prince of the world" (*St. John*, xii. 31), the Antichrist, because he constantly opposes the great work of salvation. But, though he succeeds in effecting the perdition of individuals, yet his own damnation, and the eternal victory of good over evil, are certain. The same is taught in Zoroaster's doctrine; yet his devil was evil from eternity. Some early sects, as the Manichæans, likewise gave to Satan existence from eternity; yet this idea was never adopted by the Christians at large. The doctrine of the New Testament, however, soon became blended with numerous fictions of human imagination, with the various superstitions of different countries, and the mythology of the pagans. In Italy, Greece and Germany, this last element was, and to a certain degree still is, blended with the idea of the devil. The gods of the ancients became evil spirits, seeking every opportunity to injure mankind. The excited imagination of hermits, in their lonely retreats, sunk as they were in ignorance, and unable to account for natural appearances, frequently led them to suppose Satan visibly present; and innumerable stories were told of his appearance, and his attributes distinctly described. Among these were horns, a tail, a cloven foot, &c. The writings of the fathers of the church, also, contain several passages respecting the appearance of the devil. The sign of the cross was considered as a safeguard against him, and crucifixes were erected on many spots, as, for instance, crossways, where he was supposed to be most

likely to present himself. In most works or appearances of an extraordinary character, the devil was supposed to be concerned. How many a dam, bridge, &c., has been built in one night, with his assistance! and every one knows that the monks made the people believe that Faustus invented the art of printing by the help of Satan. In consequence of the cures which Christ and his apostles performed on the possessed, the early church believed in a power, connected with the consecration of priests, to drive out evil spirits; and as early as the third century, particular officers of the church were appointed for this purpose; they were called *exorcists*, and are to this day the second of the lower orders in the Latin church. The Catholics say, the church employed such inferior ministers for this business, in order to show the contempt which it entertained towards demons (see *Dictionnaire de Théologie*, Toulouse, 1817, article *Exorciste*); but this does not agree with the numberless legends of the power of the devil. (See *Exorcism*.) The belief in evil spirits, witches, &c., was, in the 17th century, so common, that they became the objects of judicial process. (See *Witches*.) It cannot be said that the reformation directly overturned this belief. Luther once threw an ink-stand at the devil, who interrupted him when he was engaged in translating the Bible; and, even to this day, the black spot is shown on the wall in his room in the Wartburg. The trials of witches, in the 17th century, took place in Protestant countries, as well as in Catholic ones. With the progress of the natural sciences, however, in the 18th century, many wonderful phenomena became explained, and less was heard of the devil. Our limits will not allow us to give a statement of the opinions of different Christian sects respecting evil spirits.

DEVIL-FISH; the popular name of a large species of ray (q. v.), which is occasionally captured on the coasts of the U. States. During gales of wind, or from strong currents, these immense fish are driven into shoal water, and, being unable to extricate themselves, fall an easy prey to the vigilance of the fishermen, who obtain considerable quantities of oil from their livers. The peculiar arrangement of the two lateral appendages to the head, has induced naturalists to erect a sub-genus, expressly for the reception of these marine monsters, which has been called *cephaloptera*, in allusion to the wings, or processes. In size, the species of this sub-genus exceed all others of the family,

individuals frequently measuring sixteen feet, from the angles of the body. *Cephaloptera giorna*, the devil-fish, sea-devil, &c., is recognised by the following characters: "Jaws terminal, inferior one advanced; mouth with a movable flabelliform appendage on each side; eyes prominent, lateral; tail longer than the body, and armed with one or two spines, very distinct from the dorsal fin, which is situated between the ventrals;" teeth very minute and numerous, arranged in rows. The skin of this fish is not covered with spinous protuberances, like that of most others of the ray species, but is merely rough to the touch, like that of many sharks. In preparing the specimen now deposited in the Philadelphia museum, this roughness of the skin produced most disagreeable effects on the hands of the operators. Color above, blackish; beneath, white, varied with dusky. The measurements of the individual just mentioned, made him in breadth between fifteen and sixteen feet, and seven feet ten inches in length, exclusive of the tail, which was somewhat longer than the body. A similar specimen was exhibited in New York, under the title of "the Vampire of the ocean," and described as such by doctor Samuel L. Mitchell. Others have been observed on various parts of our coast, generally in small families, and are believed to visit sandy bottoms, for the purpose of breeding, arriving in July, and seldom remaining later than the end of September. The great size of the specimen purchased by Mr. Peale rendered it necessary to divide the body, transversely, into two equal portions, in which state the process of stuffing was more easy. The pieces were afterwards joined together, and the animal exhibited in the museum, where it now remains. In drying, the skin, of course, contracted considerably, and the measurements now would be much less than those taken from the recent animal. Pyroligneous acid being used to counteract putrefaction, during several hot days in which it was exhibited, prevented any experiment being made, to determine the flavor of the flesh, and its utility as an article of food. It is not improbable, that most of the stories relative to sea-serpents, which have so long been a theme of wonder, are in truth to be referred to numbers of these or other marine fishes of extraordinary size and uncommon form. It is to be regretted, that more perfect examinations have not been made, particularly in relation to the anatomical structure of the *cephaloptera*;

but it is to be hoped that our naturalists, in subsequent researches, may supply the desired information.

DEVIL'S ADVOCATE (*advocatus diaboli*) is the person appointed to raise doubts against the genuineness of the miracles of a candidate for canonization (q. v.), to expose any want of formality in the investigation of the miracles, and to assail the general merits of the candidate. After every thing is said *pro* and *contra*, and three papal advocates of the consistory have found the whole course of proceedings legal and formal, the canonization follows. It is said that in the beginning of the 17th century, the canonization of the cardinal Charles Borromeo was almost prevented by the accusations of the devil's advocate.

DEVIL'S BRIDGE; a famous bridge in Switzerland, over the Reuss, built of stone, from mountain to mountain, 75 feet in length, on the road over St. Gothard, from Germany to Italy. It owes its name principally to its antiquity, for there are higher, longer and wider bridges in Switzerland. The Devil's Bridge is a very common subject of prints and paintings, and is situated in a most romantic country.

DEVIL'S WALL, in the south of Germany. It was very common for gigantic works of art, or peculiar formations of nature, to receive, in the middle ages, the name of the devil. This wall was originally a Roman ditch, with palisades behind it, to which, under the reign of the emperor Probus, a wall with towers was added. It was intended to protect the Roman settlements on the left bank of the Danube, and on the right bank of the Rhine, against the inroads of the Teutonic and other tribes. The wall extended for about 368 miles, over mountains, through valleys, and over rivers, running towards the Danube. Remains of it are found at present only from Abensberg, in Bavaria, to Cologne, on the Rhine. Sometimes these remains form elevated roads and paths through woods, sometimes tall oaks grow upon them, sometimes buildings stand upon the imperishable structure. A. Buchner has shown, in his *Journey along the Devil's Wall* (Ratisbon, 1821), that it was the work of nearly two centuries, commencing in the time of Adrian, and was at first a mere wall of earth, but was afterwards made a substantial stone wall, of from six to eight feet in width. Buchner followed the traces of this wall for two summers. He points out, also, the course of the Roman road behind it. The same book contains a plan of the canal by

which Charlemagne intended to unite the Danube and the Rhine, and of which a dry ditch, called the *Fossa Carolina*, is the only remains. (See *Carolina*.) Buchner says, that six million guilders would be sufficient to complete this great plan, which others doubt. (See *Danube*.)

DEVISE, in law, is the disposition of real estate by will. It is distinguished from a bequest of personal estate by will, the personal estate so disposed of being called a *legacy*. The word *devise* is also sometimes applied to any gift by will, whether of real or personal estate. The person to whom a devise is made is called *devisee*.

DEVOLUTION. By the rule of devolution, the right of presentation to a vacant place, especially a clerical one, reverts, in case of neglect in exercising it, to a superior (bishop, prince or consistory).

DEVONPORT; a market-town of England, at the confluence of the Tamar with the sea in Plymouth sound. It is the seat of the naval and military government of the port, and contains the dock-yard and naval arsenal. Hence it was, until lately, called *Plymouth dock*, and viewed only as an appendage to the town of Plymouth. In the year 1824, it received the name of *Devonport*, which it has since borne. The dock-yard is well worthy of notice. It extends on the eastern bank of the Tamar, in a circular sweep along the shore, 3500 feet in length, with a width at the middle, where it is greatest, of 1600 feet, and at each extremity 1000, thus including an area of 96 acres. The harbor of Hamoaze, which bounds the dock-yard on the western side, is a commodious basin, formed by the estuary of the Tamar, half a mile wide, and extending four miles in length. Devonport, within the lines, contains about 20,000 inhabitants.

DEVONSHIRE; 1. Georgiana Cavendish, duchess of; famous for her beauty and poetical talents, and the patriotic friend of Fox. She was born in London, 1757, celebrated the passage of St. Gothard (translated into French by Delille, with the original, Paris, 1802), and died in 1806. 2. Elizabeth Hervey, duchess of Devonshire, lived, from 1815, in Rome, where she died, March 30, 1824. In Rome, she was surrounded by distinguished men, especially artists. She was the friend of cardinal Gonsalvi, Canova, Camuccini, Thorwaldsen and others. She published Virgil's poems, in the translation of Hannibal Caro, with engravings, from the designs of the first painters of Rome. This edition consisted of only 150 copies, which

the duchess distributed to the European sovereigns, the principal libraries, and her particular friends. She caused an edition of the fifth satire of Horace to be published on the same plan, and was about to undertake an edition of Dante, when she died. Her house in Rome was the resort of the most cultivated society.

DEVONSHIRE, William, duke of. (See *Cavendish*.)

DEW is a deposition of water from the atmosphere upon the surface of the earth. The conditions under which the phenomena of dew take place are the following: The most plentiful deposit occurs when the weather is clear and serene; very little is ever deposited under opposite circumstances. It is never seen on nights both cloudy and windy. It is well known, likewise, that a reduction in the temperature of the air, and of the surface of the earth, always accompanies the falling of dew, the surface on which it is deposited being, however, colder than the air above. These phenomena admit of an easy and elegant explanation from the well known effect of the radiation of caloric from bodies. This radiation constantly taking place in all bodies, it is obvious that the temperature of any body can remain the same only by its receiving from another source as many rays as it emits. In the case of the earth's surface, so long as the sun remains above the horizon, it continues to receive as well as to emit heat; but when the sun sinks below the horizon, no object is present in the atmosphere to exchange rays with the earth, which, still emitting heat into free space, must, consequently, experience a diminution in its temperature. It thus becomes not only many degrees cooler than in the day time, but also cooler than the superincumbent air; and, as the atmosphere always contains watery vapor, this vapor becomes condensed on the cold surface; hence the origin of dew, and, if the temperature of the earth is below 32° , of hoar frost. And since the projection of heat into free space takes place most readily in a clear atmosphere, and is impeded by a cloudy atmosphere, it is under the former condition that dew and hoar frost are formed; for if the radiant caloric, proceeding from the earth, is intercepted by the clouds, an interchange is established, and the ground retains nearly, if not quite, the same temperature as the adjacent portions of air. Whatever circumstances favor radiation favor also the production of dew; and, accordingly, under the same exposure, dew is much

more copiously deposited on some surfaces than on others. Gravel walks and pavements project heat and acquire dew less readily than a grassy surface. Rough and porous surfaces, as shavings of wood, take more dew than smooth and solid wood. Glass projects heat rapidly, and is as rapidly coated with dew. But bright metals attract dew much less powerfully than other bodies. Water, which stands at the head of radiating substances, is seen to condense the vapor of the superincumbent air in such a manner as to create thick mists and fogs over its surface. The unusual abundance of precipitated moisture over ponds and streams is attributable, however, not merely to the inferior temperature of their waters to the air, arising from radiation, but to the circumstance that more moisture is ordinarily contained in such air, since the sheltered situation it enjoys prevents its being borne away by those aerial currents prevailing elsewhere. An acquaintance with the cause which produces dew and hoar-frost enables us to understand the *rationale* of the process resorted to by gardeners to protect tender plants from cold, which consists simply in spreading over them a thin mat or some flimsy substance. In this way, the radiation of their heat to the heavens is prevented, or, rather, the heat which they emit is returned to them from the awning above, and they are preserved at a temperature considerably higher than that of the surrounding atmosphere. To ensure the full advantage of this kind of protection from the chill of the air, the coverings should not touch the bodies they are intended to defend. Garden walls operate, in part, upon the same principle. In warm climates, the deposition of dewy moisture on animal substances hastens their putrefaction. As this usually happens only in clear nights, it was anciently supposed that bright moonshine favored animal corruption. This rapid emission of heat from the surface of the ground enables us to explain the artificial formation of ice, during the night, in Bengal, while the temperature of the air is above 32° . The nights most favorable for this effect are those which are the calmest and most serene, and in which the air is so dry as to deposit little dew after midnight. Clouds and frequent changes of wind never fail to interrupt the congelation. 300 persons are employed in this operation at one place. The enclosures formed on the ground are four or five feet wide, and have walls only four inches high. In these enclosures, previously

bedded with dry straw, broad, shallow, unglazed pans are set, containing water. Wind, which so greatly promotes evaporation, prevents the freezing altogether; and dew forms, in a greater or less degree, during the whole of the nights most productive of ice. The straw is carefully preserved dry, since if, by accident, it becomes moistened by the spilling of water, it conducts heat, and raises vapor from the ground, so as greatly to impede the congelation. The radiation from the earth's surface is one of those happy provisions for the necessities of living beings, with which nature every where abounds. The heavy dews which fall in tropical regions are, in the highest degree, beneficial to vegetation, which, but for this supply of moisture, would, in countries where scarcely any rain falls for months, be soon scorched and withered. But, after the high temperature of the day, the ground radiates under these clear skies with great rapidity; the surface is quickly cooled, even to a great extent, and, as soon as this refreshing cold is produced, the watery vapor, which, from the great daily evaporation, exists in large quantities in the atmosphere, is deposited abundantly. This deposition is more plentiful, also, on plants, from their greater radiating power; while, on hard, bare ground and stones, where it is less wanted, it is comparatively trifling. In cold climates, the earth, being cold and sufficiently moist, requires little dew; accordingly the clouds, which are so common in damp and chilly regions, prevent the radiation of heat: the surface is thus preserved warm, and the deposition of dew is, in a great measure, prevented.

DE WETTE. (See *Wette*.)

DE WITT, John, grand-pensioner of Holland, celebrated as a statesman and for his tragical end, was the son of Jacob De Witt, burgomaster of Dort, and was born in 1625. His father was imprisoned for some time on account of his opposition to prince William II of Orange. John De Witt inherited from his father republican principles and a hatred to the house of Orange. After having carefully cultivated his talents, he entered into the service of his country, and was one of the deputies sent by the states of Holland to Zealand, in 1652, to dissuade this province from conferring the office of captain-general on the young prince of Orange, William III, who was but two years old. His eloquence procured him universal confidence; but to preserve this was almost impossible during the dissensions which raged in the

states-general. One party was anxious, during the war between England and Holland, to have all power and honors conferred on prince William III; the other, with De Witt at its head, endeavored to withdraw all authority from this prince, and entirely to abolish the stadtholdership. The war with England, sometimes fortunate, sometimes adverse, was injurious to commerce, and excited the displeasure of the nation against the latter party, of which excitement the Orange party took advantage to effect their purposes, until, in 1654, the former concluded a peace with Cromwell, with the secret condition that the house of Orange should be excluded from all situations of authority. Thus the republican party was victorious, and De Witt, as grand-pensioner, employed the time of peace in healing the wounds under which the state was suffering. When Charles II again took possession of the crown of England, De Witt inclined to the side of France, which inclination became more powerful when, in 1665, the war recommenced between England and the states-general. The bishop of Münster, likewise, taking arms against the latter, the discontent of the people against De Witt became so great, that he was compelled, in order to pacify them, to give up some privileges to the prince of Orange, and to conclude peace with England, in 1667. To increase the danger of De Witt's situation, Louis XIV now began to manifest his intentions with regard to the Spanish Netherlands. The Orange party insisted on elevating prince William to the dignity of his ancestors. De Witt succeeded in separating the offices of stadtholder and captain-general, and provided that, in Holland at least, he should be entirely excluded from the latter. The number of De Witt's enemies increased. He was obliged to conclude an alliance with England and Sweden against France, which produced the peace of Aix-la-Chapelle, and was as quickly dissolved as it had been formed. Louis XIV, now united with England, invaded the Spanish Netherlands (1672). William's friends succeeded in procuring for him the post of commander-in-chief. The first campaign was unfortunate in its results, which were imputed to De Witt and his friends. The life of the former was endangered. William was nominated stadtholder by universal consent, and De Witt resigned his employments. But the disposition of the people was little changed by this voluntary act, nor was the hatred of the Orange party satisfied. His brother Cornelius

was accused of having attempted to assassinate the prince. He was imprisoned and put to the rack; but, as he would not confess any such design, he was banished from the country, and his property confiscated. Hearing that his brother wished to speak to him while in prison, John de Witt hastened thither, when a tumult suddenly arose among the people at the Hague. The militia could not disperse the mob, the greater number of the officers being devoted to the prince. The people broke into the prison, and both brothers fell victims to their rage (Aug. 20, 1672). The states demanded an investigation of this affair, and the punishment of the murderers, from the stadtholder, which, however, never took place. That the opinions of De Witt's contemporaries respecting him did not agree, may well be supposed; but all acquitted him of treason against his country. He was simple and modest in all his relations. He fell a victim to party spirit, nor could the friends of the house of Orange accuse him of any other crime than that of not belonging to their party, and of aiming to elevate his own party at their expense. De Witt was an active political writer, and has left many excellent observations on the events of his time.

DEXTER, Samuel, an eminent American lawyer and statesman, was born at Boston, in 1761. His father was a distinguished merchant, and a benefactor of Harvard college. The son was graduated at that institution, in 1781, with its first honors. He then engaged in the study of the law. He had not been long at the bar before he was elected to the state legislature, from which he was transferred to congress, first to the house of representatives, and then to the senate. He was in congress during a period of strong party excitement, and succeeded in gaining much influence and honor by the force of his talents and character, proving himself an enlightened politician and superior orator. President Adams made him, successively, secretary of war and of the treasury. He discharged these offices in a masterly manner. Towards the end of Mr. Adams's administration, he was offered a foreign embassy, but declined it. When Mr. Jefferson became president, he resigned his public employments, and returned to the practice of the law. In 1815, president Madison requested him to accept an extraordinary mission to the court of Spain, but he declined the offer. For many years, he continued to display extraordinary powers in his profession, having no

superior, and scarcely a rival, before the supreme court at Washington, in which he appeared every winter, in cases of the highest importance. On his return from that capital, in the spring of 1816, he fell sick at Athens, in the state of New York, and died there May 4, aged 55. Mr. Dexter was tall and well formed, with strong features and a muscular frame. His eloquence was that of clear exposition, and cogent, philosophical reasoning; his delivery in general simple, and his enunciation monotonous; but he often expressed himself with signal energy and beauty, and always gave evidence of uncommon power. He devoted much of his leisure to theological studies, and died a zealous Christian. In the party divisions of the American republic, he held, at first, the post of an acknowledged leader among the federalists: eventually, however, he separated himself from his colleagues, on some questions of primary interest and magnitude. In the fine sketch of his life and character, drawn by judge Story, it is truly said of him, "He considered the union of the states as the main security of their liberties; whatever might be his opinion of any measures, he never breathed a doubt to shake public or private confidence in the excellence of the constitution itself."

DEY; the chief of Algiers, which is a military aristocratic state. In Tunis and Tripoli, the same officer in these similarly regulated military republics, is named *bey*. The bey of Tripoli is, however, assisted by a pacha. Since 1520, Algiers has recognised the authority of the Turkish sultan. Turkish soldiers, under the command of a pacha, sent to Algiers by the sultan, once governed there, and, not receiving their pay from the pacha, they prayed permission of the Porte, at the commencement of the 17th century, to choose a chief from their number, with the title of *dey*. The pacha was to remain, but to have no share in the government. This was agreed to by the Porte. In the year 1710, the dey banished the pacha from Algiers, and obtained permission of the Porte to enjoy both titles. Since that period, every dey chosen by the soldiers must apply to the sultan for confirmation and for appointment as pacha. The sultan, therefore, reckons Algiers amongst his possessions, and sends orders to the pacha and the divan. In time of war, the people of Algiers must assist the Porte, if required, with soldiers and ships. All money coined here bears the stamp of the sultan, and public prayers are offered for

him, as through the whole of Turkey. The dey sends an annual tribute to Constantinople. The highest authority is with the divan, or the council of state; but "the greater and lesser members of the invincible militia of Algiers" make decrees according to the majority of votes, in all things which concern the government.

DHIOLIBA. (See *Niger*, and *Timbuctoo*.)

DIADEM; a band of silk or woollen, invented, according to some, by Bacchus, to relieve the headache produced by excessive drinking. It more probably belonged to him as coming from the East (the Indies). It afterwards became the distinguishing ornament of royalty. The diadem of the Egyptian deities and kings bore the symbol of the sacred serpent. Among the Persians, it was twined about the tiara of the kings, and was purple and white. The diadem of Bacchus, particularly of the Indian Bacchus, as seen in very old representations, consisted of a broad, plaited band, encircling the forehead and temples, and tied behind, with the ends hanging down. When unfolded, it formed, in fact, a veil; and, for this reason, it was often called, by the Greeks, *calyptra*, i. e., *a veil*. It was afterwards attributed to other deities, and finally became the badge of kings. In the earliest times, it was very narrow. Alexander the Great adopted the broad diadem of the Persian kings, the ends of which hung over his shoulders; and this mark of regal dignity was retained by his successors. On coins we see queens, also, with the diadem, with the addition of a veil. The early Roman emperors abstained from this ornament, to avoid giving offence to the people. Constantine the Great was the first who used it, and he added new ornaments to it. After his time, it was set with a single or double row of pearls and other precious stones, so that it was somewhat similar to a Turkish turban.

DIECIOUS, in botany; plants which have their stamens on one individual and their pistils on another. The willow, the ash, the poplar, &c., are diecious. On this account, the weeping willow and several other trees never produce seeds in the U. States, as the male plants only have been introduced.

DIAGLYPHON (Lat.; *διαγλυφον*, Gr.); in ancient sculpture; the name by which the Greeks designated works in sculpture when sunk in with the chisel. Among the most celebrated of these were the buckler and pedestal of a colossal statue of Minerva at Athens. When it was in re-

lief, the work was called *anaglyphic*. (See *Anaglyphic*.)

DIAGNOSIS, in medicine; the distinction of one disease from others resembling it, by means of a collected view of the symptoms.

DIAGNOSTIC symptoms are the leading symptoms, or those which are most characteristic of any particular form or seat of disease.

DIAGONAL, DIAGONAL LINE; a straight line, joining two angles not adjacent, in a rectilinear figure, having more than three sides. Every rectilinear figure may be divided by diagonals into as many triangles as it has sides, *minus* two.

DIAGRAM; a figure or geometrical delineation, applied to the illustration or solution of geometrical problems, or a description or sketch in general. Anciently, it signified a musical scale. Among the Gnostics, the name *diagram* was given to a figure formed by the superposition of one triangle on another, and inscribed with some mystical name of the Deity, and worn as an amulet.

DIAL, SUN. This instrument has been known from the earliest times: the Egyptians, Chaldeans and Hebrews (*Isaiah* xxxvii. 8) were acquainted with the uses of it. The Greeks derived it from their eastern neighbors, and it was introduced into Rome during the first Punic war. A dial constructed for the latitude of Catania was carried off from that city and placed in the forum by Valerius Messana; but, as there was a difference of 4° of latitude between the two cities, it could not, of course, indicate the true time at Rome. Before this period, the Romans ascertained the hour by the rude method of observing the lengths of shadows, or, in the absence of the sun, by the clepsydra (q.v.), which a slave was employed in tending.—Sun-dials have lost much of their value in modern times, by the general introduction of instruments which indicate the time at any period of the day or night; but clocks and watches require to be regulated, and the shadows projected by the sun are the most convenient standard for this purpose. Dials are of various kinds; but the horizontal and vertical are most commonly used. In this place, we can give only the general rules of construction applicable to all of them. Suppose 12 planes, making with each other angles of 15°, passing through the axis of the earth and dividing the sphere into 24 equal parts, one of these planes being the meridian of the place of the observer; start from the meridian, and, moving towards

the west, number these planes respectively 1, 2, 3, and so on up to 12, which will be the lower meridian of the place; starting from this point, number as before, 1, 2, 3, &c., again to 12, which will now fall on the upper meridian. We shall thus have a series of horary circles, in passing from one of which to the next, the sun will occupy one hour. At noon, he will be on the meridian, which is numbered 12; it is then 12 o'clock; an hour before, he was on the last horary circle preceding (to the east), numbered 11, and it was 11 o'clock. Twelve hours from the time of passing the upper meridian, he will pass the lower, also numbered 12, and it will be midnight. Suppose, now, an opaque plane passing through the centre of the earth, and intersected by the 12 planes in as many diverging straight lines, and mark these lines with the numbers belonging to their respective planes. This opaque plane will represent the face of a dial, the straight lines will form the horary lines marked on its surface, and the style will represent the axis of the earth, and will project its shadow successively on each of the hour lines, the number affixed to which will show the hour of the day; that is, at 10 o'clock the shadow will fall on the line numbered 10, &c. We shall thus have a dial constructed at the centre of the earth; but the radius of the earth, or the distance from its centre to its surface, is so small, in comparison with the distance of the earth from the sun, that it may be considered as nothing: we may therefore transport our central dial to any given place, keeping the style and surface always parallel to the positions in which we supposed them at first, and we shall have a dial for that place. This is the theory of dials. It follows, from this explanation, 1. that a sundial, calculated for any given place, will also serve for any other place under the same meridian, provided its position in the latter place be parallel to its position in the former place. 2. The style of a dial is parallel to the axis of the earth; the meridian line is the intersection of the plane of the dial and the meridian of the place; the style is in the meridian, and inclines to the rational horizon in the same manner as the terrestrial axis, that is, by an angle equal to the latitude of the place. 3. The hour lines are the intersections of the face of the dial by 12 planes, inclined to each other by an angle of 15° , drawn from the meridian, and passing through the style. If it is required to mark shorter intervals of time, as half hours, it is only necessary to conceive 24 planes, at an angle of $7\frac{1}{2}^\circ$ with

each other, and so on for any subdivisions. 4. The hour lines of a dial drawn on a plane are straight lines meeting in the centre of the dial, where the face is penetrated by the style. The forenoon and afternoon hour lines of the same number are given by the intersection of the same horary plane, on the opposite sides of the style. Sometimes the hour is indicated by means of a plate, placed before the dial, having a hole through which the light passes. It is only necessary that this hole should be one of the points of the style; the light will then fall upon that part of the dial where the shadow of the corresponding point of the style would be projected.

DIALECT; a variety of a language. This definition is certainly vague, but is necessarily so from the nature of the subject, as it is impossible to determine nicely the line where dialects begin to become distinct languages. For instance, in some respects, German, Danish, Swedish, Icelandic, may be called dialects of the common Teutonic stock; yet a German is no more able to understand Swedish than Hebrew, if he has not studied it. It would not be correct, however, to lay it down as a rule, that dialects are such forms of the common language, as may be understood, if not entirely, yet in general, by all who speak one of the varieties of the common language, because a person who never heard or spoke any thing but High-German cannot understand the people of Lower Germany, speaking to each other in their dialect: a Portuguese, indeed, is generally able to understand Spanish, without having learned the language systematically. The common meaning of the term *dialect*, in modern times, is the language of a part of a country or a distant colony, deviating, either in its grammar, words or pronunciation, from the language of that part of the common country whose idiom has been adopted as the literary language, and the medium of intercourse between well-educated people. In ancient times, when the great difficulties in the way of intercourse and communication between different parts of a country prevented, or at least impeded, the formation of a general language, each dialect was developed independently of the others, until some event gave to one the ascendancy. In Greece, we find four distinct dialects; the Ionic, Attic, Doric and Æolic; each of which gave birth to literary productions still extant, until at last the greater refinement, and the cultivation of arts and sci-

ences in Athens, gave the Attic dialect the superiority. It is a great mistake to consider dialects as something to be rooted out like noxious weeds; for, if they are independent varieties of a common language, not mere corruptions of a language already settled, they always retain many beauties, which would not exist without them; many peculiarities, which often afford a great insight into the language, to a judicious philologist. No one, who has studied the peculiarities of the Provençal, the Low-German, or the Allemannic dialects, or the Neapolitan, with its many remnants of the Greek, would wish to put an end to their existence. Dialects resemble rebels against lawful authority, until the stamp of legitimacy is impressed upon them by a great man or great event. Italian was once the *vulgar* dialect; and, even now, to translate into Italian is called *vulgarizzare*. It was corrupt Latin mixed with barbarous words derived from the idioms of the conquerors of the country, and was used at first only by the lower classes; it then became the general dialect of common life; and, at last, the giant mind of Dante dared to sing in the "*vulgar dialect*," and to stamp it as a legitimate language.* Portuguese was a corrupted dialect of Spanish, until Portugal separated from Spain, and dared to uphold its dialect as an independent language. In Germany, no dialect has ever obtained entire ascendancy. Much was once written in Low-German, and the activity of the Hanseatic league, and the wide extent to which it was spoken, gave it much influence. Charles V, born at Ghent, spoke Low-German; but Luther's translation of the Bible, like Dante's *Divina Commedia*, made High-German the literary language. Since that time, it has changed very much, and has acquired, in many respects, a development of its own. It is a great mistake, common among foreigners, to consider Saxon as the Castilian or Tuscan dialect of Germany, because Luther was born in Saxony. On the contrary, the Saxon dialect is one of the most disagreeable to a German ear, and deviates much from the modern High-German. Only the fundamental characteristics of the language of Upper-Germany have remained in High-German. In other respects, it has developed itself independently of any provincial dialect. In England, there are but two great dialects, English

and Scotch; yet it has often been observed that no country has more variations from the common literary language. Every county has its peculiarities, which are sometimes striking and difficult to be understood. On the other hand, there never has existed a country so vast, and a population so large as that of the U. States, with so little variety of dialect, which is owing to the quick and constant communication between the different parts of the country, and the roving spirit of the people, the great mass of whom, besides, derive their descent from the same stock.

DIALECTICS; the old name of logic, or the art of reasoning (from *διαλέγεσθαι*, to speak), because thought and reasoning are expressed by speech, and thus were first manifested, and the mind naturally proceeds from the obvious to the remote, from the particular to the general. Logic (q. v.) was early denominated, in conformity with this name, the *art of speaking or disputing*. By *dialectician*, we understand a teacher of dialectics, or one who understands the art of logical disputation.

DIALOGUE; a conversation or conference between two or more persons. The word is particularly used in reference to theatrical performances and to written conversations, or a composition in which two or more persons are represented as interchanging ideas on a given topic. The ancient philosophers, especially the Greeks, from their peculiar vivacity, were fond of this form; they used it for the communication of their investigations on scientific subjects. The dialogues of Plato are a sort of philosophical dramas. The *Socratic dialogue* (so called) consists of questions and answers, and the person questioned is obliged, by successively assenting to the interrogatories put to him, to come to the conclusions which the questioner wishes to produce. This dialogue supposes in the interrogator a thorough knowledge of human nature in general, and of the person questioned in particular. The dialogue is now much used for verbal instruction. The philosophical dialogue seems but little adapted to our manners and the present improved state of the sciences; and, being written, of course, with the view of establishing certain positions, the objections raised are only such as can be readily answered, and thereby assist in establishing the desired conclusions; but are not always such as present themselves to the reader, who is often dissatisfied with the result, because his own doubts are not settled. Erasmus of Rotterdam,

* It must be observed, that Neapolitan was written even before Tuscan; but Dante's greatness made the Tuscan at once the standard dialect.

and subsequently, among the Germans, Lessing, Moses Mendelssohn, Engel, Herder, Jacobi, Solger, have written in this form. In comic and satiric dialogue, Wieland has imitated the satirist Lucian. Among the most distinguished Italian writers of dialogue are Petrarca (*De vera Sapientia*), Machiavelli, Gelli, Algarotti and Gozzi; and among the French, Sarasin, Malebranche, Fénelon: Fontenelle and St. Mard imitated Lucian, and, among the English, bishop Berkeley and Hurd have imitated Plato, and Harris, Cicero. Lord Lyttelton's dialogues of the dead, and Addison's dialogues on medals, are well known. Landor's imaginary conversations of literary men and statesmen (London, 1826) attracted some attention. If the conversation gives rise to action, then the drama is produced. In the drama, the *dialogue*, in a narrower sense, is opposed to *monologue* or *soliloquy*; in the opera, it is that which is *spoken*, in opposition to that which is *sung*. (See *Drama*.)

DIAMETER; the straight line drawn through the centre of a circle, and touching the two opposite points of the circumference. It thus divides the circle into two equal parts, and is the greatest chord. The *radius* is half this diameter, and consequently the space comprehended between the centre and circumference of a circle. (For the magnitude of the diameter, in comparison with the circumference, see *Circle*.)

DIAMOND; the hardest and most valuable of all the gems. To the account of the diamond already given in the article *Carbon*, we will only add at present, that diamonds are of various colors; but the colorless, which is the sort mostly used in the arts, is, when pure, perfectly clear, and pellucid as the purest water. Hence the phrases, the *water* of a diamond, a diamond of the finest *water*, &c. The colorless diamonds are not, however, the most common. The rarest colors are blue, pink, and dark brown; but yellow diamonds, when the color is clear and equal throughout, are very beautiful and much valued. Pale blue diamonds are also very fine and rare, but deep blue still more rare. The largest diamond hitherto found is in the possession of the rajah of Mattan, in the island of Borneo, where it was found about eighty years since. It weighs three hundred and sixty-seven carats. It is described as having the shape of an egg, with an indentation near the smaller end. Many years ago, the governor of Batavia tried to purchase it, and offered in exchange one hundred and

fifty thousand dollars, two large brigs of war, with their guns and ammunition, and other cannon, with powder and shot. But the rajah refused to part with a jewel, to which the Malays attach miraculous powers, and which they imagine to be connected with the fate of his family. This diamond is mentioned in the memoirs of the Batavian society. The diamond is the hardest of all known substances. Nothing will scratch it, nor can it be cut but by itself. By cutting, it acquires a brilliancy and play of lustre that much augment its price. The hardness of the diamond was well known to the ancients; its name, both in Greek and Latin (*ἀδάμας*, *adamas*), implying invincible hardness. The ancients did not confine the word *adamas* to indicate the diamond alone, but applied it to other hard and *adamantine* substances. They were unacquainted with the art of cutting the diamond, satisfying themselves with those which were polished naturally; but knew of the property of its powder or dust for cutting, engraving, and polishing other stones. The art of cutting and polishing the diamond was unknown in Europe till the fifteenth century. Before that period, rough and unpolished ones were set as ornaments, and valued according to the beauty and perfection of their crystallization and transparency. This art is said to have been invented and first practised in 1456, by Louis de Berquen, a native of Bruges. Charles the Bold, duke of Burgundy, was one of the first princes of modern times who affected a great splendor in diamonds. Among engraved or sculptured diamonds is one with a head, which Gori falsely imagined to be antique, and called it a portrait of Posidonius. It belonged to the duke of Bedford. Lessing thinks that many of the engraved antique gems, which are called diamonds, are nothing but amethysts, sapphires and emeralds, deprived of their color by the operation of fire. Diamonds are valuable for many purposes. Their powder is the best for the lapidary and gem engraver, and more economical than any other material for cutting, engraving and polishing hard stones. Glaziers cut glass with them; glass cutters looking-glasses, and other articles of window and plate glass. The glazier's diamond is set in a steel socket, and attached to a wooden handle about the size of a thick pencil. It is very remarkable, that only the point of a natural crystal can be used; cut or split diamonds scratch, but the glass will not break along the scratch, as it does when a natural crystal is used. An application of the diamond,

of great importance in the art of engraving, has been also made within a few years by the late Wilson Lowry, to the purpose of drawing or ruling lines, which are afterwards to be deepened by aqua fortis. Formerly steel points, called *etching needles*, were used for that purpose; but they soon became blunt by the friction against the copper, so that it has always been impracticable to make what are called *flat* or *even* tints with them; such as the azure parts of skies, large architectural subjects, and the sea in maps; but the diamond, being turned to a conical point, or otherwise cut to a proper form, is not worn away by the friction of the copper, and, consequently, the lines drawn by it are all of equal thickness. The diamond etching points of Mr. Lowry are turned in a lathe, by holding a thin splinter of diamond against them, as a chisel.

DIAMOND DISTRICT, in Brazil. That part of Brazil where the government collects diamonds is not far from Villa di Principe, and extends about sixteen leagues from north to south, and about eight from east to west, in the district of Cerro do Frio, which consists of rugged mountains, generally considered the highest in Brazil. The first diamonds found here were used by the governor of Villa di Principe as card counters, and considered by him as *curious bright crystals*. They were sent to Lisbon, where the Dutch consul recognised their value, and sent them to Holland, then the market of precious stones. Holland immediately concluded a commercial treaty with Portugal, and it is said that the weight of the diamonds introduced during the next twenty years into Europe, exceeded a thousand ounces. This diminished their value, and diamonds were exported profitably even to India, the only country whence, till then, these stones had come. An interesting account of the proceedings in the Diamond district, into which few visitors are ever admitted, is contained in the excellent work called *Travels in Brazil, in the Years 1817—1820*, undertaken by Command of H. M. the King of Bavaria, by the late Dr. John Bapt. von Spix, and Dr. C. F. Phil. von Martius, 2 vols., written and edited by the survivor, Dr. Martius, Munich, 1828, 4to., translated into English 1829. From this work the following account is extracted:—The travellers reached Villa di Principe, a town of some size, lying near the edge of the Diamond district, into which they were admitted by virtue of an order from the king. This tract of country is entirely occupied by the government, for

the sake of its mineral treasures. In 1730, diamonds were declared the property of the crown; and this district, abounding particularly in them, has been subjected to a most curious system of exclusion. Lines of demarcation are drawn around it, guarded as strictly as those of an infected city. No person is permitted to pass these, in either direction, without an order from the intendant of the mines. Every one, on going out, is subjected, with his horses and baggage, to a most minute examination, and, in case of suspicion that a diamond has been swallowed, may be detained for twenty-four hours. The intendant is head judge in all cases, and chief of the police; he may send any inhabitant out of the district on bare suspicion; nor is there any appeal from him and his council, the *junta diamantina*, except to the mercy of the king. Every member of this board, if he knows of any person having diamonds in his possession, is bound to give notice to the intendant, who immediately issues his search-warrant, though, in cases of emergency, the soldiers are permitted to search without such authority. There are also strict rules with regard to the registering of the inhabitants, the admission of settlers, the erection of new inns or shops, and the hiring of slaves. The members of the expedition being acquainted with the intendant, who, though a native Brazilian, had studied mineralogy under Werner, in Germany, were invited to a sitting of the *junta*. The order of proceedings was as follows. First, the whole stock of diamonds was laid before the meeting. It amounted to 9396 carats 2 grains, and was divided into twelve classes (*lotes*), enclosed in bags of red silk.—The division was made by means of a brass box, in which there were eleven sieves of different sizes, so arranged that the smallest diamonds were collected in the lowest, the largest in the upper sieve. There were eleven stones of more than eight carats in weight. Some spurious diamonds were rejected by the *junta*, and given, for the sake of accurate examination, to the travellers. These are now preserved at Munich, and were found to be several beautiful varieties of chrysoberyls (chiefly those called in Brazil *green aqua-marines*) and sapphires, white and blue topazes, rubies, quartzes, and other stones. After the whole collection of the year had been examined and a list made, they were, in the presence of all the members, packed up in bags, and deposited in a small red morocco box. This was fastened by two locks, of which the intendant and the officer

of the crown revenue had each a key, and then given in charge, together with the minutes of the proceedings, to a detachment of dragoons, and addressed to the king, to be forwarded by the governor of Villa Rica, to Rio Janeiro. The diamond-washing is performed by slaves, who are hired by the government from private proprietors, at the rate of 300 to 600 rees a week. They are under the control of certain inspectors, named *feitores*, of whom there were, in 1818, one hundred. These persons have the more immediate care of the slaves, and receive from them the diamonds. The *feitores*, again, are under the control of ten surveyors (*administradores*), who weigh the diamonds, deliver them to the *junta*, and have the management of the works, machinery, &c. The government formerly prohibited the washing for gold in the Diamond district; it is, however, now permitted, as a favor to individuals; but if any precious stones are found, they are given up to the *junta*. The most formidable enemy to the government, are the diamond smugglers, or *grimpeiros*. These persons, who are frequently runaway slaves, being well acquainted with the country, are able by night to elude the vigilance of the royal guards. The diamonds smuggled are generally procured from the slaves, who are able, in the presence of the inspectors, to secrete them in various ways between their fingers and toes, in their ears, mouth or hair; or they swallow the stones, or throw them over their heads, so that they can find them again by night. When the guards are once past, the smugglers sell the stones to traders, who easily conceal them in bales of cotton and other similar commodities, and send them down to the coast. Such is the necessary and natural consequence of the system adopted by the Brazilian government. "It is," as doctor Martius remarks, "the only instance in which a tract of country has been isolated, and all civil relations made subordinate to a monopoly of the crown." The happiness and convenience of both the inhabitants and neighbors are obviously sacrificed to maintain a mercantile speculation, of which the profits cannot be very great.*

DIAMOND, in technical language, is the rhomboid, that is, a quadrangle with equal sides, and two acute and two obtuse angles; for instance, in patterns of calico.

* Diamonds have been lately brought by Alex. von Humboldt from the Ural mountains, where, from some passages in ancient writers, they appear to have been found in ancient times. "Not far from the Rhiphæan mountains," says Dionysius

Periegetes, "among the cold Agathyrsi, sparkling diamonds are collected;" and Ammianus Marcellinus agrees with him when he mentions "*Agathyrsi apud quos adamantis est copia lapidis*." DIANA; the Roman name of the Artemis of the Greeks; the daughter of Jupiter and Latona, twin sister of Apollo. (See *Apollo*, and *Delos*.) While yet a child, as Callimachus relates in his hymn, she entreated her father to suffer her to continue a virgin, because her mother's sufferings had rendered her averse from love. She desired him, at the same time, to give her a bow and arrows, a city, and rule over the hills, 60 Oceanides and 20 river-nymphs, and to permit her to bear a torch and hunt in the forests. Jupiter gave her more than she asked. He caused 30 cities to be devoted exclusively to her worship, and appointed many others where she was venerated in common with other deities. Diana then retired to the woods of Leucus, in Crete; thence she went to the ocean, where she selected a numerous retinue of nymphs, nine years old. Her next journey was to the Cyclops, on the island Lipara, of whom she asked a Cydonian bow, and a quiver and arrows. They executed the commands of the goddess, and she now appeared with her arms in the Arcadian territory of Pan, who presented her with some beautiful hunting-dogs. Thus equipped, at the foot of mount Parrhasius, she took four beautiful stags, with gold antlers, yoked them to her chariot, and proceeded with them first to the Thracian Hæmus. On Olympus, in Mysia, she cut a torch from a tree, and kindled it with the lightning of Jove. When she returned to the palace of the gods, loaded with game, Mercury and Apollo met her in the vestibule; the former took her weapons, and the latter the fruits of the chase. The river-nymphs unyoked the stags from her chariot, fed them in Juno's meadows, and gave them water from golden vessels. Diana then went into the palace of the gods, and sat by the side of Apollo. As he directs the chariot of the sun, she guides that of the moon. Cupid and Venus sought to conquer her in vain. Hunting, music and dancing alone had charms for her. She punished without mercy those of her virgins who violated their vows of chastity. Actæon, the grandson of Cadmus, who secretly watched her as she was bathing, she changed into a stag, and his own dogs tore him in pieces. The beautiful Endymion, however, at length made her feel the power of love. While enlightening

Periegetes, "among the cold Agathyrsi, sparkling diamonds are collected;" and Ammianus Marcellinus agrees with him when he mentions "*Agathyrsi apud quos adamantis est copia lapidis*."

the earth as Luna (the moon), she beheld the hunter, fatigued with the chase, slumbering in the woods. She descended from her ethereal course, and kissed the lips of the youth, who enjoyed a favor never before granted to mortal or immortal. Notwithstanding her aversion to love, she afforded aid to women who called upon her in travail. She was also the goddess of death. She aims her darts especially at the female sex, and brings the old, who are satisfied with life, to a gentle death, to make way for the vigorous and blooming. When she is angry, she destroys with pestilence and disease, like her brother Apollo. When offended, she revenges without compassion. Thus she slew Orion, the hunter, from jealousy, because Aurora had fallen in love with him; so also the daughters of Niobe, because their mother preferred herself above Latona, &c. In the Trojan war, both Diana and Apollo aided the Trojans; and in the war with the giants and Titans, she proved her valor. The worship of Diana was spread through all Greece. She received many surnames, particularly from the places where her worship was established, and from the functions over which she presided. She was called *Lucina*, *Ilythia*, or *Juno Pronuba*, when invoked by women in child-bed, and *Trivia* when worshipped in the cross-ways where her statues were generally erected. She was supposed to be the same as the moon and Proserpine or Hecate, and from that circumstance she was called *Triformis*; and some of her statues represented her with three heads, that of a horse, a dog, and a boar. She was also called *Agroteta*, *Orthia*, *Taurica*, *Delia*, *Cynthia*, *Aricia*, &c. She was supposed to be the same as the *Isis* of the Egyptians, whose worship was introduced into Greece with that of Osiris, under the name of *Apollo*. The *Artemisia* was a festival celebrated in honor of her at Delphi.—At first she was represented with a diadem, afterwards with the crescent upon her head, with bow and arrows, a quiver over her shoulders, and a light hunting dress, together with her hounds. Her most famous temple was at Ephesus (q. v.), and was considered one of the wonders of the world. She was worshipped there as the symbol of fruitful nature, and represented with many breasts, encircled with numerous bands.

DIANA of Poitiers, duchess of Valentinois, born in 1499. She was the mistress of king Henry II of France, and descended from the noble family of Poitiers, in Dauphiny. At an early age, she mar-

ried the grand-seneschal of Normandy, Louis de Brezé, became a widow at 31, and, some time after, the mistress of the young duke of Orleans. When the duke became dauphin, a violent hostility arose between Diana and the duchess of Etampes, mistress of Francis I, who taunted her rival with her age. Diana satisfied her revenge by banishing the duchess on the accession of Henry II to the throne, in 1547, in whose name she ruled with unlimited power. Till his death, in 1559, she exercised such an absolute empire over the king, by the charms of her wit and grace, that her superstitious contemporaries ascribed her power to magic. Upon his death, she retired to her castle Anet, where she established a charitable institution for the support of 12 widows, and died in 1566. Medals are still to be seen bearing her image, trampling under foot the god of love, with the inscription, *Omnium victorem vici* (I have conquered the universal conqueror).

DIANA'S TREE (*arbor Dianæ*, or silver tree) is formed from a solution of silver in nitrous acid, precipitated by quicksilver, and crystallized in prismatic needles, which are grouped together in the form of a tree. To make this beautiful process of crystallization visible to the eye, let a quantity of pure silver be dissolved in nitrous acid; then dilute the saturated solution with 20 or 30 parts of water, and put in an amalgam of 8 parts mercury and 1 part silver leaf, upon which, after some days, crystals are formed. A little mercury, in fine linen, is suspended in this solution by a silk thread, and the tree may then be withdrawn from the solution, and preserved under a glass bell. Copper filings dropped into a solution of silver in aqua fortis produce the same effect; and such trees are often found in working silver ore, on the removal of the quicksilver. Since the invention of the voltaic pile, scientific men have succeeded in producing the tree of Diana by its influence on the union of metals with acids. If the electric current, for example, is transmitted through nitrate of silver, the needles of silver arrange themselves in the same way on the wire of the pile.

DIAPASON. By the term *diapason*, the ancient Greeks expressed the interval of the octave. And certain musical instrument-makers have a kind of rule or scale, called the *diapason*, by which they determine the measures of the pipes, or other parts of their instruments. There is a diapason for trumpets and serpents. Bell-founders have also a diapason, for the

regulation of the size, thickness, weight, &c., of their bells. *Diapason* is likewise the appellation given to certain stops in an organ. (See *Stop*.)

DIAPER (French, *diapre*); so called from *Ypres* (*d'Ypres*); linen cloth woven in flowers and other figures; the finest species of figured linen after damask. Hence, as a verb, it signifies to diversify or variegate with flowers, or to imitate diaper.

DIAPHRAGM, in anatomy; a large, robust, muscular membrane or skin, placed transversely in the trunk, and dividing the chest from the belly. In its natural situation, the diaphragm is convex on the upper side towards the breast, and concave on its lower side towards the belly; therefore, when its fibres swell and contract, it must become plain on each side; and consequently the cavity of the breast is enlarged, to give liberty to the lungs to receive air in inspiration; and the stomach and intestines are pressed for the distribution of their contents; hence the use of this muscle is very considerable. It is the principal agent in respiration, particularly in inspiration; for, when it is in action, the cavity of the chest is enlarged, particularly at the sides, where the lungs are chiefly situated; and, as the lungs must always be contiguous to the inside of the chest and upper side of the diaphragm, the air rushes into them, in order to fill up the increased space. In expiration, it is relaxed, and pushed up by the pressure of the abdominal muscles upon the viscera of the abdomen; and, at the same time that they press it upwards, they pull down the ribs, by which the cavity of the chest is diminished, and the air suddenly pushed out of the lungs.

DIATONIC (from the *Greek*); a term in music, applied by the Greeks to that one of their three genera, which consisted, like the modern system of intervals, of major tones and semitones. The diatonic genus has long since been considered as more natural than either the chromatic or enharmonic. Aristoxenus asserts it to have been the first, and informs us that the other two were formed from the division of its intervals.

DIATONUM INTENSUM, or **SHARP DIATONIC**; the name given by musical theorists to those famous proportions of the intervals proposed by Ptolemy, in his system of that name; a system which, long after the time of this ancient speculative musician, was received in our counterpoint, and is pronounced by doctor Wallis, doctor Smith, and the most learned writers

on harmonics, to be the best division of the scale.

DIAZ; 1. Michael, an Arragonese, companion of Christopher Columbus. In 1495, he discovered the gold mines of St. Christopher, in the new world, and contributed much to the founding of New Isabella, afterwards St. Domingo. He died in 1512.—2. Bartholomew; a Portuguese. In 1486, he was commissioned by his government, during the reign of John II, to seek a new way to the East Indies. He advanced boldly to the south, and reached the southern extremity of Africa; but the mutinous spirit of his crew, and the dangerous tempests that raged there, compelled him to return to Lisbon. Diaz called the southern cape of Africa *Cabo de todos los tormentos*; but his king, John II, gave it the name of the *cape of Good Hope*, convinced that the expected way to India was now found.

DIB, or **DIV**, signifying *island*; the final syllable of several Hindoo names, as, *Maldives*, *Laccadives*, *Serendib* (Ceylon).

DIBDIN, Charles, born 1748; an English dramatic manager and poet, composer and actor. At the age of 15, he made his appearance on the stage, and was early distinguished as a composer. He excited uncommon admiration, and soon gained friends and a sufficient support. He invented a new kind of entertainment, consisting of music, songs and public declamations, which he wrote, sung, composed and performed himself, and, by this means, succeeded in amusing the public for 20 years. His patriotic songs were very popular, and his sea songs are still the favorites of the British navy. Their favorable influence on the lower classes obtained him a pension of £200 from government. Improvidence, however, kept him constantly poor. He died in 1814. His son, Charles Dibdin, has composed and written many small pieces and occasional songs. His second son, Thomas Dibdin, is likewise a fruitful writer of theatrical and occasional pieces.

DIBDIN, Thomas Frognall; a distinguished bibliographer. He is a clergyman, member of the society of antiquities in London, and librarian of earl Spencer, and, in this office, has the care of one of the richest and most valuable private libraries in the world. We have from him many estimable works, bibliographical and bibliomaniacal, of which we will mention the most important:—*Introduction to a Knowledge of rare and valuable Editions of the Greek and Roman Classics* (London, 3d edit., 1808, 2 vols.); the *Bibliomania*, a

bibliographical Romance (London, 2d edit., 1811); Bibliography, a Poem (London, 1812); the *Bibliotheca Spenceriana*, or a descriptive Catalogue of the Books printed in the 15th Century, and of many valuable first Editions, in the Library of George John Earl Spencer (3 vols., 1814), the only book of its kind in existence; Bibliographical Decameron, or Ten Days' pleasant Discourse upon illuminated Manuscripts, and Subjects connected with early Engraving, Typography and Bibliography (London, 1817, 3 vols.): this is ornamented with a great variety of fine wood cuts and engravings, and is one of the master-pieces of the art of printing. He has described his travels through France and the south of Germany (1818), in the following work: A Bibliographical, Antiquarian and Picturesque Tour in France and Germany (London, 1821, 3 vols., with numerous engravings and wood cuts). It is executed with similar typographical splendor, but the contents are inferior to the beauty of the exterior. The author has made his collections without choice, and often without taste, and, in all that is not immediately bibliographical, he is a mere copyist; even his bibliographical notices are not always new or fully worthy of credit. His *Ædes Althorpianæ* is of more value. It contains a supplement to his *Bibliotheca Spenceriana*, and a catalogue of the pictures in the Spencer gallery.

DICE; cubical pieces of bone or ivory, marked with dots on each of their six faces, from one to six, according to the number of faces. Sharpers have several ways of falsifying dice: 1. By sticking a hog's bristle in them so as to make them run high or low, as they please; 2. by drilling and loading them with quicksilver, which cheat is found out by holding them gently by two diagonal corners; for, if false, the heavy sides will turn always down; 3. by filing and rounding them. But all these ways fall far short of the art of the dice-makers, some of whom are so dexterous this way, that sharpening gamesters will give any money for their assistance. Dice are very old. The Roman word *tessera* is derived from the Greek *τεσσαρες*, Ionic for *τεσσαρες*, four; because it is, on every side, square. Numerous passages in the ancient writers, and very many representations in marble or paintings, show how frequent dice-playing was among them. Different from the *tessera*, which were precisely like our dice, were the *tali* (which means, originally, the pastern bone of a beast—Greek, *δοστρογαλος*). These were almost of a cubic

form, and had numbers only on four sides, lengthwise. Three *tessera* and four *tali* were often used together; and the game with dice was properly called *alea*, though *alea* afterwards came to signify any game at hazard, and *aleator*, a gambler. Dice-playing, and all games of chance, were prohibited by several laws of the Romans, except in December, yet the laws were not strictly observed.

DICKINSON, John, an eminent political writer, was born in Maryland, in December, 1732, and educated in Delaware, to which province his parents removed soon after his birth. He read law in Philadelphia, and resided three years in the Temple, London. After his return to America, he practised law with success in Philadelphia. He was soon elected to the legislature of Pennsylvania, in which his superior qualifications as a speaker and a man of business gave him considerable influence. The attempts of the mother country upon the liberties of the colonies early awakened his attention. His first elaborate publication against the new policy of the British cabinet was printed at Philadelphia, in 1765, and entitled, *The late Regulations respecting the British Colonies on the Continent of America considered*. In that year he was deputed, by Pennsylvania, to attend the first congress, held at New York, and prepared the draft of the bold resolutions of that congress. In 1766, he published a spirited address on the same questions, to a committee of correspondence in Barbadoes. He next issued in Philadelphia, in 1767, his celebrated *Farmer's Letters to the Inhabitants of the British Colonies*—a production which had a great influence in enlightening the American people on the subject of their rights, and preparing them for resistance. They were reprinted in London, with a preface by doctor Franklin, and published in French, at Paris. In 1774, Mr. Dickinson wrote the resolves of the committee of Pennsylvania, and their instructions to their representatives. These instructions formed a profound and extensive essay on the constitutional power of Great Britain over the colonies in America, and in that shape they were published by the committee. While in congress, he wrote the Address to the Inhabitants of Quebec; the first Petition to the King; the Address to the Armies; the second Petition to the King, and the Address to the several States; all among the ablest state-papers of the time. As an orator, he had few superiors in that body. He penned the famous Declaration of the United Colonies

of North America (July 6, 1775); but he opposed the declaration of independence, believing that compromise was still practicable, and that his countrymen were not yet ripe for a complete separation from Great Britain. This rendered him for a time so unpopular, that he withdrew from the public councils, and did not recover his seat in congress until about two years afterwards. He then returned, earnest in the cause of independence. His zeal was shown in the ardent address of congress to the several states, of May, 1779, which he wrote and reported. He was afterwards president of the states of Pennsylvania and Delaware, successively; and, in the beginning of 1788, being alarmed by the hesitation of some states to ratify the constitution proposed by the federal convention the year before, he published, for the purpose of promoting its adoption, nine very able letters, under the signature of *Fabius*. This signature he again used in fourteen letters, published in 1797, the object of which was to produce a favorable feeling in the U. States towards France, whose revolution he believed to be then at an end. Before the period last mentioned, he had withdrawn to private life, at Wilmington, in the state of Delaware, where he died, Feb. 14, 1808. His retirement was spent in literary studies, in charitable offices and the exercise of an elegant hospitality. His conversation and manners were very attractive; his countenance and person, uncommonly fine. His public services were eminent: his writings have been justly described as copious, forcible and correct; sometimes eloquently rhetorical and vehement, and generally rich in historical references and classical quotations.

DICKINSON COLLEGE. (See *Carlisle*.)

DICTATOR. We shall state first the opinions commonly entertained respecting the Roman dictator, and afterwards some of the views of Niebuhr respecting this officer, as given in his *Roman History*. This magistrate, the highest in the Roman republic, was appointed only in extraordinary emergencies, which demanded the fullest power in the executive. The authority of the dictator was, therefore, almost without restrictions in the administration of the state and of the army, and from it there was no appeal. It continued only six months. In fact, the dictators commonly resigned their office as soon as the object was accomplished for which they had been appointed. There are only a few instances of their continuing a longer time; for example, in the cases of Sylla

and of Cæsar. The authority of all civil magistrates, except that of tribunes of the people, immediately ceased on the appointment of a dictator. The consuls, indeed, continued in the discharge of their office; but they were subject to the orders of the dictator, and in his presence had no badges of power. The dictator, on the contrary, both within and without the city, was attended by 24 lictors, with their fasces and axes. He had the power of life and death, and was only restrained in not being permitted to spend the public money arbitrarily, or to leave Italy, or to enter the city on horseback. He might also be compelled to account for his conduct, when he laid down his office. The choice of dictator was not, as in the case of other magistrates, decided by the popular voice, but one of the consuls appointed him, at the command of the senate. The dictator then selected a master of the horse (*magister equitum*). In the sequel, dictators were also appointed to officiate in certain public solemnities; for example, to summon the *comitia* for the choice of new consuls, to arrange the festivals, and the like.—The remainder of this article contains Niebuhr's views. The name of *dictator*, says Niebuhr, was of Latin origin. The Latins elected dictators in their several cities, and also over the whole nation. If Rome and Latium were confederate states, on a footing of equality, in the room of that supremacy which lasted but for a brief space after the revolution, they must have possessed the chief command alternately; and this would explain why the Roman dictators were appointed for only six months, and why they came to have twenty-four lictors. These were a symbol that the governments of the two states were united under the same head; the consuls had only twelve lictors between them, which served them in turn. The dictator, at first, therefore, could have had to take cognizance only of foreign affairs; and the continuance of the consuls along with the dictator is accounted for. The object aimed at in the institution of the dictatorship, was incontestably to evade the Valerian laws, and to re-establish unlimited authority over the plebeians; for the appeal to the commonalty granted by the law, was from the sentence of the consuls, and not from that of this new magistrate. Even the members of the legislative bodies, at first, had not the right of appealing against the dictator, to their *comitia*. This is expressly asserted by Festus; but he adds that they afterwards obtained it. This is confirmed by the ex-

ample of M. Fabius, who, when his son was persecuted by the dictator, appealed in his behalf to the *populus*; to his peers, the patricians in the *curiæ*. The later Romans had only an indistinct knowledge of the dictatorship, derived from their earlier history. As applied to the tyranny of Sylla, and the monarchy of Cæsar, the term *dictatorship* was merely a name, without any ground for such a use in the ancient constitution. This last application of the term enables us to account for the error of Dion Cassius, when, overlooking the freedom of the patricians, he expressly asserts, that in no instance was there a right of appealing from the dictator, and that he might condemn knights and senators to death without a trial; also for the error of Dionysius, in fancying that he decided on every measure at will, even the determination of peace and war. Such notions, out of which the moderns have drawn their phrase, *dictatorial power*, are suitable, indeed, to Sylla and Cæsar, but do not apply to the genuine dictatorship. The statement generally contained in the books on Roman antiquities, that the appointment of the dictator, in all cases, rested with one of the consuls, designated by the senate, is incorrect. Such might possibly be the case, if the dictator was restricted to the charge of presiding over the elections; but the disposal of kingly power could never have been intrusted to the discretion of a single elector. The pontifical law-books have preserved the true account, that a citizen whom the senate should nominate, and the people approve of, should govern for six months. The dictator, after his appointment, had to obtain the *imperium* from the *curiæ*. As late as in 444, the bestowal of the *imperium* was something more than an empty form; but it became such by the Mænian law: thenceforward it was only necessary that the consul should consent to proclaim the person named by the senate. Thus, after that time, in the advanced state of popular freedom, the dictatorship could occur but seldom, except for trivial purposes: if, on such occasions, the appointment was left to the consuls, they would likewise advance pretensions to exercise it in the solitary instances where the office still had any real importance. However, when P. Claudius misused his privilege in mockery, the remembrance of the ancient procedure was still fresh enough for the senate to annul the scandalous appointment.

DICTIONARY (from the Latin *dictio*, a saying, expression, word); a book con-

taining the words, or subjects, which it treats, arranged in alphabetical order. At least, this should be the general principle of the arrangement; thus an etymological dictionary contains the roots of the words in a language in this order. By *dictionary* is generally understood a vocabulary, a collection of the words in a language, with their definitions; and Johnson's and Webster's definitions of the word apply only to this use of it. But in modern times, when the various branches of science have become so much extended, and the desire of general knowledge is daily increasing, works of very various kinds have been prepared on the principle of alphabetical arrangement, and are termed *dictionaries*. Among the Greek dictionaries, the *Onomastikon*, written B. C. 120, by Julius Pollux, is one of the oldest, but more of a dictionary of things, or an encyclopædia, than a verbal dictionary. Hesychius of Alexandria, of whom we know little more than that he lived at the beginning of the third century, was the first Christian who wrote a Greek dictionary, which he called *Glossarium*. After the revival of learning, Johannes Crestonus (*Crastonus*, *Johannes Placentinus*, because he was a native of Placenza) wrote, in 1480, the first Greek and Latin dictionary. M. Terentius Varro, born in the year of Rome 638, wrote the first Latin dictionary. A similar one is that called *Papius*, prepared by Solomon, abbot of St. Gall, bishop of Constance, who lived about 1409. John Balbus (*de Balbis*; *de Janua*; *Januensis*; died 1298) compiled a Latin dictionary, printed at Mentz in 1460, under the title *Catholicon*. John Reuchlin was the first German who wrote a Latin dictionary. The first Hebrew dictionary is by Rabbi Menachem Ben Saruck (Ben Jakob), in the ninth century. Rabbi Ben Jechiel (died in 1106) published the first Talmudic dictionary. The first Arabic dictionary, written by a Christian, was published by Peter de Alcala, in 1505, at Grenada, with definitions in the Spanish language; another, by Franciscus Raphelengius (born 1539, died 1597), was printed at Leyden, in 1613. The first Syriac dictionary was written by Andrew Masius, in 1571, at Antwerp; the first Æthiopian and Amharic, by Job Ludolf, in the 16th century, London; the first Japanese, by John Ferdinand; the first German, by the archbishop Rabanus Maurus, of Mentz (died 859); the first German printed dictionary, under the title *Theutonista*, was prepared by Gerhard von der Schüren, Cologne, 1477; the first Hebrew, Greek and Latin

dictionary, by Sebastian Munster, 1530, at Basle. The dictionary of the Italian language, which has the highest authority, is that of the Crusca. The best French dictionary is that of the academy; but, since the revolution, the language has been increased by the addition of many new words, and has received from several of its first writers a new turn. The Spaniards have also a dictionary of the academy. The Portuguese academy has published one volume only of its dictionary. In German, no work of such authority exists. Adelung is excellent for etymology, but not of much authority as a standard of language. In this respect, Campe's *Wörterbuch* (Brunswick, 1813, 6 vols. 4to.) is more complete. For Latin, Forcellini is still the best, and James Bailey's edition (London, 1828, 2 vols. 4to.) is very excellent and complete. In English, Johnson's Dictionary was published in 1755, in 2 vols. fol. An Abridgment by the author appeared in 1756, in which many of the words were omitted. Mr. Todd has added, in his second edition of Johnson's Dictionary (1827), more than 15,000 words. A very useful edition of the Abridgment, containing all the words of doctor Johnson's large dictionary, with the additions of Mr. Todd, and some words which have been considered as Americanisms, was published in Boston (N. E.), in 1828. The other English dictionaries are of little comparative value, in respect to language. Walker's Critical Pronouncing Dictionary (which is incorporated with the Boston edition of the Abridgment of Todd's Johnson) is important, as affording the most general standard of polite pronunciation. The American Dictionary of the English Language, intended to exhibit the origin, affinities and primary signification of words, the genuine orthography and pronunciation of words, and accurate and discriminating definitions, by Noah Webster, 2 vols. 4to., New York, 1828, republished in London, 1829 (Abridgment, 8vo., Boston, 1829), is a work of merit, and of great labor. It contains between 60,000 and 70,000 words. (For Geographical Dictionaries, see *Gazetteer*.)

DIDACTIC POETRY. The word *didactic* is derived from *διδασκᾶν*, to teach; and a didactic poem is one of some length, the object of which is to impart instruction in the form of poetry. It is a matter of question, whether didactic poetry really deserves to be classed with lyric, epic and dramatic, because either the chief object of the poem is to give instruction on a certain subject, in which case the elevation, invention and freedom of poetry are excluded;

or, if this is not the prominent object, then every poem is more or less didactic. If there are any poems really deserving the name, that ought to be called *didactic*, it is those which veil the purpose of instruction under the universally admitted forms of poetic composition, as in the case of Lessing's drama of Nathan the Wise; or clothe the lessons of wisdom in a symbolical or allegorical garb, as in the case of many visions, &c. Many of the early sacred poems of the different nations are, in this sense, didactic, and most, perhaps all, of these didactic poems partake of the symbolical character. Even Dante's grand poem (see *Dante*) would, in this point of view, be justly called *didactic*. Also fables, parables, poetic epistles and descriptive poems are numbered, in this sense, among those of the didactic kind.—There is hardly a subject, however prosaic, which has not, at some time, been treated in a didactic poem, so called. The writer recollects having seen a long poem on book-binding. Didactic poetry, taking the phrase in its narrower sense, will always be a meager and poor kind of composition; but, when it passes into poetic description, it may attain an animated and elevated character. Lively and beautiful descriptions, for instance, exist, of hunting, fishing, husbandry; but it is not to be denied, that they lose in didactic, as they gain in poetical character. Even the poem of Lucretius, *De Rerum Natura*, on the system of Epicurus, and the Georgics of Virgil, on husbandry, though containing poetical episodes and masterly passages, can hardly be regarded, on the whole, as great poems. Didactic poetry is most cultivated in periods when the nobler kinds of poetry are declining, and the want of poetical genius and noble conceptions is attempted to be supplied by an incongruous mixture of poetry and reflection. Ovid's Art of Love partakes of the comic character. The *Ars poetica* of Horace is of the didactic kind. Among the English didactic poets are Davies, Akenside, Dryden, Pope, Young, Cowper, Darwin; among the French, Racine, Boileau, Dorat, Lacombe, Delille; among the Germans, Opitz, Haller, Hagedorn, Cronegk, Lichtwer, Tiedge, &c. Our objections to didactic poetry apply to it only if it is intended to make a class separate from epic, lyric or dramatic, and has for its great object, to impart instruction on a particular subject, and not where the established forms of poetic composition are employed as vehicles of instruction.

DIDASCALIA, among the Greeks; some-

times the exhibition of a play itself, and sometimes a written addition, in which information is given of the authors and contents of the plays, of the time, place and success of the representation; whether the pieces were exhibited or not; whether they were the work of the poet to whom they were attributed, &c. Many old authors have written *didascalia*; and these contain, not merely theatrical information, but also dramatic criticisms, the analysis of the plan, developement of the beauties and faults, &c. (See *Drama*.)

DIDEROT, Denis; born 1713, at Langres, in Champagne, and educated in the school of the Jesuits, who designed to make him one of their order. His father intended that he should pursue the profession of law, and committed him to the instruction of a Paris attorney; but the youth found greater attractions in literature. Neither the indignation of his father, nor his consequent want of means, could deter him from his favorite pursuit; and he found resources in his own talents. He applied himself zealously to mathematics, physics, metaphysics and the belles-lettres, and soon became distinguished among the wits of the capital. He laid the foundation of his fame by his *Pensées Philosophiques* (1746)—a pamphlet against the Christian religion, which found many readers, and in consequence of which he was imprisoned at Vincennes: the parliament caused it to be burned by the public executioner. The applause which this pamphlet received encouraged him to continue in the same course; he was not bold enough, however, to continue this particular work. His *Lettres sur les Aveugles, à l'Usage de ceux qui voyent* (London, 1749), contain attacks upon the Christian religion. In his *Lettres sur Sourds et Muets, à l'Usage de ceux qui entendent et qui parlent*, he treats of the origin of our perceptions. In conjunction with Eidous and Toussaint, he published the *Dictionnaire universel de Médecine* (6 vols. folio). The success of this work, notwithstanding its deficiencies, determined him to undertake an encyclopædia. He prepared the plan, and was assisted in the execution by D'Aubenton, Rousseau, Marmontel, Le Blond, Le Monnier, and particularly D'Alembert, who, next to him, had the largest share in this great undertaking. Diderot took upon himself the preparation of the articles relating to the arts and trades, and, by his care as editor, supplied many of the deficiencies of his coadjutors. (See *Encyclopædia*.) The profit of his 20 years' labor, owing to his bad management, was so trifling, that he

found himself compelled to sacrifice his library. The empress of Russia purchased it for 50,000 livres, and allowed him the use of it for life. After this, Diderot visited Petersburg; but, having offended the empress by an equivocal quatrain, he soon returned to France. While engaged in the encyclopædia, and obliged to encounter many obstacles, which delayed the printing for several years, he published a lively but licentious romance, *Les Bijoux indiscrets*; and two sentimental comedies, *Le Fils naturel* and *Le Père de Famille*. They are often printed under the title *Théâtre de Diderot*, and accompanied with a treatise on the dramatic art, which contains many ingenious observations. Diderot died in 1784. His character has been very differently represented. His friends describe him as open, disinterested and honest; his enemies, on the contrary, accuse him of cunning and selfishness. Towards the end of his life, he had a quarrel with Rousseau, by whom he thought himself calumniated, in which much weakness was displayed on both sides. Several excellent productions of his have been published since his death. Among them are his *Essai sur la Peinture*; likewise a dithyrambic poem, written in 1772, *Abdication d'un Roi de la Fève*, which contains democratical opinions; and two lively tales, *La Religieuse* (Paris, 1796), and *Jacques le Fataliste et son Maître* (Paris). Of Diderot was first said, what has been often repeated, that he had written some fine pages, but had never made a good book. Diderot was a man of brilliant talent and warm imagination, but has not established a lasting reputation, either as a writer or as a philosopher. His works are deficient in plan and connexion, and disfigured with pretension, obscurity and arrogance, but, nevertheless, are characterized by energy, and sometimes even by eloquence. They contain many happy passages, and truths which would be more effectual if more simply stated. As a philosopher, he followed the dictates of an intemperate imagination, rather than those of a sound reason. He is always enthusiastic, and oversteps the bounds of discretion. The general opinion entertained respecting him at present is, that he had much talent, and was capable of warmth and elevation of feeling, but that he was deficient in judgment and in taste. He adopted a desolating system of philosophy, and dishonored his cause by the excess to which he carried some of his principles, and by the licentiousness of his productions. He

was distinguished for fluency and richness of conversation. A complete edition of his works appeared at London, 1773, 5 parts; in 6 vols., Paris, 1819.

DIDO; the founder of Carthage. According to some, she was the daughter of Agenor (Belus); according to others, of Carchedon of Tyre, from whom Carthage received its name. Others call her father Mutgo or Muttinus. Her brother was Pygmalion, king of Tyre. Her father married her to Sichæus or Sicharbas, one of the richest Phœnicians, who was also the priest of Hercules, and to whom she was strongly attached. He was murdered before the altar, by her brother, who was instigated by the desire of making himself master of his wealth. The spirit of her husband appeared to her in a dream, disclosed the crime, besought her to flee, and informed her where she could find his treasures, which Pygmalion had sought in vain. She therefore set sail for Africa, with all her wealth and her faithful companions, taking on board a number of young women at Cyprus, who were necessary for the establishment of a new colony. They landed on the coast of Africa, not far from Utica, a Tyrian colony, the inhabitants of which received her with the greatest kindness, and advised her to settle in the place where she first landed. She purchased of the natives a piece of land, and first built the citadel of Byrsa, and afterwards Carthage (q. v.), about 888 B. C., which soon became an important place. Iarbas, a neighboring prince, paid his addresses to her. Unwilling to accept, and unable to refuse the proposal, she sacrificed her life on the funeral pile. Virgil attributes her death to the faithlessness of Æneas; but the story of the meeting of Æneas and Dido is a poetical fiction, as she lived more than 200 years later than the hero of the Æneid.

DIDOT. This family of printers and booksellers at Paris have distinguished themselves by their liberality and skill in their art, and by their many fine works, so that they may be justly ranked with the Elzevirs.—1. François-Ambrose, son of the printer and bookseller François Didot, born in 1730, invented many of the machines and instruments now commonly used in the typographic art. From his foundry came the most beautiful types that, up to that period, had been used in France, and he was the first person in France who printed on vellum paper. He took the greatest care to have his editions correct. By the direction of Louis XVI, he printed a collection of the French classics, for the use of

the dauphin. The count d'Artois employed him to print a similar collection. He died in 1804.—2. Pierre-François Didot, brother of the former, succeeded his father in the bookselling business, and distinguished himself by his bibliographical knowledge. He also became printer to Monsieur, since Louis XVIII. He had a great share in the changes made in the character of types, and contributed to the advancement of his art. He published some very fine editions; among them the *Voyages d'Anacharsis*. He died in 1795.—3. Pierre Didot the elder, who has carried his art to perfection, son of François-Ambrose, born in 1761, succeeded his father in the printing business in 1789. His first work was to finish the collection for the dauphin, begun by the latter. But he was not satisfied with accomplishing this. In the universal impulse which the arts received from the revolution, he aimed at becoming the Bodoni of France, and conceived the plan of a splendid edition of the classic authors in folio, which should excel, if possible, the best editions extant. He spared no expense to adorn them with all the splendor and elegance of the arts of design, and availed himself of the aid of the first masters. He even sacrificed a part of his property to this favorite object. His *Virgil* (1798) was worthy of these endeavors, and still more so his *Racine* of 1801, which the French regard as the first typographical production of any age or country. Only 250 copies of these works were struck off. Among the productions of his press, Visconti's *Iconography* is particularly distinguished. Didot devoted the efforts of 10 years to the improvement of the types, and caused 18 different sorts, with new proportions, to be cut, with which he printed Boileau and the *Henriade* in 1819. Didot paid no less attention to correctness and purity of text, and perfect consistency of orthography, than to typographical beauty. He is also known as an author. He has written prefaces, in Latin, to Virgil and Horace, and is the author of several works in French, poetry as well as prose. He has received marks of honor from the republic, from Napoleon, and from Louis XVIII; the latter conferred on him the order of St. Michael.—4. Firmin Didot, brother of the preceding, printer and type-founder. He is the inventor of a new sort of writing and of stereotype printing. (See *Printing*). In 1826, he published *Notes d'un Voyage dans le Levant, en 1816 et 1817*, of which he is the author.—5. Henry Didot, son of Pierre-François, and nephew

of the two preceding, early distinguished himself as a type-engraver. He then applied himself particularly to improve the method of founding types, in which he succeeded by the invention of a new founding apparatus. He calls his process *fonderie polyamatype*. It is more expeditious than the former mode, and the types are much cheaper.

DIDYMÆUS; a surname of Apollo, either because he was the twin-brother of Diana, or from the double light of the sun and moon, which he lends to men. Under this name, Apollo had one of the most famous of his temples and an oracle at Didyma, among the Milesians. Pindar calls Diana *Didyma*.

DIE. (See *Architecture*, page 338, right column.)

DIEBITSCH, Sabal Kanski, count. (See *Turkey*, and *Russia*, towards the end.)

DIEMEN, Anthony van; governor-general of the Dutch East Indies; born 1593, at Cuylenburg. Having been unsuccessful as a merchant, and pressed by his creditors, he went to India, where his excellent penmanship procured him the place of a clerk, and he speedily rose to the highest dignity. He administered the government with much ability, and contributed much to the establishment of the Dutch commerce in India. Abel Tasman, whom he sent with a vessel to the South seas, in 1642, gave the name of *Van Diemen's Land* to a country long regarded as a part of New Holland, but since found to be an island; he likewise discovered New Zealand. Another navigator, whom he sent out, made discoveries in the ocean north of Japan, which have been confirmed by voyages in our days. A part of the north-western portion of New Holland, which is also called *Van Diemen's Land*, was probably discovered later; perhaps, also, by Tasman. Van Diemen died in 1645.

DIEMEN'S (VAN) LAND; an island in the Southern ocean, separated from New Holland by a navigable canal called *Bass's straits*. The country was first discovered in 1633, by Abel Janson Tasman, a Dutch navigator, who called it *Van Diemen's Land*, after the governor of Batavia, Van Diemen (see *Diemen*). In 1773, it was visited by captain Furneaux, and by captain Cook in 1777; since which period it has been visited by different navigators. Several colonies have been sent from the original establishment made by the British at Port Jackson, to this island. In 1804, Hobart's Town was founded on this island by the English, about 9 miles up the Der-

went; and another settlement, namely, Launceston, was founded about 30 miles from the mouth of Port Dalrymple, and 130 miles, in a straight line, from Hobart's Town. Van Diemen's Land is situated between 40° 42' and 43° S. lat., and between 145° 31' and 148° 22' E. lon. It contains 23,437½ square miles, and had, in 1829, 20,000 inhabitants. The island is divided into two counties, Cornwall and Buckingham. It has not so discouraging and repulsive an appearance from the coast as New Holland. Many fine tracts of land are found on the very borders of the sea, and the interior is almost invariably possessed of soil adapted to all the purposes of civilized man. This island is, upon the whole, mountainous, with some peaks of considerable elevation, and consequently abounds in streams. Of these, the Derwent, Huon and Tamar rank in the first class. There is, perhaps, no island in the world, of the same size, which can boast of more fine harbors; the best are the Derwent, Port Davy, Macquarie harbor, Port Dalrymple and Oyster bay. There is almost a perfect resemblance between the animals and vegetables found here and in New Holland. In the animals, in particular, there is scarcely any variation. The native dog, indeed, is unknown here; but there is an animal of the panther tribe in its stead, which, though not found in such numbers as the native dog is in New Holland, commits dreadful havoc among the flocks. Kangaroos are most abundant. In the feathered tribes of the two islands, there is scarcely any diversity; of this the wattle bird, which is about the size of a snipe, and considered a very great delicacy, is the only instance that can be cited. The climate is equally healthy, and much more congenial to the European constitution than that of Port Jackson. In this island, as in New Holland, there is every diversity of soil; but, in proportion to the surface of the two countries, this contains, comparatively, much less of an indifferent quality. Barley and oats arrive at great perfection. The wheat, too, is of a superior description, not subject to the weevil, and generally yields from 60 to 65 pounds a bushel. It is frequently exported to Sydney, Isle de France, Cape of Good Hope and Rio Janeiro. The fruits raised here are the apple, currant, gooseberry, and, indeed, all the fruits not requiring a warm climate. The settlements have been infested, for many years, by banditti composed of runaway convicts, known by the name of *bush-rangers*. The aborigines

are but few, and have much more resemblance to the Negro race than to the aborigines of New South Wales: they have woolly hair, are not quite black, paint themselves all over with grease and charcoal, are tall, and both the sexes go quite naked, or covered only with a kangaroo skin. The English colony, one of those to which convicts are exported, has grown rapidly within a few years, and the settlements have increased to a considerable number. This colony has, of late, attracted much attention; and, from its natural advantages, must become a very important commercial settlement. The following particulars respecting it are extracted from the Hobart's Town Almanac, for the year 1829, printed at Hobart's Town:—The island is under a lieutenant-governor, assisted by an executive and legislative council, a supreme court, having civil, criminal and ecclesiastical jurisdiction, a court of requests, &c. There is a grammar school at Hobart's Town, the seat of government, and several king's schools, for the education of all classes of children. The government have herds here. Cattle thrive excellently, and the wool of the island promises to be very fine and very abundant: great quantities have been already exported to England. In 1829, the island contained 500,000 sheep and 70,000 horned cattle. We were struck with finding, in the statistical statements respecting this new and thinly settled colony, a characteristic trait of English usages, in the shape of a list of annual pensions. The amount is by no means small, being £1972 10s., divided among 14 people, among whom are a retired lieutenant-governor, with £500; a deputy judge-advocate, with £400; some retired pilots, with £25 each; retired constables with £10, &c., annually! The following numbers are drawn from the most authentic sources, as statistics of Van Diemen's Land, Jan. 1, 1829:

Inhabitants of Hobart's Town,	5,700
————— Launceston,	1,000
————— settled districts and townships,	13,000
————— Circular Head,	300
Total number of inhabitants,	20,000
Of whom there are male adults,	12,000
Female adults,	4,800
Children at school,	1,200
Children classically educated,	120
Aborigines in the woods,	600
Total territory, in acres,	15,000,000
Pasture,	6,000,000

Arable land,	1,500,000
Rocky and thickly-wooded hills,	7,500,000
Total amount of acres granted,	1,121,548
Acres not yet granted,	13,378,452
Total amount of acres cultivated,	30,150
Total of imports in 1828,	£300,000
Total of exports in 1828,	£100,000
Expenditure of government,	£170,000
Total circulating medium,	£100,000
Colonial interest, 10 per cent.; insurance to or from England, 3 guineas per cent. The mail-bag is mostly carried on foot. The coins of England, the East Indies and Spain are current. Attempts have been made to introduce steam navigation on the Derwent. There are several libraries, and nine newspapers and other periodicals. Some of the highest mountains are the Southern mountains, near Port Davy, 5000 feet high; Quamby's bluff, 3500 feet; Table mountain, 3800 feet; peak Teneriffe, or Wylde's craig, 4500 feet; mount Wellington, 4000 feet.	

DIEPPE; a seaport town of France, in Upper Normandy, in the department of Seine-Inférieure, at the mouth of the river Arques or Bethune, on the Channel; lat. 49° 55' 34" N.; lon. 1° 4' 44" E.; with 20,000 inhabitants. Its streets are tolerably regular: the principal public buildings are the parish church of St. James, and the old castle on the west side of the town. There are here several small squares, and the ramparts form a pleasant promenade. The harbor, though tolerably commodious, is narrow. Here is a navigation school. 12½ leagues N. W. Rouen; 34 N. Paris. The commerce of Dieppe is considerable, and employs 80 vessels. It was founded by fishermen, in the 14th century. Canada was discovered by the inhabitants of Dieppe, and the first French settlers on the coast of Africa were also from this place.

DIES IRÆ; the first words of a Latin hymn, describing the final judgment of the world. It is ascribed to Thomas de Cællano, a Minorite, who lived in the 13th century. It is a beautiful poem, belonging to those early Christian songs, which combine the smoothness of rhyme with the gravity of Latin verse. This powerful poem makes a part of the requiem (the mass for the souls of the dead); and it is one of the highest and most difficult tasks for the composer to compose music adapted to the awful solemnity of the subject. Who ever has heard Mozart's *Tuba mirum spargens sonum*, without being reminded of the trump which shall echo through the tombs on the judgment-day? Göthe has happily introduced a few stanzas of this

poem in his *Faust*. As this hymn constitutes the chief part of the requiem, and is, at the same time, a fine example of a whole class of poetry, little known in this young and Protestant country, we have quoted it at length.

Dies iræ, dies illa
Solvat sæculum in favilla,
Teste David cum Sibylla.

Quantus tremor est futurus,
Quando Judex est venturus,
Cuncta stricte discussurus !
Tuba mirum spargens sonum
Per sepulchra regionum,
Coget omnes ante thronum.

Mors stupebit, et natura,
Cum resurget creatura,
Judicanti responsura.

Liber scriptus proferetur,
In quo totum continetur,
Unde mundus judicetur.

Judex ergo cum sedebit
Quidquid latet apparebit,
Nil inultum remanebit.

Quid sum miser tunc dicturus ?
Quem patronum rogaturus,
Cum vix justus sit securus ?

Rex tremendæ majestatis,
Qui salvandos salvas gratis,
Salva me, fons pietatis.

Recordare, Jesu pie,
Quod sum causa tuæ viæ,
Ne me perdas illa die.

Quærens me sedisti lassus,
Redemisti crucem passus,
Tantus labor non sit cassus.

Juste judex ultionis,
Donum fac remissionis,
Ante diem rationis.

Ingemisco tanquam reus,
Culpa rubet vultus meus :
Supplici parce, Deus.

Qui Mariam absolvisti,
Et latronem exaudisti,
Mihi quoque spem dedisti.

Preces meæ non sunt dignæ,
Sed tu, bone, fac benigne,
Ne perenni cremer igne.

Inter oves locum præsta,
Et ab hædis me sequestra,
Statuens in parte dextra.

Confutatis maledictis,
Flammis acerbis addictis
Voca me cum benedictis.

Oro supplex, et acclinis,
Cor contritum quasi cinis,
Gere curam mei finis.

Lacrymosa dies illa
Qua resurget ex favilla.

Judicandus homo reus,
Huic ergo parce Deus.

Pie Jesu, Domine, dona eis requiem. Amen.

DIET, GERMAN. (See *Germany* and *German Confederacy*.)

DIET OF HUNGARY. (See *Hungary*.)

DIET OF POLAND. (See *Poland*.)

DIET (*dieta*). The dietetic part of medicine is an important branch, and seems to require a much greater share of attention than it commonly meets with. A great variety of diseases might be removed by the observance of a proper diet and regimen, without the assistance of medicine, were it not for the impatience of the sufferers. It may, however, on all occasions, come in as a proper assistant to the cure. That food is, in general, thought the best and most conducive to long life, which is most simple, pure, and free from irritating qualities, and is capable of being most easily converted into the substance of the body after it has been duly prepared by the art of cookery; but the nature, composition, virtues, and uses of particular aliments can never be learnt to satisfaction, without the assistance of practical chemistry.

DIET DRINK; an alterative decoction employed daily in considerable quantities, at least from a pint to a quart. The decoction of sarsaparilla and mezereon, the Lisbon diet drink, is the most common and most useful.

DIETALIA ACTA; the records of the Hungarian diet, written in Latin, in which language the discussions of the diet take place. The discussions are not public, and the records are only given to members of the diet, and a few other persons through them.

DIETRICH, John William Ernst (who, from eccentricity, often wrote his name *Dietericy*); a famous German painter of the 18th century. He was born in 1712. His father, John George, was also a skilful painter, and instructed his son till he was 12 years old, when he sent him to Dresden, and placed him under the care of Alexander Thiele. The picture of a peasant drinking, in the Dutch style, executed by Dietrich while a boy, is in the royal cabinet of engravings at Dresden. He successfully imitated Raphael and Mieris, Correggio and Ostade. His paintings are scattered through almost all Europe. In the Dresden gallery there are 34 of them. Some of his designs are in the cabinet of engravings in that place, and some in private collections. He died in 1774.

DIETSCH, Barbara Regina; a distinguished female painter of the celebrated family of artists of that name. She was born at Nuremberg in 1716, and died in 1783. Notwithstanding many invitations to different courts, which her talents pro-

cured her, she preferred to remain in the modest obscurity of private life.—Her sister, Margaret Barbara, was born in 1726, and died in 1795. She painted flowers, birds, &c.

DIEU ET MON DROIT (*French*; signifying, *God and my right*); the motto of the arms of England, first assumed by Richard I, to intimate that he did not hold his empire in vassalage of any mortal. It was afterwards taken by Edward III, and was continued without interruption to the time of William III, who used the motto *Je maintiendrai*, though the former was still retained upon the great seal. After him, queen Anne used the motto *Semper eadem*, which had been before used by queen Elizabeth; but ever since the time of queen Anne, *Dieu et mon droit* has been the royal motto.

DIEZ, Juan, or John Martin; a Spanish partisan officer, distinguished for his conduct during the French invasions of his native country. He was the son of a peasant, and born in the district of Valladolid, in Old Castile, in 1775. On the proclamation of war against France, after the revolution, he again entered the army, as a private, in the Spanish dragoons. He served till the restoration of peace, when he returned home, married, and resumed his agricultural employment. Patriotism and a love of enterprise drew him from his peaceful labors on the invasion of the territory of Spain by Napoleon. In 1808, he placed himself at the head of a party of four or five of his neighbors, and commenced hostilities against the enemy, killing their couriers, and thus obtaining a supply of horses, arms, and ammunition. After the atrocities committed by the French at Madrid May 2, a spirit of resentment was excited in the country, and Martin, procuring associates, prosecuted his system of annoyance and extermination against the French. At this period, he acquired the appellation of *el Empecinado*, from the darkness of his complexion. With the increase of his band, he extended his operations, and, besetting the roads, intercepted the couriers of the enemy, seized their convoys, and harassed their small parties. At first, he neither gave nor expected quarter; but at length, finding himself at the head of forty-eight well-armed men, he no longer pursued that barbarous practice. In September, 1809, with 170 men, all mounted, he passed into the province of Guadalaxara to check the inroads of the enemy. He was afterwards employed under the orders of the commander-in-chief of the second army;

and, the value of his services being appreciated, he was at length made a brigadier-general of cavalry. The French troops sent against him were almost uniformly defeated; but, on one occasion, he was overpowered, and only escaped falling into their hands, by leaping down a dangerous precipice. He attended the duke of Wellington in triumph to Madrid, after the expulsion of the French, and, some time after, received his commands to join the second army in the neighborhood of Tortosa, at the head of 4850 men, horse and foot. All the services of this brave officer, during the war which preceded the restoration of Ferdinand, could not atone for the crime of opposing the invasion of the liberties of Spain, after the return of that prince. The *Empecinado* had laid down his arms on the faith of a treaty; notwithstanding which, he was seized and executed at Rueda, August 19, 1825, with circumstances of insulting cruelty highly disgraceful to his persecutors. As the originator of that system of desultory warfare which contributed much to the expulsion of the invading army from Spain, Díez has strong claims to notice. His natural talents were not assisted by education, as he could write no more than his name; his manners were rude, and his temper violent; yet he was partial to the society of well-informed persons, and disposed to attend to their advice; while, with the greatness of mind which characterizes conscious worth, he never scrupled to acknowledge his humble origin, or the limited sphere of his information.

DIFFERENTIAL CALCULUS. (See *Calculus*.)

DIGAMMA, in the Greek language. In addition to the smooth and rough breathings, the ancient Greek language had another, which remained longest among the *Æolians*. This is most commonly called, from the appearance of the character used to denote it, a *digamma*, that is, double *Γ*. It was a true consonant, and appears to have had the force of *f* or *v*. It was attached to several words, which, in the more familiar dialect, had the smooth or rough breathing. The whole doctrine, however, of the digamma, for want of literary monuments, remaining from the period when it was most in use, is exceedingly obscure. (See *Buttmann's Greek Grammar*, from the German, by Ed. Everett, 2d edit. Boston, 1826.)

DIGBY, sir Kenelm, the eldest son of the unfortunate sir Everard Digby, was born at Gothurst, in Buckinghamshire, in 1603. He was educated in the Protestant

religion, and entered at Gloucester hall, Oxford. On his return from his travels, he brought back with him a recipe for making a sympathetic powder for the cure of wounds, being much addicted to the philosophy which employed itself in alchemy and occult qualities. On the accession of Charles I, he was created a gentleman of the bed-chamber, a commissioner of the navy, and a governor of the Trinity house. He soon after fitted out a small squadron at his own expense, to cruise against the Algerines and Venetians, and obtained some advantages over the shipping of both these powers. He returned with a great increase of reputation, and, having a good address and a graceful elocution, with a fine person and an imposing manner, he made a considerable figure. On a visit to France, he was converted to the Catholic religion. On the breaking out of the civil war, he was committed prisoner to Winchester house, where he amused himself by writing observations on the *Religio Medici* of sir Thomas Browne, and on the ninth canto of the *Fairy Queen*, in which Spenser has introduced some mysterious matter in regard to numbers. Being liberated, he passed into France, and visited Descartes. In 1646, he printed at Paris his own philosophical system, in two works, entitled a *Treatise on the Nature of Bodies*, and a *Treatise on the Nature and Operation of the Soul*. In 1651, he also published *Institutionum Peripateticarum, cum Appendice theologica de Origine Mundi*. All these treatises are written in the spirit of the corpuscular philosophy, which they support with more learning and ingenuity than solidity or force. After the ruin of the royal cause, he returned to England to compound for his estate, but was not allowed to remain. He resided in the south of France in 1656 and 1657, and produced at Montpellier, a *Discourse on the Cure of Wounds by Sympathy*. On the restoration, he returned to England, became a member of the royal society, and was much visited by men of science. He married a lady who was highly distinguished for beauty, and, in other respects, almost as singular as himself. Of this lady, Venetia Digby, a great many pictures and busts are extant; but she died while still young. Sir Kenelm died in 1665, at the age of 62.

DIGBY, lord George, son of John, earl of Bristol, was born during his father's embassy to Madrid in 1612. He distinguished himself much while at Magdalen college, Oxford, and, in the beginning of the long parliament, opposed the court, but

seceded from the opposition, on the measures against the earl of Strafford. He then distinguished himself as warmly on the side of the king, and was made secretary of state in 1643. After the death of Charles, he was excepted from pardon by the parliament, and was obliged to live in exile until the restoration, when he was made knight of the garter. He wrote a comedy called *Elvira*, and also letters to his cousin, sir Kenelm Digby, against popery, although he ended by becoming a Catholic himself.

DIGEST. (See *Civil Law*.)

DIGESTER; an instrument invented by Mr. Papin. It consists of a strong vessel of copper or iron, with a cover adapted to screw on, with pieces of felt or pasteboard interposed. A valve with a small aperture is made in the cover, the stopper of which valve may be more or less loaded, either by actual weights, or by pressure from an apparatus on the principle of the steelyard. The purpose of this instrument is to prevent the loss of heat by evaporation. Water may be thus heated to 400° Fahr.; at which temperature its solvent power is greatly increased.

DIGESTION is that process in the animal body, by which the aliments are dissolved, and the nutritive parts are separated from those which cannot afford nourishment to the body. The organs effecting this process are divided into the *digestive* organs, properly so called, and the *auxiliary* organs. The former are composed of the divisions of the intestinal canal, which includes the stomach, the great and small intestines, &c. To the latter belong the liver, the pancreas and the spleen. The first process of digestion is the solution of the aliments. When the aliments, after being properly prepared, and mixed with saliva by mastication, have reached the stomach, they are intimately united with a liquid substance called the *gastric juice*, by the motion of the stomach. By this motion, the aliments are mechanically separated into their smallest parts, penetrated by the gastric juice, and transformed into a uniform pulpy or fluid mass. At the same time, a solution of the aliments into their simple elements, and a mixture of them so as to form other products, takes place, effected partly by the peculiar power of the stomach and the liquid generated in it, partly by the warmth of this organ. This pulpy mass, called *chyme* (q. v.), proceeds from the stomach, through the pylorus, into the part of the intestinal canal called the *large intestines* (q. v.), where it is mixed with the pancreatic juice and the

bile. (See *Bile*, and *Pancreas*.) Both these liquids operate most powerfully on the chyme, yet in very different ways. The mild juice of the pancreas attracts the milk-like liquid of the chyme, and forms with it the *chyle*, which is absorbed by the capillary vessels called *lacteals*. On the other hand, the bitter matter called *bile*, formed by the liver from the blood, attracts the coarser parts, which are not fitted to be absorbed into the fine animal organization, and excites the intestinal canal to the motion which carries it off. (For further information on the subject of digestion, particularly of diseased digestion, see the article *Dyspepsia*.)

Digestion, with chemists and apothecaries; the maceration of any substance which is to be softened or dissolved, commonly pulverized, in a solvent liquid. It is enclosed in a tight vessel, and exposed to a gentle heat for a longer or shorter time. By this process essences, elixirs and tinctures are made.

DIGGING, among miners; the operation of freeing ore from the stratum in which it lies, where every stroke of their tools turns to account; in contradistinction to the openings made in search of such ore, which are called *hatches* or *essay-hatches*, and the operation itself, *tracing of mines*, or *hatching*.

DIGIT, in arithmetic, signifies any one of the ten numerals, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0. The word comes from *digitus*, a finger; thus indicating the humble means originally employed in computations. Digit is also a measure equal to three fourths of an inch.

Digit, in astronomy, is the measure by which we estimate the quantity of an eclipse. The diameter of the sun or moon's disc is conceived to be divided into 12 equal parts, called *digits*; and according to the number of those parts or digits which are obscured, so many digits are said to be eclipsed. When the luminary is wholly covered, the digits eclipsed are precisely 12; and when it is more than covered, as is frequently the case in lunar eclipses, then more than 12 digits are said to be eclipsed.

DIGITALINE is the active principle of the *digitalis purpurea*, or foxglove, and is a very powerful poison, possessing all the properties of *digitalis* (q. v.) in a very concentrated state. To prepare it, the leaves are digested in ether, the solution filtered and evaporated, and the residue dissolved in water: this solution is heated with oxide of lead, filtered and evaporated, and the residuum digested in ether, which

affords digitaline, on evaporation. It is a brown-colored substance, deliquescent, and extremely bitter. It restores the color of reddened litmus, and combines with acids. (See *Digitalis*.)

DIGITALIS; a genus of plants, including, among other species, the purple foxglove (*D. purpurea*), a vegetable possessing important medicinal properties, inhabiting the temperate and southern parts of Europe, and frequently cultivated for ornament in the U. States. The stem is simple, herbaceous, glabrous, or slightly pubescent, and attains the height of two or three feet; the leaves oval lanceolate, soft to the touch, and dentate on the borders; the flowers are large, purple, spotted within, pendent, and disposed in a long, simple and terminal raceme. The plant, when fresh, possesses a bitter, nauseous taste, and is violently emetic and cathartic. When prepared, and administered medicinally, it has the remarkable property of diminishing the strength and frequency of the pulse, and is, at the same time, diuretic.

DIGRAPH (from the Greek *dis* and *γραφοω*, to write; *double-written*); a union of two vowels, of which one only is pronounced; as in *head*, *breath*. This is the meaning which Mr. Sheridan gives to the word. Mr. Webster, in his American Dictionary of the English Language, follows this meaning. Thus *siege*, *deceive*, *mean*, *hear*, *esteem*, *deem*, *need*, contain digraphs. It is well known how much the English idiom abounds in digraphs. They are essentially different from diphthongs, which consist of two vowels, also, but produce a sound which neither of the vowels have separately.

DIJON (*Divio*), the ancient capital of the duchy of Burgundy, at present the chief place of the department Côte-d'Or (see *Department*), 648 French feet above the level of the sea, at the confluence of the Ouche and Suzon, 100 miles N. Lyons, 175 S. E. Paris, lat. 47° 19' 25" N., lon. 5° 2' 5" E., contains 22,000 inhabitants, and is the seat of a suffragan bishop, several courts and branches of government. In 1725, the academy of sciences and belles-lettres was erected here, and confirmed by the king in 1740. (See *Academy*.) There is also a school for the fine arts, two libraries (one of which contains 36,000 volumes), collections in natural history, an observatory, a botanical garden, &c. There are many old and interesting buildings here. There is now a canal building from this city to the Saône, near Saint-Jean-de-Lorne, which will be of

great advantage to the place. Many of the most celebrated Frenchmen have been born at Dijon, among whom are Bossuet, Cr  billon, Piron, Saumaise. A fortified camp, constructed by C  sar, gave origin to Dijon. Marcus Aurelius caused the place to be surrounded by walls.

DIKE, or **DYKE** (in German, *deich*); a ditch or drain, and also a work of stone, timber or fascines, raised to oppose the passage of the waters of the sea, a lake, river, or the like. In no country has the art of building dikes and taking care of them been carried to so much perfection as in Holland and the north-west of Germany, where the construction and superintendence of them, the draining of land and guarding against inundations, and the distribution of taxes for the maintenance of the dikes, form an important branch of government.

DILAPIDATION is where an incumbent of a church living suffers the parsonage-house or out-houses to fall down, or be in decay for want of necessary repairs; or it is the pulling down or destroying any of the houses or buildings belonging to a spiritual living, or destroying of the woods, trees, &c. appertaining to the same; it is said to extend to committing or suffering any wilful waste in or upon the inheritance of the church.

DILEMMA (from *δεις*, twice, and *λεμμα*, an assumption), in logic; an argument consisting of two or more propositions, so disposed that, grant which you will, you will be pressed by the conclusion.

DILETTANTE; an Italian expression, signifying a lover of the arts and sciences, who devotes his leisure to them, as a means of amusement and gratification.

DILLENIUS, John James; a botanist, born in 1687, at Darmstadt, and distinguished for his investigations into the propagation of plants, particularly cryptogamous plants. In compliance with the invitation of a rich botanist, William Sherard, in 1721, he went to England, where he spent part of his time in London, and part at his friend's country-seat, in Eltham. Here he published several works, and particularly that splendid production which appeared in 1732, *Hortus Elthamensis*, in which the drawings, prepared by himself, are distinguished by the greatest faithfulness. His last work, on the mosses (*Historia Muscorum*), added much to his reputation. Sherard founded a professorship of botany in the university of Oxford, for his friend, who died there, in 1747.

DILL-SEED (*anethum graveolens*, Lin.) is of an oval form, convex on one side,

flat on the other, having three stri   on the outside, and surrounded with a small, membranous border. Its taste is slightly acrid, and its odor stronger, but less pleasant, than fennel-seed.

DIME; the legal term for the tenth part of a dollar in the U. States. (See *Coin*.)

DIMINUTIVE, in grammar (from the Latin *diminutivum*); an affix, which conveys the idea of littleness, and all other ideas connected with this, as tenderness, affection, contempt, &c. The opposite of *diminutive* is *augmentative*. Prefixes and affixes belong to those delicate beauties of language, which enable us to express fine shades of meaning with conciseness and liveliness, and which are almost always beyond the power of translation, if the language, into which we intend to translate, does not possess the corresponding prefixes and affixes.—In Latin, diminutives almost always ended in *lus*, *la*, or *lum*; as, *Tulliola*, *meum corculum*, little Tullia, my dear or little heart. This syllable was sometimes preceded by another one, not belonging to the original word; as, *homunculus*. A few words formed their diminutives in other ways.—No European language has so many and so expressive diminutives, augmentatives and affixes, as the Tuscan: *ino*, *etto*, *ello*, convey the idea of smallness, dearness, &c.; *one*, of largeness; *uccio* sometimes of smallness, with reproach, but often without it: *accio* signifies that the thing is disgusting, unpleasing, &c.; for example, *casa* is a house; *casetta*, *casina*, *casella*, a small house, nice little house; *casone*, a large house; *casuccia*, a small, insignificant house; *casaccia*, an ugly house. That expressive tongue can compound two or three of these endearing affixes; and the writer has frequently heard little Italian children form almost endless words, as if overflowing with tenderness; for instance, *fratellinucci  t  netto*. Adjectives, also, can receive the diminutive termination; as, *carino*, *carinuccio*, from *caro*. It must be remarked, that very many Italian words are the diminutives of the original Latin ones; as *fratello*, from *frater*, *sorella*, &c. The reason is, that the Italian was originally the corrupted Latin of the lower classes. These always have many points of resemblance to children, and among them this, that they make much more use of diminutives than the educated classes, who are more reserved in the expression of their feelings. Thus, in the south of Germany, they will say, *wo das B  umche vor der Th  re steht* (where the little tree stands before the door), how-

ever large the tree (*Baum*) may be.—In Spanish, there are similar diminutives, augmentatives and other affixes. The augmentatives in Spanish are as follows: from *hombre*, a man, are formed *hombren*, *hombrazo*, *hombrazo*, *hombrazon*; and from *muger*, a woman, *mugeron*, *mugera*, *mugeronaza*. Adjectives, also, take similar forms; as, from *grande*, great, or large, are formed *grandon*, *grandote*, *grandazo*, *grandonazo*. Sometimes these augmentatives are used by way of commendation, as, *hombren*, a man of great wisdom; at other times, to denote contempt or worthlessness, as, from *caballo*, a horse, we have *caballazo*, a miserable horse; and sometimes they denote merely greatness of bulk, as *moceton*, *mocetonazo*, a large youth or boy. Augmentatives in *azo*, in some instances, also denote two different things; as, *zapatazo*, a large shoe, or a blow given with a shoe. The Spanish diminutives are these: from *hombre*, a man, *hombrecito*, *hombrecico*, *hombrecillo*, *hombrezuelo*; from *muger*, a woman, *mugercita*, *mugercica*, *mugercilla*, *mugercuela*; from *chico*, small, *chiquito*, *chiquillo*, *chicuelo*, *chiquituelo*. Diminutives in *ito* and *ico* usually denote endearment or tenderness, as those in *illo* do sometimes; those in *elo* always denote contempt; from *libro*, a book, are formed *librillo*, *librito*, *librico*, *librete*, *libruelo*, *librejo*.—In Portuguese, the diminutives and augmentatives correspond to those of the Spanish language.

Diminutives.

- In *ito*, { from *cabra*, a goat, is formed
 cabrito, a kid, or little goat; *mosca*, a fly, *mosquito*, a little fly.
 in *inho*, { *homem*, a man, *homemzinho*, a
 little man; *irmao*, a brother, *irmaozinho*, little brother; *filho*, a son, *filhinho*, a little son.
 in *inha*, { *mao*, a hand, *maozinha*, little
 fem. hand; *rapariga*, a girl, *rapariguinha*, a little girl.

Adjectives also take the diminutive form; as, *coitado*, poor fellow, poor thing; *coitadinho*, poor little fellow, &c.; *redondo*, *redondinho*, round; *bonito*, *bonitinho*, pretty; *pequeno*, *pequenino*, small, whence is corrupted the negro word *pickaninny*, used on the coast of Africa, for a child, a little boy or girl.—*Augmentatives*. *Tolo*, a fool, *toleiraõ*, a great fool; *homem*, a man, *homemzaraõ*, a big or huge man; *mulher*, a woman, *mulherona*, a masculine or large woman.—In French, there are many diminutives formed from other words; as, *tablette*, of *table*, *charrette* of *char*; but there is no general affix, which can be added

to every substantive. The syllable *âtre* (from the Latin *aster*), as in *noirâtre*, from *noire*, cannot be called properly a diminutive; neither can *vieillot*, he who begins to look old, be called precisely a diminutive of *vieille*.—The German has the syllables *chen* (in Low-German, *ken*, which has remained in English in *manikin*, and some other words), *lein* and *el*, for substantives; *lich*, &c. for adjectives; (*lich* corresponds to the English *ish* or *like*; for instance, *rundlich*, roundish or roundlike (from *rund*, round)); and *eln* for verbs, as from *bitten* (to pray), they form *betteln* (to beg, the action of a beggar), *klingleln* from *klingen*, to sound. The *bonhomie* of the Germans even adds the diminutive to pronouns, and nurses sometimes will say *duchen*, from *du*, thou; nay, the writer once heard (in Erfurth) a nurse use the dative of *du*, *dir*, with the diminutive, *gefällt es dirchen*?—The English language affords examples of diminutives, but has no affix which can be used at pleasure to convey this idea. Among English diminutives are—

- In *el*, { *cockerel*, a little cock;
 kernel, a little corn;
 pickerel, a little pike.
 kin, { *manikin*, a little man;
 lambkin, a little lamb;
 napkin, from *nape*, French for cloth;
 pipkin, a little pipe.
 ling, { *chickling*, a little chicken;
 gosling, a little goose;
 darling, i. e. *dearling*, or little dear;
 authorling, an inferior author;
 witling, a person of small understanding.
 et, { *armlet*, from *arm*;
 bracelet, from *bras*, French for arm;
 cocket, a little cock;
 pocket, from *poke*, a bag or pouch;
 tablet, a little table.

Diminutives of proper names are also formed, in colloquial and familiar language, by adding *y* to the names; as, *Charley*, *Johnny*, &c.; and *coachy* is used colloquially for *coachman*.—The aboriginal languages of America, also, have their diminutives. In the Delaware language (according to Mr. Zeisberger's Grammar, published by Mr. Duponceau), diminutives of nouns denoting animate objects are formed by adding the syllable *tit*; as, *lenni*, a man, *lennotit*, a little man; *ochqueu*, a woman, *ochquetit*, a little girl; *tsholens*, a bird, *tsholentit*, a little bird. In speaking of a pretty little animal, the form is *shas* or *tshis*; as, in playing with a little kitten,

or other young animal, they would say, *kuligatshis*, thy pretty little paw. In nouns denoting *inanimate* objects, diminutives are formed by the termination *es*; as, *wikwam*, a house, *wikwames*, a small house; *amokhol* (*kh* guttural), a canoe, *amokholes*, a small canoe. In the ancient language of the Massachusetts Indians, which is a dialect of the Delaware stock, diminutives were formed (according to Eliot's Grammar) by adding *es* or *emes*, with a euphonic vowel or syllable; as, *nunkomp*, a youth, *nunkompes* or *nunkompemes*, a little youth; *hassun*, a stone, *hassunemes*, a little stone; and, of these two affixes, *emes* denotes the smallest size, &c.

DIOCESE, or DIOCESS (*diokesis*); 1. a prefecture. According to Strabo, the division of the Roman empire into dioceses, at least in Asia, was customary as early as the reigns of Augustus and Tiberius. The whole empire was afterward divided into dioceses by Constantine and his successors; at first into 4, and afterwards into 13: these comprehended 120 provinces, and were governed by 12 vicars or sub-prefects. Rome and its neighborhood had one of these officers to itself, exclusive of the one appropriated to Italy at large.—2. An ecclesiastical division in the Christian church; in the Catholic church, a territory over which the jurisdiction of an archbishop or bishop extends. With the Protestants in Germany, a *diocese* signifies all the parishes which are under the inspection of one superintendent. This arrangement is derived from the times of the emperor Constantine (4th cent., A. D.), who made Christianity the religion of the state. In the Episcopal Protestant countries, *diocese* signifies the jurisdiction of a bishop. Thus, in England, the province of Canterbury contains 21 dioceses, and the province of York, 3: each diocese is divided into archdeaconries, each archdeaconry into rural deaneries, and each deanery into parishes.

DIOCLETIAN, C. Valerius, surnamed *Jovius*, was a man of mean birth, a native of Dalmatia. He was proclaimed emperor by the army, 284 A. D. He was successful against his enemies, defeated Carinus in Mœsia (286), conquered the Allemanni, and was generally beloved for the goodness of his disposition. But new troubles and attacks disturbed the Roman empire, and compelled him to share the burthen of government with colleagues; at first, with M. Aurel. Valerius Maximian (286), an ambitious, rude and cruel soldier, who defeated the Gauls. Diocletian, at the

same time, was successful against the Persians in the East, and afterwards penetrated to the sources of the Danube, in Germany. He subsequently, in 292, named C. Galerius, Cæsar, and Maximian raised Constantius Chlorus to the same dignity. Thus the empire was divided into four parts. Diocletian recovered Egypt, and, as long as he preserved his influence, the unanimity continued; but he resigned the imperial dignity at Nicomedia (305), as did Maximian at Milan, at the same time. Diocletian retired to Salona in Dalmatia, where he found happiness in the cultivation of his garden, and lived in tranquillity until the year 313. He founded the absolute power, which was more firmly established by the family of Constantine.

DIODATI, John, an eminent divine, was born at Lucca, about the year 1589, of a noble Catholic family; but, embracing the Protestant faith early in life, he removed to Geneva, where he made such progress in his studies, that, at the age of 19, he was appointed professor of Hebrew in that city. Some time afterwards, he was made professor of theology, and, in 1619, was deputed, with his colleague, Theodore Tronchin, to represent the Genevan clergy at the synod of Dort; and his abilities were so much respected by that synod, that he was one of the six ministers appointed to draw up the Belgic confession of faith, which was intended to secure the professors of the reformed religion in Holland within the pale of pure and unadulterated Calvinism. Diodati is most celebrated for a translation of the Bible into Italian, faithful and elegant, but perhaps too paraphrastical; and father Simon maintains that his notes are rather the serious meditations of a divine, than the judicious reflections of a critic. He also translated the Bible into French, but is not thought to have succeeded so well in this as in the Italian. He was the first translator into French of father Paul's History of the Council of Trent, which is faithful, but not very elegant. Diodati died in 1649, at Geneva.

DIODORUS of Argyrum, in Sicily, and therefore called *Siculus*; a celebrated historian in the time of Julius Cæsar and Augustus. In order to render his history as complete and exact as possible, he travelled through a great part of Europe and Asia. It is very much to be regretted, that the greater part of this history, which the author called the *Historical Library*, in the composition of which he combined the ornaments of rhetoric with the detail of facts, after the example of Theopompus

and Ephorus, and on which he had bestowed the labor of 30 years, has not reached our times. It consisted of 40 books, was written with the greatest fidelity, and comprised the history of almost all nations. Only the books 1—5 and 16—20 are now extant. Among the best editions are those of Wesseling and Eichstädt, with Heyne's commentary (Bipont and Strasburg, 1793—1807, 11 vols.).

DIOGENES of Sinope (a city of Pontus) flourished in the 4th century B. C., and was the most famous of the Cynic philosophers. (See *Cynics*.) Having been banished from his native place with his father, who had been accused of coining false money, he went to Athens, and requested Antisthenes to admit him among his disciples. That philosopher in vain attempted to repel the importunate suppliant, even by blows, and finally granted his request. Diogenes devoted himself, with the greatest diligence, to the lessons of his master, whose doctrines he extended still further. He not only, like Antisthenes, despised all philosophical speculations, and opposed the corrupt morals of his time, but also carried the application of his doctrines, in his own person, to the extreme. The stern austerity of Antisthenes was repulsive; but Diogenes exposed the follies of his contemporaries with wit and good humor, and was, therefore, better adapted to be the censor and instructor of the people, though he really accomplished little in the way of reforming them. At the same time, he applied, in its fullest extent, his principle of divesting himself of all superfluities. He taught that a wise man, in order to be happy, must endeavor to preserve himself independent of fortune, of men, and of himself: in order to do this, he must despise riches, power, honor, arts and sciences, and all the enjoyments of life. He endeavored to exhibit, in his own person, a model of Cynic virtue. For this purpose, he subjected himself to the severest trials, and disregarded all the forms of polite society. He often struggled to overcome his appetite, or satisfied it with the coarsest food; practised the most rigid temperance, even at feasts, in the midst of the greatest abundance, and did not even consider it beneath his dignity to ask alms. By day, he walked through the streets of Athens barefoot, without any coat, with a long beard, a stick in his hand, and a wallet on his shoulders; by night, he slept in a tub, though this has been doubted. He defied the inclemency of the weather, and bore the scoffs and insults of the people with

the greatest equanimity. Seeing a boy draw water with his hand, he threw away his wooden goblet as an unnecessary utensil. He never spared the follies of men, but openly and loudly inveighed against vice and corruption, attacking them with satire and irony. The people, and even the higher classes, heard him with pleasure, and tried their wit upon him. When he made them feel his superiority, they often had recourse to abuse, by which, however, he was little moved. He rebuked them for expressions and actions which violated decency and modesty, and therefore it is not credible that he was guilty of the excesses with which his enemies have reproached him. His rudeness offended the laws of good breeding rather than the principles of morality. Many anecdotes, however, related of this singular person, are mere fictions. On a voyage to the island of Ægina, he fell into the hands of pirates, who sold him as a slave to the Corinthian Xenaiades in Crete. The latter emancipated him, and intrusted him with the education of his children. He attended to the duties of his new employment with the greatest care, commonly living in summer at Corinth, and in winter at Athens. It was at the former place that Alexander found him on the road-side, basking in the sun, and, astonished at the indifference with which the ragged beggar regarded him, entered into conversation with him, and finally gave him permission to ask for a boon. "I ask nothing," answered the philosopher, "but that thou wouldst get out of my sunshine." Surprised at this proof of content, the king is said to have exclaimed, "Were I not Alexander, I would be Diogenes." At another time, he was carrying a lantern through the streets of Athens, in the day-time: on being asked what he was looking for, he answered, "I am seeking a man." Thinking he had found, in the Spartans, the greatest capacity for becoming such men as he wished, he said, "Men I have found nowhere; but children, at least, I have seen at Lacedæmon." Being asked, "What is the most dangerous animal?" his answer was, "Among wild animals, the slanderer; among tame, the flatterer." He died 324 B. C., at a great age. When he felt death approaching, he seated himself on the road leading to Olympia, where he died with philosophical calmness, in the presence of a great number of people, who were collected around him.—Another philosopher of the same name, who lived earlier, and belonged to the Ionian school, was Diogenes of Apollonia. He consid-

ered air as the element of all things. He lived at Athens, in the 5th century B. C.

DIOMEDES; 1. a king of the Bistones, who fed his horses on human flesh, and used to throw all strangers, who entered his territory, to those animals to be devoured. He was killed by Hercules, who carried off the horses.—2. One of the heroes at the siege of Troy, the son of Tydeus and Deiphyle, and king of Argos. He early lost his father, who was slain before Thebes, took part in the second expedition to Thebes, and became one of the suitors of Helen. After she was carried off, the Grecian chiefs resolved on an expedition to Troy, to avenge this outrage against Greece, and Diomedes engaged in the expedition, at the head of the Argives, Tyinthians, and several other nations. His daring courage rendered him one of the most distinguished heroes, and, according to the testimony of Nestor, superior to all his contemporaries. Protected by Pallas, he not only encountered the most valiant of the enemies, many of whom he killed, but even ventured to attack the immortals. When Venus hastened to the rescue of her son Æneas, whom he was on the point of putting to death, he wounded the goddess in her hand with his spear, and would have torn Æneas from her arms but for the interference of Apollo. He thrice assailed even Apollo himself, nor did he desist till terrified by the threats of the god. Animated by Pallas, he then turned his arms against Mars, wounded him in his belly, and compelled him to return to Olympus. He was equally distinguished in the council. He boldly opposed the proposal of Agamemnon to leave the plains of Troy without having gained the object of the expedition, and prevailed; he even adhered to his opinion, after Achilles had rejected the proffered reconciliation. By carrying off the horses of Rhæsus from the enemies' tents, he fulfilled one of the conditions on which alone Troy could be conquered. With Ulysses, he removed Philoctetes, who had the arrows of Hercules, from Lemnos, which was another condition of the fall of Troy. Finally, he was one of the heroes who were concealed in the wooden horse, by whom the capture of Troy was at length accomplished. Though he reached home in safety, the vengeance of Venus awaited him. During his absence, that goddess had inspired his wife, Ægiale, with a criminal passion for Cometes; and Diomedes, on his arrival, was compelled to leave Argos, and promise never to return, under pain

of death. Accompanied by his most faithful friends, he set sail for Italy. Of his residence there, the accounts are contradictory and fabulous: some say that he died there at a great age; others, that he was slain by king Daunus; others, that he suddenly disappeared on the islands that have been called after his name. After his death, he was worshipped as a demi-god.

DION of Syracuse, who acquired immortal glory in the history of that state, lived in the times of the two kings who bore the name of *Dionysius*. He was related to them, and long exercised great influence over them. He attempted to reform the tyrannical disposition of the younger Dionysius by the precepts of philosophy; but his enemies succeeded in rendering him suspected by the king, and in effecting his banishment. Dion went over to Greece, where the beauty of his person, and, still more, the excellent qualities of his mind and heart, gained him so many friends, that he resolved to employ force to deliver his country from a prince who had closed his ears to remonstrances. With this design, he embarked with 800 valiant warriors, landed in Sicily, and, hearing that Dionysius had set out a few days before for Italy, hastened to Syracuse, and entered the city amidst the acclamations of the people. After some ineffectual attempts to recover his authority, Dionysius was at length obliged to abandon the crown, and fled, with his treasures, to Italy. Dion was also, soon after, obliged to leave the city, on account of the unjust suspicions of his fellow citizens. New troubles having broken out in Syracuse, he was recalled, and was about to restore the republican government, when he was assassinated by his treacherous friend, Calippus of Athens, 354 B. C. Thus perished a man of noble sentiments, great courage, and inflexible patriotism. He was the intimate friend of Plato. His life has been written by Plutarch and Corn. Nepos.

DIONÆA MUSCIPULA (*Venus's fly-trap*) is a remarkable plant, inhabiting the basin of Cape Fear river, in North Carolina. The leaves are radical, spreading upon the ground, and terminated by an orbicular appendage, composed of two hemispherical lobes, which are fringed with hairs: when the inside of this appendage is touched, the lobes close suddenly, and thus imprison flies and other small insects. These, having no outlet, must necessarily perish, unless delivered by tearing the leaf. It is not until the insect is dead, and, of course, no longer affects the parts of the leaf by its motions, that the leaf opens,

and lets the body of the animal fall. The insects seem to be allured by a sweet moisture on the surface of the leaf. In Europe, the seed of this plant has not been brought to ripen. The stem is 8 or 10 inches high, and bears a corymb of white flowers, analogous in their structure to those of the sun-dew.

DION CASSIUS, born about A. D. 155, at Nice, in Bithynia, is sometimes called a Roman, because he was made a Roman citizen, and filled many honorable offices in Rome under Pertinax and his three successors. He wrote the Roman history in 80 books, of which only those from the 36th to the 54th are extant complete: the remainder we have only in the epitome of Xiphilinus. It began with the arrival of Æneas in Italy, and extended to A. D. 228. He devoted 22 years to this work, in which the events are arranged chronologically, and gives an impartial account of those occurrences of which he was himself a witness. He often exhibits, however, a spirit of jealousy towards great men, and appears superstitious, flattering and servile. His style is too rhetorical for history.

DIONE; the mother of Venus, who therefore bears the surname of *Dionæa*, or is called by this name alone.

DIONYSIA; the same as *Bacchanalia*, from Dionysos or Bacchus. (See *Bacchus*.)

DIONYSIUS the Elder raised himself from a low condition to the rank of general, and afterwards to that of tyrant (i. e., ruler) of Syracuse (about 406 B. C.). The Agrigentines, who had escaped when Agrigentum was taken by the Carthaginians, accused the Syracusan generals of treachery. Dionysius supported their complaints, and contrived that the enraged people should choose other leaders, of whom he was one. He soon found means to render his colleagues suspected also, and to have himself appointed commander-in-chief. In this post, it was no difficult task for him, by the assistance of the troops, whom he had drawn over to his interest, to make himself master of the citadel of Syracuse, together with all the arms and provisions contained in it, and finally to declare himself king, at the age of 25 years. The more firmly to establish his power, he married the daughter of Hermocrates, whose family was the most distinguished in Syracuse. After having finished a short war against the Carthaginians, and successfully quelled several seditions, in which he reduced some other cities on the island under his authority, he made preparations for a great war against

Carthage. The fortune of arms, which, in the beginning, had favored him, soon turned against him. The Carthaginians had already laid siege to Syracuse, when the plague made great ravages among them. Dionysius, having just received a reinforcement of 30 ships, took advantage of the discouraged state of the enemies, attacked them at once by land and water, and gained a complete victory, which was soon followed by an advantageous peace. In his expeditions into Lower Italy, he reduced the city of Rhegium by famine. After another short war with Carthage, he lived some time in peace, occupied with making verses, and imagining himself, in spite of the poorness of his productions, as great a luminary in the poetical as in the political world. Nay, he even ventured to contend for the prize in the Olympic games, and sent for that purpose a solemn embassy, accompanied by a number of the best declaimers, to read his poems; but, with all their art, they were not able to prevent the tents of Dionysius from being torn down and plundered by the multitude. A second embassy, which he sent four years afterwards, was received still more unfavorably. He became almost distracted at these disgraces, yet would not relinquish the high opinion which he had conceived of his own genius, and used to torture the poets and philosophers of his time with reading his verses before them. In his bad humor, he commenced a new war against the Carthaginians, intending to drive them entirely out of Sicily. He did not, however, succeed in this attempt, and was obliged to conclude a disadvantageous peace. For this misfortune, he was indemnified by the success of one of his tragedies at Athens. The news of this event filled him with such immoderate joy, that he fell sick. At the instigation of his son, the physicians administered to him a fatal potion. Thus perished Dionysius, after a reign of 25 years.

DIONYSIUS the Younger succeeded his father, Dionysius the Elder. For the purpose of recalling him from the excesses to which he was addicted, Dion (q. v.) directed his attention to the doctrines of Plato, representing to him that this great philosopher alone was able to teach him the art of government, and the means of rendering his subjects happy. In consequence of this advice, Dionysius invited Plato to his court. The latter, complying with his urgent invitations, succeeded in tempting him into the path of virtue and knowledge, and in giving a new

character to his whole court. An opposite party, however, headed by the historian Philistus, awakened the king's suspicions against Dion, and caused his banishment. Plato in vain endeavored to effect his recall, and, after having been long retained by force, finally left Syracuse himself, when Dionysius was engaged in a war in another part of the island. After the restoration of peace, Plato, at the repeated request of the king, returned to his court, and again endeavored, though in vain, to effect Dion's recall. He therefore insisted upon his own dismissal. Dionysius at last appeased him by promising to restore Dion his fortune, on condition that he would undertake nothing against the throne. But he violated his promise, and Plato, after experiencing many mortifications, finally left him. Dion then appeared, and made himself master of the city of Syracuse, to which Dionysius did not return until after the murder of Dion. His misfortunes, however, had no other effect than to render him more cruel. The first families of the city fled from his tyranny. Meantime, the Carthaginians commenced a new war with Syracuse, and entered into a secret union with Ietas, whose intention it was to make himself master of the city. He, however, disguised his purpose, and even approved of the measure of calling upon Corinth for assistance. Timoleon appeared with a fleet before Syracuse, and expelled not only the enemies, but also the tyrant. Dionysius, who had surrendered himself, was carried to Corinth, where he gained a scanty living by giving lessons in grammar, and died in the contempt which he had brought upon himself by his excesses.

DIONYSIUS of Halicarnassus, in Caria, a learned critic and teacher of eloquence, went to Rome about 30 B. C., where, for the instruction of his countrymen, he wrote his *Roman Antiquities*, in 20 books, in which he relates the early history of Rome, and its government up to the times of the first Punic war. We have the 11 first books of this work, and some fragments of the others. His residence in Rome during 22 years, his intercourse with the most learned Romans, and his knowledge of the ancient annalists, render him very important to the critical historian, though he has given his own coloring to the Roman traditions. Dionysius is also valuable as a critical and rhetorical writer. It is difficult to pronounce, however, on the genuineness of the writings attributed to him in this department, without a crit-

ical examination. The *Rhetoric* (Schott, Leips., 1804), for instance, belongs only in part to Dionysius, and probably received its present form in the 3d century, A. D.

DIONYSIUS the Areopagite (i. e., one of the judges of the Areopagus, at Athens), converted to Christianity by the apostle Paul, about the middle of the 1st century, and first bishop at Athens, where he suffered martyrdom, is remarkable for the Greek works which have been ascribed to him, and for being considered the patron saint of France. These writings, composed in an obscure style, and hardly intelligible on account of their mysticism, are, *Of the heavenly Hierarchy*, *Of the Names of God*, *Of the ecclesiastical Hierarchy*, and *Of the mystic Theology*, with a number of letters, which, by their style, contents and historical allusions, betray an author who could not have lived before the middle of the 4th century. They appeared, in a very equivocal manner, as the works of Dionysius, as late as the 6th century. Fantastic descriptions of the Deity, and of the orders of angels and blessed spirits, borrowed from the New Platonic philosophy; brilliant representations of the Catholic ceremonies; exaltations of the hierarchy; praises of the monastic life, and mystic interpretations of the doctrines of the church, gave them such charms, that the absurdities in which they abound did not prevent the ignorant clergy of the 7th century from reading them with delight, and finding in them the clearest proofs of the apostolic origin of many ecclesiastical observances and institutions, which are of a much later date; for they had no doubt of their genuineness. In France, where a certain Dionysius established the first Christian community at Paris, in the 3d century, they were readily received in the 9th century; and this Dionysius, without further inquiry, was taken for the Areopagite, because the origin of the Gallican church could thus be carried back to the 1st century; and France gained a patron who was a martyr and the immediate disciple of an apostle. The monastic life, in the Western church, gained new support from these writings, which were frequently translated into Latin; and mystic theology received its first impulse from them. The convent of St. Denis, which was originally dedicated to the first apostle of Christianity at Paris, but is now consecrated to Dionysius the Areopagite, had a remarkable dispute with the convent of St. Emmeran, at Ratisbon, in the 11th century, concerning the possession

of the genuine bones of the saint. Each maintained that it possessed his earthly remains, and each had its claims confirmed by the infallible authority of the pope. In the 14th century, another church in Paris claimed the third head of the saint. The writings attributed to Dionysius the Areopagite are as spurious as the relics. The pretended author of them neither left such writings, nor ever taught in France, as was put beyond all doubt by the French critics Daille, Sirmond and Lau-noi, in the 17th century.

DIONYSIUS the Little (so called on account of his short stature); a Scythian monk, who was abbot of a monastery at Rome in the beginning of the 6th century, and died about the year 545, celebrated as the author of the computation of time from the Christian era. He calculated an Easter cycle in 526, and fixed the birth of Christ, agreeably to the most certain data, in the year 753 after the foundation of Rome. The computation of time from the birth of Christ thus established, and now universal among Christians, was not publicly used until the 8th century. His collection of ecclesiastical laws, viz. the (so called) *apostolical canons*, decrees of councils favorable to the pretensions of the Roman bishops, and official letters written by the Roman bishops since the 4th century, which were called *decretals*, had a more rapid success. The placing of the latter by the side of the decrees of councils, and thus attributing to them equal authority, was so flattering to the pride of the Roman bishops, and the letters of their predecessors afforded so favorable an opportunity for renewing their ancient pretensions, that the collection soon obtained the authority of an acknowledged source of canon law. Dionysius was, as his friend Cassiodorus says of him, a good Latin writer, and well acquainted with the Greek language, from which he translated much. Nothing more is known of him, except that he favored the superstition of the Theopaschites.

DIOPTRICS; the science which treats of the refraction of the rays of light, or the laws of vision when the rays, before reaching the eye, pass through different refracting mediums; for instance, from the air through the glasses of a telescope. Dioptrics, consequently, is a branch of optics, i. e. the science of vision in general. It demonstrates the different directions in which the rays move, according as they are broken on plane or curved surfaces. The principles deduced from these observations determine the nature of the vari-

ous lenses, explain the manner in which the light is refracted in the human eye, teach the manner of seeing through lenses, and the composition of them, consequently the theory of telescopes, magnifying glasses, &c. The ancients were not acquainted with this science. Natural science, in modern times, has been greatly indebted to it. By its aid, or rather by the aid of the glasses which it has taught how to construct, the human eye has been enabled to reach objects previously unknown. Kepler, Snellius of Leyden, Descartes, Newton, &c., not only extended this science, but founded a great part of their discoveries on it. In modern times, the science of dioptrics has been very much enriched by the important inventions of Dollond in London. (See *Achromatic, Refraction of Light, Telescope, Lenses*; also *Dioptrica Auctore Leonhardo Eulero*, Petersburg, 1769—71, 3 vols., 4to.)

DIORAMA. (See *Panorama*.)

DIOSCORIDES, Pedanius; born at Anazarbus (Cæsarea Augusta), in Cilicia, in the 1st century of the Christian era, a Greek physician, author of a celebrated work on *materia medica*, in five books. It is particularly valuable in regard to botany, as most of the medicines which the author mentions are taken from the vegetable kingdom. Two other works are also attributed to him; the *Alexipharmaca*, which was united with the *Materia Medica*, forming the three last books of it, and treating of the poisons in the three kingdoms of nature, and their antidotes; and the *Euporista*, which treats of remedies that are easily procured. The best edition of Dioscorides is that of Saracenus (Frankfort, 1598, fol.); the best commentary is by Matthiolus (Venice, 1565, fol.).

DIOSCURI; Castor and Pollux, twinsons of Jupiter, and tutelary deities of wrestlers, horsemen and navigators. (See *Castor and Pollux*.)

DIP of the horizon is an allowance made in all astronomical observations of altitude for the height of the eye above the level of the sea.

DIPLOMA (from *δίπλωω*, I fold up); literally, a letter folded but once, and therefore divided into two parts. It is used to signify a document signed and sealed, in which certain rights, privileges, dignities, &c., are conferred. Thus a letter or writing of a university conferring a degree is called a *diploma*. (See *Diplomatics*.)

DIPLOMACY. The precise time at which the word *diplomacy* began to be applied to the management of the mutual relations of independent states through accredited

agents, cannot be easily ascertained.—In remote antiquity, embassies are spoken of. Rome received ambassadors from nations seeking peace or alliance and protection. After the establishment of the senate, such messengers of rival or dependent countries delivered their commissions to the senatorial body, and commonly in set orations. At Athens and at Sparta, ambassadors were obliged to harangue the sovereign people from the tribunal of the orators.—We have no authentic accounts respecting the privileges of these foreign emissaries, nor relics of their correspondence with their own government, or with those to which they were deputed. The term *ambascia* is found in the Salic law. But the cardinal de Richelieu is generally considered as the founder of that regular and uninterrupted intercourse between governments, which exists at present between almost all the Christian powers. The private dissensions between Philip II and Elizabeth de Valois furnished a convenient pretence for attaining the ends, which may well be supposed to have guided that sagacious statesman, and which went undoubtedly further than to protect the unfortunate queen of Spain. Raymond de Beccaria thus commences the line of regular ambassadors in Europe. However, the instructions given by Machiavelli to one of his friends, who was sent by the Florentine republic to Charles V (Charles I of Spain), show that Richelieu was not the first person who conceived all the advantages that might be derived to a government from the correspondence of an intelligent agent, accredited at the seat of a foreign government. Machiavelli's own negotiations with Cæsar Borgia, with the cardinal de Rouen, at Rome, in Germany, and wherever he was employed, prove that *diplomacy* had its present meaning long before Richelieu's ascendancy in France. We recommend to our readers Machiavelli's diplomatic correspondence (*Legazioni*) not only as the earliest, but as the finest specimens of diplomatic despatches; and we do it the more willingly, as this portion of his works is generally little referred to. It is probable, that, from the beginning, the duties of diplomatic agents were at least as great as at present, as far as the *art* of diplomacy alone was concerned. To study the character of the prince and the disposition of his ministers; to observe with a vigilant eye the passing events; to investigate the strong and weak points of a state; to establish relations which might become useful, either in peace or in war; to strengthen the existing

amicable relations, and to weaken the means of attack and of defence on the part of the foreign state; to extend commercial intercourse in a manner profitable to the country of the ambassador (for centuries were to pass before sounder views in political economy could prevail); to protect the subjects of the ambassador's sovereign, and to give a great idea of his power and resources, by all possible means;—such were, as we see, from the instructions given by Machiavelli to his friend, the cardinal points recommended to a diplomatic agent early in the 16th century; and they will, with few alterations, serve to guide ambassadors, ministers and *chargés d'affaires*, yet in the womb of time. Still there are differences, produced by the progress of civilization and the improvement of public morals, that must be noticed. Wherever diplomacy may have had its origin, be it in Italy, France or Spain, the manners of these countries and of the times, left politics infinitely less restrained by the curb of honesty and good feeling, than if it had sprung up among German nations, or at later epochs. Thus intrigue, falsehood, plots and murder, or connivance, at least, in such detestable expedients, were sometimes resorted to, by the earliest diplomatists, and contributed to render diplomacy, in the eyes of the indiscriminating, almost a byword of reproach. The marquis de Bedmar, in Real's conspiracy of Venice, is a mere fancy figure. The cardinal d'Ossat and president Henin are, on the contrary, unquestionable models of excellent men and ambassadors. General ignorance, the laxity of morals which degraded the greater part of Europe till the middle of the 18th century, and the deficiency of that censorship, which, since the triumph of the press, in some countries, spreads itself over all, serve to account for the want of honest principle which formerly disgraced public ministers. Few treaties were as yet concluded. War, brutal force, was the sole umpire of right. Except in the Germanic confederacy, law was hardly ever brought to bear upon international relations. It was not till the independence of Holland, and the subsequent developement of maritime power, that political questions were examined by the learned, in consequence, probably, of having become connected with great public grievances and judicial investigations. From that time, and chiefly from the conclusion of the treaty of Westphalia—the most remarkable epoch in the history of international intercourse—diplomacy assumed a more legitimate, a higher

and really useful character. Ambassadors ceased gradually to seek their greatest lustre in their numerous retinue, and the Russian ministers at Constantinople and Warsaw were the last to appear with such a display of armed followers as made a governor of Bordeaux refuse admission into the city to the duke of Fria, who came, in the name of the king of Spain, to compliment Louis XIII on his accession to the throne. There were no longer (to quote the noble language of Shakspeare) "loving embassies to embrace sovereigns, as it were, from the ends of opposed winds;"* and, from that time, high breeding, an agreeable figure, the display of wealth, fascinating and prepossessing manners, an unblemished character, discretion, knowledge of mankind, natural parts, nay, upright intentions and noble views, ceased to be sufficient for the fulfilment of duties so much enlarged by the improving condition of general society, through the advancement and diffusion of knowledge.—To be a perfect diplomatist, in the present state of the Christian world, it would be necessary that a man should be a sound lawyer, well acquainted with the municipal laws of more than one country, versed in the sciences, from which industry and arts derive their splendor, and a state its strength, and equal to any of the tasks to which those with whom he is brought into contact might put his learning and sagacity. The present political system of the world can no longer be split into partial and solitary interests: each party to it is a party in a common concern, and usually suffers or gains by every important change. There is really now a Christian commonwealth, a unity of rights and interests, more real, more worthy of consideration and confidence, than the dream of political balance. This whole system is in a constant state of development; and to step out of its path, is to remain behind it in its career. The tone of political correspondence at present must correspond with the elevated state of the diplomatic character.—In times not very distant, it was sufficient to entertain a royal master by the gossip of a capital, the intrigues of ladies and gentlemen of the bed-chamber, and the cabals of rival ministers. Now, the political correspondent of a cabinet is compelled to inquire into the working of the complex machinery of modern society; to observe constantly the pulse of the whole body politic; to keep in view the moral and physical resources of nations; to defend the rights of his coun-

* Winter's Tale.

try, on the grounds of law and reason; to give information to the minister, from whom he holds his instructions, and to enable his government to profit by the intelligence he imparts, not only in the management of its foreign concerns, but likewise of its internal resources. For the accomplishment of duties so great and so various, no school can be established, or particular study traced. *Humani nihil a me alienum puto*, must be the device of the modern diplomatist; and much application, much good fortune, many favorable opportunities, and a long experience, are necessary to enable him to perform well the duties of his office.—At the earliest period of the French monarchy, a number of persons were joined together in an embassy. Recently, a diplomatic mission has commonly been intrusted to a single personage of high rank or distinguished talents, assisted by one or several secretaries. In the late congresses, and in some late negotiations, several plenipotentiaries were, however, joined together for a particular object. In the U. States, diplomatic commissions, or embassies composed of several individuals, will probably remain in use as long as their present political system subsists.—The diplomacy of each state is under the direction of a minister, who generally administers at the same time some other branches of the public service, as, for instance, in the U. States, where the secretary of state is at the head of the patent office, and superintends the publication of the laws, &c. In Spain, the *Secretario de Estado y del Despacho Universal*, or minister of foreign relations, has also the direction of post-offices, public roads, academies, and some other inferior branches of government. In some states, as, for example, in Portugal and Piedmont, the departments of war and of foreign relations are intrusted to the same hands. In Russia, Austria and Prussia, the chancellor or vice-chancellor is, *ipso facto*, minister of the foreign department.—Diplomatic agents are of several degrees: 1. ambassadors; 2. envoys extraordinary and ministers plenipotentiary; 3. ministers resident; 4. *chargés d'affaires*; 5. secretaries of legation and *attachés*.—Their rank has been regulated in Europe in the above order, by the congress assembled at Vienna in 1814; and many such quarrels as formerly arose from questions of precedence, are now obviated, by the agreement of the European powers, that, among ministers of the same rank, he who arrives first shall have the precedence over his colleagues. The most ancient relics of

diplomatic correspondence, perhaps, which have been preserved, are those in the *Excerpta Legationum*, volume 1st of the Byzantine historians, or the 53d book of the great historical compilation made by order of the emperor Constantine VI, Porphyrogenitus. Among them will be found the Relation of an Embassy sent by the emperor Theodosius the Younger to Attila, in the year 449. The account here given of court ceremonies, international courtesies, personal pretensions of diplomatists, and the means by which, in barbarous ages, and at the court of a half-savage prince, political ends were pursued, remarkably illustrates the truth of the old proverb, "There is nothing new under the sun." The same petty quarrels and rivalry among associate diplomatists; the same disregard to that moral principle which prohibits the placing of temptations in the way of human virtue; the same want of confidence, on the part of the sovereign, towards the agents intrusted with the care of his greatest interests; the same keen attention to every word falling from the lips of a foreign agent, affecting, however remotely, the honor of a sovereign (though this sovereign be Attila); the same petty intrigues which have been the disgrace of modern diplomacy,—seem to have equally characterized that which prevailed 14 centuries since.*—We recommend the following works as useful manuals for the study of diplomacy: *Traité de Droit politique et de Diplo-*

* The expenses of the diplomatic departments, in the various states, are, of course, very different; but, in general, it is correct to say that, in all the European states, they are by far too great, and an unnecessary burden to the country; whilst the ministers of the U. States receive a salary in most cases entirely inadequate to their expenses. A mistaken idea of dignity, on the part of the courts represented, induces governments to spend immense sums abroad; and the ministers often go far beyond their means. How many ambassadors have ruined themselves! Napoleon, according to Las Cases' journal, once had in consideration the abolition of resident ministers. An official statement has been lately published of the expenses incurred for the English diplomatic service abroad, from 1821 to 1829 inclusive, from which it appears they were as follows:

In 1821,	£296,769	In 1826,	£459,538
1822,	305,772	1827,	412,859
1823,	332,453	1828,	407,117
1824,	361,728	1829,	366,004
1825,	418,637		

The expenses of the missions to the new American states were,

In 1823,	£5,177	In 1827,	£36,450
1824,	16,368	1828,	26,732
1825,	27,009	1829,	20,593
1826,	56,108		

matie, by Battus, Paris, 1821; *Manuel diplomatique de Charles Martens*, 1822; *Cours diplomatique*, 3 vols. par le Baron de Martens, 1801; *Précis du Droit des Gens modernes de l'Europe*, par le Baron de Martens, 1821; Heeren, *Manuel de l'Histoire du Système Politique de l'Europe*, 1822, abrégé de l'Histoire des Traités de Paix entre les Puissances de l'Europe depuis la Paix de Westphalie, par Koch, 4 vols. See also Diplomacy of the U. States, by Theodore Lyman, jun., 2d edition, Boston, 1828; and Diplomatic Correspondence of the American Revolution, &c., edited by Jared Sparks, Boston, 1829, 30. German literature has lately been enriched by some works on diplomacy which might be translated into English, with some advantage to American statesmen.

DIPLOMATICS. The ancient acceptance of *diploma* is the record of a transaction performed through the agency, or under the eyes of the public authority. The charters of gifts made by sovereigns to individuals and to incorporated bodies, in the earliest ages of civilization, are thus named *diplomas*; and as the materials on which they were inscribed, the manner of writing, the characters, the ink, and all the other external forms, as well as their style, differed in different centuries, their interpretation, and the ascertaining of their authenticity, have become a science the more complicated, as the clergy of former ages had abundant inducements and means to counterfeit charters, giving them an increase of power and wealth.—The most ancient diplomas which have, as yet, been saved from oblivion and destruction, do not go back farther than the 5th century; and they are on parchment. Those of an earlier date were written on the thin leaves of papyrus, or *bibulum Egyptianum*, so called from its Egyptian origin. The ink used consisted, at first, of soot; but when parchment came into use, tincture of vermilion, red lead, or a purple coloring substance, and sometimes gold and silver, were used instead of the black liquid.—Till the year 602, Latin seems to have been the general and official language throughout the Roman empire. After that epoch, the Greek became its substi-

The English ambassador at Paris receives £12,000*
 Petersburg, 13,000
 Vienna, 13,000
 Madrid, 13,100
 the Hague, 13,000

The expenditures of the U. States, for the diplomatic department, in 1827, were \$659,211.

* Besides this, the British government bought a splen-
 did mansion at Paris for their embassy.

tute in the East, and was still in use in the kingdom of Naples and Sicily, during the 11th and 12th centuries.—The characters, the direction in which the lines are written, the abbreviations, the signs which supplied the places of whole words, the flourishes, varied considerably from one century to another. On some of the diplomas, the signature is a cipher or monogram; and, as it is often in the form of a cross, it is called *chrismon*. Seals of white wax are found, either imprinted on, or pending from diplomas, in small cases: at a later period, they were stamped on metal, and affixed in the same manner. In the conquered provinces of the Roman empire, and chiefly those which compose, at present, Great Britain and Germany, the Latin language at length gave way to the idioms of the natives; and various languages, therefore, must be learned by the students of diplomatics to enable themselves to distinguish the genuine documents from the spurious, and to bring to light such facts as can increase historical knowledge, and clear up points of private or public right. Since the reformation, the science can be of little service in the latter respect, but it still promises valuable assistance in the study of antiquity. (See *Characters*.) In this point of view, *diplomas* are considered as literary documents; and much diligence and research have been bestowed, by men not less distinguished by learning than by industry, in the investigation of their contents and the examination of their authenticity. The Benedictine monks have done much in this department of learning: among them Mabillon, Tousseint and Tassin hold a distinguished place, and their works will long be the most valuable manuals for the study of diplomatics. A Jesuit named Papebroeck was the first, perhaps, who gave an example of the application which can be made of them to historical researches. The celebrated count Maffei, the most distinguished antiquary of modern Italy, is the author of a supplement to Mabillon's *Code Diplomatique*. Gatterer and Schöneman have, in times still more recent, treated the science in the most systematic manner. Walter's *Lexicon Dipl.* Göttingen, 1745, is an excellent guide for abbreviations, and Carpentier's *Alphabetum Tironianum*, Paris, 1747, for characters representing whole words, in ancient diplomacy. See, also, Henselii, *Synopsis Universæ Philologiæ*, and Kapp's *Alphabet*.

DIPPING, among miners, signifies the interruption of a vein of ore—an accident that often gives them a great deal of

trouble before they can discover the ore again.

DIPPING NEEDLE, or INCLINATORY NEEDLE; a magnetical needle, so hung, that, instead of playing horizontally, and pointing north and south, one end dips or inclines to the horizon, and the other points to a certain height above it.—The inventor of this instrument was one Robert Norman, a compass-maker, of Wapping, about the year 1576.—Some persons have endeavored to find the latitude and longitude of places by means of the dipping needle; but nothing of importance has followed from their attempts. The following general rule, however, may be adopted in order to find the longitude or latitude by the dipping needle. If the lines of equal dip, below the horizon, be drawn on maps, or sea-charts, from good observations, it will be easy, from the longitude known, to find the latitude, and from the latitude known, to find the longitude. Suppose, for example, you were travelling or sailing along the meridian of London, and found the angle of dip, with a needle of one foot, to be 75° , the chart will show, that this meridian and the line of dip meet in the latitude of $53^{\circ} 11'$, which therefore is the latitude sought. Or suppose you were travelling or sailing along the parallel of London, i. e., in $51^{\circ} 32'$ N. lat., and you find the angle of dip to be 74° . This parallel, and the line of this dip, will meet in the map in $1^{\circ} 46'$ of E. lon. from London, which is therefore the longitude sought.

DIPTYCHA (*Greek*) originally signifies the same as *diploma*, something folded. The Greeks and Romans, among other materials for writing, used tablets of metal, ivory or wood, of equal size, fastened together by a hinge or little ring which went through them, that they might be more easily carried or passed from one hand into the other. Such double tablets were originally called *diplomata* or *diptycha*. Both terms, however, afterwards received different significations. The *diptycha* became important in the Christian church, and were of three sorts, containing the names of the bishops, of the living, and of the dead. The first contained the names and lives of deserving bishops. It was customary to read them at festivals, which gave rise afterwards to the custom of canonization. In the *diptycha* of the living, the names of popes, patriarchs, bishops and other ecclesiastics, then the names of the emperors, kings, princes, and other distinguished persons, who had deserved well of the church, though still alive, were

written down, to be mentioned in the church prayers. The *diptycha* of the dead, finally, comprised the names of those who had departed in the Lord, which were also mentioned in the church prayers. There was also another species of *diptycha*, containing the names of the baptized. Casaubon, in his observations on *Athenæus*, lib. vi. cap. 14, supposes the Christians to have borrowed the custom of writing names in a book, and rehearsing them at mass, from the heathens, who entered the names of persons to whom they would do any signal honor in the verses of the *Salii*, as was done to Germanicus and Verus, sons of the emperor Marcus Aurelius, and a long time before, during the period of the republic. (See *Tacitus*, lib. ii.) The profane *diptycha* were frequently sent as presents to princes, &c., on which occasions, they were finely gilt and embellished. Those presented were usually made of ivory.

DIRÆ, or EUMENIDES. (See *Furies*.)

DIRECTORY; a guide, a rule to direct. This name was given to five officers, to whom the executive authority in France was committed by the constitution of the year III. This regulation was imitated in other states over which France exercised an immediate influence, as in Switzerland, Holland, &c. The two legislative bodies, called the *councils*, elected the members of the directory: one of them was obliged to retire yearly, and his place was supplied by election. This body was invested with the authority, which, by the constitution of 1791, had been granted to the king. The seven ministers of state were immediately under, and were appointed and removed by, the directory. By the revolution of the 18th Brumaire, this body, and the constitution of the year III, were abolished. (For the history of the directory and of the 18th Brumaire, see the *Mémoires de Louis Jérôme Gohier* (Paris, 1824, 2 vols.), the last president of this body. See *Napoleon*.)

DIRECT TAX. Taxes are distinguished into *direct* and *indirect*. A tax is direct when it is paid by the persons who permanently own, or use, or consume the subject of the tax. An indirect tax falls ultimately on a different person from the one who immediately pays it to the government. Thus the importer of goods pays a duty on them to the government, but reimburses himself by charging the amount of this duty in the price of the goods, so that the retailer who takes them of him refunds the duty, and the consumer who takes them of the retailer

again reimburses the latter. On the contrary, a land-tax, a capitation-tax, an annual excise on watches, coaches, &c., or an excise collected on articles as they are distributed by the retail dealer among his customers for consumption, is a direct tax; for the party really taxed is the one who pays the tax to the government. (See *Taxes*, and *Revenue*.)

DIS; among the Romans, a name of Pluto (q. v.) and Hades.

DISCORD. A *discord* is a dissonant or inharmonious combination of sounds, so called in opposition to the *concord*, the effects of which the discord is calculated to relieve and sweeten. Among various other discords, are those formed by the union of the fifth with the sixth, the fourth with the fifth, the seventh with the eighth, and the third with the ninth and seventh, all which require to be introduced by certain preparatives, and to be succeeded by concords to which they have some relation.

DISCOUNT, or REBATE, is an allowance made on a bill, or any other debt not yet become due, in consideration of present payment. Bankers, merchants, &c., allow for discount a sum equal to the interest of the bill for the time before it becomes due, which, however, is not just; for, as the true value of the discount is equal to the difference between the debt and its present worth, it is equal only to the interest of that present worth, instead of the interest on the whole debt. And, therefore, the rule for finding the true discount is this: As the amount of £1 and interest for the given rate and time is to the given sum or debt, so is the interest of £1 for the given rate and time to the discount of the debt. Thus, if the interest or discount of money were five per cent., then the allowance on a bill of £100 would be found thus: As 21s. : £100 :: 1s. : £4 15s. 2½ d.

DISCUS, Disc, or Disk; among the Greeks and Romans, a quoit of stone or metal, convex on both its sides, perforated in the middle, and fastened to the hand by strings. Throwing the *discus* was one of the gymnastic exercises; and in the Olympic and other games, it was considered a great honor to conquer in the contest. Perseus is said to have invented this instrument, and Apollo killed his favorite, Hyacinth, with it. In some places, the plate which contains the host during the act of consecration, is called *disk*.—*Disk*, in astronomy, means the face of the sun and moon, as they appear to observers on the earth.

DISEASES, HEREDITARY. The influence of the parents on the organization of the child is so great, that even the individual peculiarities which distinguish one man from another are, in part at least, transmitted to his children; hence the similarity, in person and looks, of the child to its parents. The internal organs, too, as well as the external form, have the same resemblance; so that the peculiar constitution, the greater or less activity and development of these organs, are found to pass from parent to child. Now, as it is the particular state of the several organs and functions, in which a very great part of diseases have their foundation, it follows that these diseases may be inherited; and, in fact, it has been observed, that the son is not unfrequently attacked by a disease at the same period of life in which his father was. These diseases are called *hereditary*; but it is only the predisposition to them that is, properly speaking, inherited. Hence the actual development of hereditary diseases requires certain co-operating circumstances. Constitutional diseases are very often not hereditary, but depend on circumstances which affect the foetus during pregnancy. The father has no influence on the child, beyond the act of generation; the mother operates upon it during pregnancy, and it is possible that hereby occasion may be given to hereditary diseases. Among the diseases which are most frequently hereditary, are scrofula, bleeding (especially at the lungs) and hemorrhoids, consumption, gout, the gravel and stone, scirrhus and cancer, disorders of the mind and spirits, hysterical and hypochondriac affections, apoplexy, epilepsy, and organic diseases of particular parts, especially of the heart. They have this peculiarity, that they are produced, and appear as constitutional diseases, more from the action of internal than of external, of predisposing than of occasional causes. Such diseases are much more difficult to reach and to cure, than those which originate in accidental, external causes. Hence it is especially necessary to prevent in season their growth and development. The means of doing this are the following: 1. Whoever has a hereditary predisposition to any disease, should not marry one who has the same constitution. For this reason, marriages between near relations are not advisable, as tending to perpetuate such hereditary diseases. This, too, appears to be the reason why attachments are generally formed between persons of opposite constitution and different tempera-

ment. 2. We ought to order all the circumstances, in which the child grows up, in such a way, that the inherited predisposition may not only not be favored, but counteracted. 3. The accidental occasions which favor the growth of the disease should be avoided, especially at the time of life in which the father was attacked by it. The medical treatment of hereditary diseases is not essentially different from that which is requisite in the same diseases, arising under different circumstances.

DISHING WHEELS. Wheels should be exactly cylindrical, if roads were, in all cases, level and smooth; but since the unequal surface of most roads exposes carriages to frequent and sudden changes of position, it is found advantageous to make the wheels a little conical, or, as it is commonly called, *dishing*, so that the spokes may all diverge with their extremities from the carriage.

DISMAL SWAMP; a large tract of marshy land, beginning a little south of Norfolk, in Virginia, and extending into North Carolina, containing 150,000 acres; 30 miles long, from north to south, and 10 broad. This tract is entirely covered with trees, some of which grow to a very large size; and between them the brushwood springs up so thick, that many parts are utterly impervious. In the midst of the swamp is a lake, called *Drummond's pond*, seven miles in length. The Pasquotank flows from this lake south, and the Nansemond flows from it north.

Dismal Swamp Canal, or *Chesapeake and Albemarle Canal*, passes through this swamp, beginning at Deep creek, a branch of Elizabeth river, seven miles above Norfolk, and terminating at Joyce's creek, a branch of the Pasquotank, 30 miles from its entrance into Albemarle sound. It is 22½ miles long, 38 feet broad at the surface, and 5½ feet deep. (See *Canals*.)

DISMOUNTING, in the military art, is rendering the enemy's cannon unfit for further service, by breaking their carriages and axle-trees; also, shattering the parapet of a retrenchment, or of a wall, by balls, so that it cannot be defended, particularly so that cannons cannot be worked behind it. Dismounting batteries are such as are intended to throw down the parapets of fortifications, and disable the enemy's cannons. They are placed generally in the second, often in the third parallel. If they are on the glacis, in the salient angles of the bastions, and fire against the flanks of the adjacent bulwark, they are called *counter-batteries*. They are erected exactly op-

posite the front to be battered, and consist of from four to eight cannons, mostly 12 pounders. These cannons are generally aimed, at the same time, at the same embrasure, whilst the others occupy the other cannon of the enemy: when one of the enemy's cannon is silenced, the fire is directed to another, and so on. Some mortars and howitzers, which may be placed either within the dismounting battery or by themselves, support its fire, by bombarding the attacked embrasures: the fire of both must be slow, and well aimed. The distance of the dismounting battery from the work attacked, is usually from 3 to 400 paces, according to the distance of the second parallel. It has been proposed, in modern times, to shoot grenades, instead of balls, from the cannons, into the works which are to be dismounted, to produce an effect, by their bursting, similar to that of mines.

DISPENSARY; a charitable institution, common in large towns of Britain and the U. States. Dispensaries are supported by voluntary subscriptions, and each has one or more physicians, surgeons and apothecaries, who attend, or ought to attend, at stated times, in order to prescribe for the poor, and, if necessary, to visit them at their own habitations. The poor are supplied with medicines gratis. Where these institutions are managed with care, they are of the utmost importance to society, it being unquestionably more for the comfort of the sick, to be attended at their own houses, than to be taken from their families to an hospital.

DISPENSATORY; a book in which all the medicines are registered, that are to be kept in an apothecary's shop, and the apothecaries directed how to compose them. Almost every country in Europe, and many large cities, have their own dispensatories, which the apothecaries are bound to follow.

DISSEIZIN, or **DISSEISIN**, is the dispossessing one of a freehold estate, or interrupting his *seizin*. Under the feudal law, when a vassal was admitted to an estate, by the ceremony of investiture, he was said to be *seized* of it. The disseizing of him was the turning him out of his fee. The entry into a vacant estate is not a disseizin. In regard to incorporeal hereditaments, as of a certain office, or the right to receive a certain rent out of land, without that of possession, there could be only a constructive disseizin. The person disseizing another is called the *disseizor*, and the person whose estate is disseized, the *disseizee*. By a *freehold* is meant an

estate for life, or some larger estate; and an estate for years, or a lease, though it be for a hundred years, is not a freehold. Of freeholds, only, can a *seizin* be had, or a disseizin done. Whether an entry upon lands is or is not a disseizin, will depend partly upon the circumstances of the entry, and partly upon the intention of the party, as made known by his words or acts. Thus, if one enters another's house without claiming any thing, it is not a disseizin. So, if one enters wrongfully upon another's land, and the owner afterwards receives rent of him, it will not be a disseizin; so, if a lessee at will makes a lease for years, it is a disseizin; so, if one enters upon lands of an infant, though with his consent, it is a disseizin, if the infant chooses afterwards so to consider it; so, if one commands another to make a disseizin, the person giving the command is a disseizor; and so it is a disseizin to prevent the owner from entering on his land, &c. Between joint-tenants and tenants in common, and coparceners, the entry of one, being construed to be made in behalf of all, is not a disseizin, which, in these cases, must be the actual *ouster* of the co-tenant; that is, putting or keeping him out of possession: thus, if one co-tenant, after entering, makes a feoffment of the whole, this is a disseizin; for it shows the intention of the entry: so if one, being in possession, claims the whole, and refuses to pay rent, &c.

DISSIDENTS. (See *Non Conformists*.)

DISSIDENTS, in its more extensive meaning, denotes those who differ from the established religion of a country. It has been used in a more particular sense in Poland, since 1736, to denote all those who, though they do not belong to the established (Catholic) religion, are yet allowed the free exercise of their respective modes of worship, including Lutherans, Calvinists, Greeks and Arminians, and excluding Anabaptists, Socinians and Quakers. As early as the time of Luther, the reformation was introduced into Poland. During the reign of Sigismund Augustus (1548—72), great numbers of the people, and even half of the members of the diet, and more than half of the nobility, were Lutherans or Calvinists. The convention of Sandomir, concluded in 1570, united the Lutherans, Calvinists and Bohemian brethren into one church—a union which had also a political tendency, and whose members obtained the same rights with the Catholics, by the religious peace (*pax dissidentium*) sworn to by the king in 1573. But the great mis-

take committed in not settling the mutual relations of the two religious parties, gave rise to bloody contests. Although the rights of the dissidents were afterwards repeatedly confirmed, they were gradually repealed, particularly in 1717 and 1718, in the reign of Augustus II, when they were deprived of the right of voting in the diet. They lost still more, some years afterwards (1733), under Augustus III; and in the diet of pacification, as it was called (1736), an old statute, requiring every Polish king to be of the Catholic church, was revived. After the accession of the last king, Stanislaus Poniatowski, the dissidents brought their grievances before the diet held in 1766, and were supported in their claims by Russia, Denmark, Prussia and England. Russia, in particular, profited by the occasion, to extend her influence in the affairs of Poland, supported them strongly, and succeeded, by her mediation, in bringing about a new convention, in 1767, by which they were again placed on an equal footing with the Catholics. The diet of 1768 repealed the decrees which had been formerly passed against them. The war against the confederates breaking out, however, and the kingdom being dismembered, nothing was accomplished, until the year 1775, when the dissidents regained all their privileges, excepting the right of being elected senators or ministers of state. Later events in Poland have again placed the dissidents on an equal footing with the Catholics.

DISSONANCE; that effect which results from the union of two sounds not in accord with each other. The ancients considered thirds and sixths as *dissonances*; and, in fact, every chord, except the perfect concord, is a dissonant chord. The old theories include an infinity of dissonances, but the present received system reduces them to a comparatively small number. One rule, admitted both by the ancients and the moderns, is, that of two notes, dissonant between themselves, the dissonance appertains to that one of the two which is most remote from the concord.

DISTICH; a couplet of verses, especially one consisting of a hexameter and pentameter; as,

"Turpe quidem dictu: sed, si modo vera fatemur,
Vulgus amicitias utilitate probat."

The hexameter, which flows on in an uninterrupted course, being adapted to the expression of feeling, and the pentameter, which is broken by two nearly equal di-

visions, expressing subdued emotion, this disposition is undoubtedly best suited to the elegy (q. v.), and for this reason was called the *elegiac measure*. At the same time, no form is more suitable for maxims or sentences than the distich. The Greeks, therefore, composed their epigrams almost exclusively in this form, and the Germans have followed their example. Other nations, who do not possess this measure, frequently call every piece of poetry in two lines, a distich.

DISTILLATION is an art founded upon the different tendencies which bodies have to pass into vapor, and to be condensed again by cold, and is performed in order to separate them from each other, when combined, or when they become products of chemical action. Its use is very important in obtaining spirits, essences, volatile oils, &c. The most common method of conducting this process consists in placing the liquid to be distilled in a vessel called a *still*, made of copper, having a movable head, with a swan-like neck, which is so formed as to fit a coiled tube, packed away in a tub of water constantly kept cold, and which is termed a *refrigeratory*. The fire is applied either immediately to the still, or mediately, by means of a water or sand-bath. The liquid to be obtained rises, in vapor, into the head of the still, and, passing down the curved tube, or worm, becomes condensed, and makes its exit in a liquid state. The still should be constructed with a diameter considerably greater than its height, in order to expose a larger surface to the fire; and the tube should not be so narrow as to impede the passage of the vapor into the worm. An improvement made by Mr. Tennant in this apparatus, consists in introducing the spiral tube into the body of a second still, so that the heat from the condensation of the steam, passing through the tube, is applied to the distillation of liquor in the second. The pressure of the atmosphere is removed from the latter, by connecting it with an air-tight receiver, kept cool. The air in this receiver is allowed to escape at the commencement of the operation; its place is occupied by the steam from the liquor, which being condensed, a vacuum is kept up, whence the distillation proceeds, without any further heat being directly applied to the second still. This form of distilling apparatus is called the *double still*. The process introduced by Mr. Barry, for preparing vegetable extracts and inspissated juices, by evaporation *in vacuo*, is of a somewhat similar nature. The

apparatus consists of a hemispherical still, made of cast iron, and polished within. It is closed by an air-tight, flat cover, through which rises a wide tube, which is then bent downwards, and terminates in a large copper globe, of a capacity three or four times greater than that of the still. In this tube there is a stop-cock, between the still and the globe. When evaporation is to be performed, the vegetable juice or infusion is poured into the polished iron still, through an opening, which is then closed, made air-tight, and covered with water. In order to produce a vacuum, the connexion between the still and copper receiver is interrupted, by shutting the stop-cock, and steam from a boiler is introduced by a pipe into the latter, till the whole of the air is expelled from it. This takes usually about five minutes, and is known by the steam issuing from the globe uncondensed. The copper sphere is then closed, and the communication restored between it and the still, by opening the stop-cock, when the greater part of the air in the latter rushes into the former. The stop-cock is again closed, and the globe again filled with steam as before. By the condensation of this steam a vacuum is again produced, which, on opening the stop-cock, extracts the greater portion of the air remaining in the still: in short, by repeating these exhaustions five or six times, an almost perfect vacuum is obtained, both in the still and receiver. Heat is then applied to the water bath, in which the still is placed, until the juice within begins to boil, which is ascertained by inspection through a piece of thick glass, fixed firmly in the upper part of the apparatus. As, in a vacuum, fluids boil nearly 124 degrees below their usual boiling temperature, water passes into ebullition, in such circumstances, at 90° Fahr., or a little above it; and it is never found necessary to heat the juice above a temperature of 100°. The evaporation is continued till the fluid is inspissated to the proper extent, which is judged of by its appearance through the glass. Extracts prepared in this way are found to be greatly preferable to those obtained by evaporation at a high temperature: they are considerably stronger, as the active principles in the juices are not decomposed by reaction between their elements, favored by heat; and they are free from all burnt flavor, or empyreuma. There are many operations, however, in which liquids are employed, that would corrode metallic vessels: in such cases, vessels are employed, constructed either of glass,

platinum, or stone ware. They are of various forms, generally consisting of two parts, one called a *retort*, and the other a *receiver*. The receiver is sometimes tubulated, with a stopper adapted to the tubulature. In some cases of distillation, the product is not entirely a vapor which may be condensed; but there is disengaged an elastic fluid, which is incondensable. This gas is allowed to pass off by a tube from the tubulature; the tube terminating in a vessel of water, and thus enabling us to collect the gas in an inverted jar. In certain cases, the product designed to be obtained by distillation is an elastic fluid, not condensable by itself, but capable of being condensed by being transmitted through water. A contrivance called *Wolfe's apparatus* is used for this purpose, a description of which may be found in most of the chemical treatises. A liquid obtained by distillation is sometimes not perfectly pure, or it is dilute, from the intermixture of water, that has been elevated in vapor along with it. By repeating the distillation of it a second or a third time, it is rendered more pure and strong. This latter process is named *rectification*, or sometimes *concentration*.

DISTRESS, in law (from the Latin *dis-tringo*, to distrain), is the taking of a personal chattel of a wrong-doer, or a tenant, in order to obtain satisfaction for the wrong done, or for rent or service due. The thing taken is also called a *distress*. A distress may be taken for homage, fealty, or any other service, of which there were many descriptions under the old feudal tenures, due from the tenant to the lord, or person of whom the estate was holden, the rendering or payment of which was the consideration or condition on which the land was held. So a distress is, by the English and American law, allowed to be made of cattle or goods *damage-feasant* (see *Damage-Feasant*), both for the purpose of preventing further damage, and obtaining satisfaction for that already done. If the party whose goods or cattle are seized, disputes the injury, service, duty or rent, on account of which the distress is taken, he may replevy the things taken, giving bonds, at the same time, to return them or pay damage, in case the party making the distress shows that the wrong has been done, or the service or rent is due, on account of which the distress was taken. Another description of distress is that of attachment (see *Attachment*), to compel a party to appear before a court when summoned for this purpose. The distresses most frequently

made in England and the U. States, are on account of *damage-feasance* and rent; though the ordinary attachments on mesne process, that is, on a writ before judgment, that the judgment may be satisfied out of the property so seized, coincides in principle with the right of distress. But this right of previous attachment, though permitted in most cases of claims for debts or damage, in some few of the U. States, seems to be peculiar to them, whereas the right of *distress*, strictly so called, is very general. The reason for giving a right of distress in cases of damage-feasance is obvious, but it is by no means so evident why a landlord should have a right to distrain for his rent, any more than a grocer for a debt accruing on account of articles supplied for the use of his debtor's family. The power with which the great body of landholders is vested, all over Europe, where a vast proportion of the soil is under lease, will sufficiently account for the prevalence of this rule there; but this will not account for the adoption of a similar rule in the U. States, where, in general, the cultivators occupy their own soil, and contracts for rent, except in the considerable towns, form but a small part of the whole mass of contracts. It may be said, indeed, that the chattels on the farm are usually, in part, at least, the growth of the farm itself, and so far the landlord may, without injustice, have a sort of lien on them for his rent. No other reason occurs to us, why a special remedy should be provided for this particular species of debts, and this reason may not appear entirely satisfactory. This preference is not without exception in the U. States; for in some of the states, where the right of attaching in mesne processes is extended to most claims for debt or damages, the demand for rent has no better remedy than others. As to the things that may be distrained, the English law allows any chattel of the lessee, on the premises, to be so taken. The law also prescribes particularly the time and mode of making the distress, and the manner of treating the things, especially beasts, distrained.

DITHYRAMBUS; a surname of Bacchus, because he was said to have been born twice—once of his mother, Semele, and the second time out of the thigh of his father Jupiter; or because several mothers have been ascribed to him. The word means, also, a poem, sung in honor of the god, at his festivals. Since these festivals were celebrated with all the extravagance which could please the intoxicated deity,

the dithyrambus employed in his worship naturally breathed the same frenzy. The character of the dithyrambus, therefore, requires bold images and lofty periods. The more apparent disorder it contains, the more it partakes of the fire of intoxication, the better it sustains the true dithyrambic character. In the wild Phrygian music, it was sung in choirs. Arion of Methymne, on the island of Lesbos, is considered as the inventor of it. In public games, it was first made use of by Lasos of Hermione. The expression *dithyrambic poem* denotes, also, every lyric poem, filled with a wild and impetuous enthusiasm, as is the case with many odes of Pindar.

DITTERS VON DITTERSDORF, Charles, born at Vienna, in 1739, is particularly distinguished in comic compositions, and perhaps unrivalled, in this branch of music, among the German composers. Several of his operas are represented with great applause, even in Italy. The emperor of Germany raised him to the rank of nobility. He died in 1799.

DITTO (usually written *do.*) signifies the *aforementioned*, and is a corruption of the Italian *detto*, from the Latin *dictum*, the said.

DIVAN; 1. with the Turks, the highest council of state; the Turkish ministry. (See *Ottoman Empire*.) Every pacha has also a divan. 2. In Turkey, a kind of stage, raised about a foot from the floor, which is found in all the halls of the palaces, as well as in the apartments of private persons. It is covered with costly tapestry, and a number of embroidered cushions, leaning against the wall. This divan is the seat of the master of the house, and reclining on it, he receives visitors. From this, a kind of sofa has obtained the name of *divan*. 3. *Divan*, with the Arabs, Persians and Turks, is used to denote a complete collection of lyric poems, which they call *gazelles*, and through each of which one single rhyme extends: they never exceed the length of 14 strophes. Such a collection is complete if there are as many divisions as there are letters in the alphabet of the respective languages; and each division contains at least one poem, the rhymes of which terminate with the letter under which the division falls; some letters are excluded, as few or no words end in them.

DIVER. (See *Pearl-Fishery*.)

DIVER, a bird. (See *Loon*.)

DIVERGENT; tending to various parts from one point; thus we say, *divergent* lines, rays, &c., meaning those lines or rays which, issuing from one common

point, go off from that point in various directions. Concave glasses render the rays divergent, and convex ones convergent. Concave mirrors make the rays converge, and convex ones make them diverge.

DIVERGING SERIES, in analysis, are those series, the terms of which increase more and more, the further they are continued.

DIVERSION, in military affairs, is an attack on an enemy, in a place where he is weak and unprovided, in order to draw off his forces from another place, where they have made, or intend to make, an irruption. Thus the Romans had no other way in their power of driving Hannibal out of Italy, but by making a diversion in attacking Carthage.

DIVIDEND OF STOCKS is a share or proportion of the interest of stocks, divided among, and paid to, the proprietors.

Dividend, in arithmetic, is that number which is to be divided.

DIVINATION (from the Latin *divinatio*); the foreseeing or predicting of future events (in Greek, *παρτεία, παρτεία*). Cicero has treated this subject in his book *De Divinatione*. Man is so dependent upon external things and influences; he is so conscious of this influence; he is so perfectly aware of the uncertain issue of his best calculations, and is so often obliged to act, when the reasons for and against a measure seem to be almost equally balanced, that it is natural for him to cherish an ardent desire to pry into futurity, and to inform himself about things which are happening in distant regions, by some process out of the ordinary course of nature. If we take into view, besides this natural desire, the belief which nations, in an early stage of their progress, entertain of the immediate dispensations of Providence, of a constant interference of the Deity in the course of things, rather than of the existence of eternal and all-wise laws, we shall have the reason why the belief in divination of some kind or other, in signs given from above, to warn or to alarm, and in the power of particular individuals to lift the veil of futurity, has been so general. We need not suppose divination to have had its origin in fraud: the disposition of men to deceive themselves, and form conclusions as to future events from unmeaning signs, will sufficiently account for its existence. In the sequel, indeed, it became a fruitful source of imposition. Moses prohibited divination expressly. (*Deut. xviii, 11.*) Saul expelled "those that had familiar spirits, and the wizards," from his kingdom, yet he was weak enough to consult the

famous witch of Endor, shortly before the decisive battle in which he fell. The Egyptians and Greeks had their oracles. (q. v.) With the Romans, divination and witchcraft were brought into a kind of system, and constituted part of their religion, of which the generals and chiefs of parties often availed themselves, with much effect. (See *Augur*, and *Aruspices*.) All the ancient Asiatic tribes had modes of divination; and sorcerers are common among the Indians of America. In fact, we believe that there has hardly been a nation discovered, which had advanced beyond the lowest barbarism, that did not practise some kind of divination; and even in the ages in which reason has most prevailed over feeling, the belief in the power of foreseeing future events has been entertained; even men of the greatest intelligence have not been able to rid themselves of it entirely. Without going into the question of the degree to which the human mind is capable of looking into futurity, or considering the numerous extraordinary stories afloat in the world, of presentiments and predictions, we shall confine ourselves to a few remarks on the systems of divination which have existed. The ancient Germans had consecrated white horses, from whose snorting and neighing they drew favorable or unfavorable signs. They also followed the guidance of prophetesses, whom they called *Alrunes*. The Greeks had their *sortes Homericae*, the Romans their *sortes Virgilianæ*; and, in imitation of these, many Christians, from the period of the 3d century, adopted the *sortes sanctorum*—a mode of judging of the future by opening the Sacred Scriptures at random, and forming an opinion from the passage on which the eye happened to fall. (See *Bibliomancy*.) This usage was early disapproved by the councils. Some popes forbade it under penalty of excommunication. The capitularies of Charlemagne, of 789 A. D., also prohibit this mode of consulting the Psalms and the Gospels; yet the *sortes sanctorum* continued until the 14th century, and is not, even now, altogether obsolete. In most countries of Europe, many of the old forms of divination continue to be practised, sometimes from superstition, sometimes for amusement. In fact, the love of having one's fortune told is not confined to the ignorant and the superstitious. People who are above believing the predictions are still fond of prying, in sport, into the mysteries of futurity. There are many names for the different modes of prognosticating the future by means of

the various appearances which nature and art present, from the revolutions of the stars down to the grounds of a coffee-cup; as, *astrology, aëromancy, meteoromancy, pyromancy, hydromancy, geomancy, hieromancy, rhabdomancy, physiognomancy, necromancy, bibliomancy, &c.* Very lately, a lady at Paris, mademoiselle Lenormand, attracted much attention by telling fortunes to persons of high rank; and Müller, in Suabia, was a celebrated prophet in the time of Napoleon. It has been often observed, that great politicians, men who have risen above many of the prejudices of their age, and have even disregarded important truths, have yet given themselves up to a superstitious trust in signs and divination. One reason may be, that they have peculiar opportunities of seeing how many things are out of the reach of human power, and must be left to fortune; and an ambitious spirit refuses to doubt what it strongly wishes. The works on this subject are very numerous, including, as they do, the mystical productions of the East, the *Cabala* (q. v.), the treatises on astrology (q. v.), witchcraft, &c., in the middle ages, and all that modern times have produced, as Jung Stilling's *Theorie der Geisterkunde* (Theory of Demonology), sir W. Scott's History of Demonology, &c. (See the articles *Astrology, Gipsies, Witch, &c.*)

DIVING-BELL. To illustrate the principle of this machine, take a glass tumbler, plunge it into water with the mouth perpendicularly downwards; you will find that very little water will rise into the tumbler, which will be evident if you lay a piece of cork upon the surface of the water, and put the tumbler over it; for you will see, that, though the cork should be carried far below the surface of the water, yet its upper side is not wetted, the air which was in the tumbler having prevented the entrance of the water; but, as air is compressible, it could not entirely exclude the water, which, by its pressure, condensed the air a little.—The first diving-bell we read of in Europe was tried at Cadiz, by two Greeks, in the presence of Charles V and 10,000 spectators. It resembled a large kettle inverted. The first of any note was made by Dr. Halley. It is most commonly made in the form of a truncated cone, the smallest end being closed, and the larger one open. It is so suspended that it may sink full of air, with its open base downwards, and as near as may be parallel to the horizon, so as to close with the surface of the water. Mr. Smeaton's diving-bell, made in 1788, was a square chest of cast iron, 4½ feet in height,

4½ feet in length, and 3 feet wide, and afforded room for two men to work in it. It was supplied with fresh air by a forcing pump. This was used with great success at Ramsgate. Other contrivances have been used for diving-bells. Within the last 30 years, the diving-bell has been much employed to assist in laying the foundations of buildings under water. A diving-bell, on an improved principle, was constructed, in 1812, by the late Mr. Rennie, and employed in Ramsgate harbor, where it answered so well, that the masonry was laid with the utmost precision. From this period must be dated a new era in the construction of masonry under water, the use of coffer dams being, in a considerable degree, superseded. The diving-bell was, thenceforward, employed by Mr. Rennie in the construction of all the great harbors which he projected. Round bells of cast iron and copper have been occasionally made for the pearl and coral fisheries of South America, and have been supplied by the Messrs. Rennie for most of the royal dock-yards in England, and several of those in the colonies, for the pearl fishery at Ceylon, for the repair of the works at Cronstadt, for many places in Great Britain and Ireland, &c.

DIVINING ROD (*virgula mercurialis*) is a rod made with certain superstitious ceremonies, either single and curved, or with two branches, like a fork, of wood, brass or other metal. The rod is held in a particular way, and if it bends towards one side, those who use the rod believe it to be an indication that there is treasure under the spot. Some publications respecting a man who, in quite recent times, pretended to be able to discover water and metals under the ground by his feelings, attracted much attention. (See *Campelli*.)

DIVISIBILITY. The actual subdivision of bodies has, in many cases, been carried to a prodigious extent. A slip of ivory, of an inch in length, is frequently divided into a hundred equal parts, which are distinctly visible. But, by the application of a very fine screw, 5000 equidistant lines, in the space of a quarter of an inch, can be traced on a surface of steel or glass with the fine point of a diamond, producing delicate iridescent colors. Common writing paper has a thickness of about the 500th part of an inch; but the pellicle separated from ox-gut, and then doubled to form gold-beaters' skin, is six times thinner. A single pound of cotton has been spun into a thread 76 miles in length; and the same quantity of wool has been extended into a thread of 95 miles; the

diameters of those threads being hence only the 350th and 400th parts of an inch. But the ductility of some metals far exceeds that of any other substance. The gold-beaters begin with a riband an inch broad and 150 inches long, which has been reduced, by passing through rollers, to about the 800th part of an inch in thickness. This riband is cut into squares, which are disposed between leaves of vellum, and beat by a heavy hammer, till they acquire a breadth of more than three inches, and are therefore extended ten times. These are again quartered, and placed between the folds of gold-beaters' skin, and stretched out, by the operation of a lighter hammer, to the breadth of five inches. The same process is repeated, sometimes more than once, by a succession of lighter hammers; so that 376 grains of gold are thus finally extended into 2000 leaves of 3.3 inches square, making in all 80 books, containing each 25 leaves. The metal is, consequently, reduced to the thinness of the 282,000th part of an inch, and every leaf weighs rather less than the 5th part of a grain. Silver is likewise capable of being laminated, but will scarcely bear an extension above half that of gold, or the 150,000th part of an inch thick. Copper and tin have still inferior degrees of ductility, and cannot, perhaps, be beat thinner than the 20,000th part of an inch. These form what is called *Dutch leaf*. In the gilding of buttons, five grains of gold, which is applied as an amalgam with mercury, is allowed to each gross; so that the coating left must amount to the 110,000th part of an inch in thickness. If a piece of ivory or white satin be immersed in a nitro-muriate solution of gold, and then plunged into a jar of hydrogen gas, it will become covered with a surface of gold hardly exceeding in thickness the 10,000,000th part of an inch. The gilt wire used in embroidery is formed by extending gold over a surface of silver. A silver rod, about two feet long and an inch and a half in diameter, and therefore weighing nearly 20 pounds, is richly coated with about 800 grains of pure gold. In England, the lowest proportion allowed is 100 grains of gold to a pound of silver. This gilt rod is then drawn through a series of diminishing holes, till it has stretched to the vast length of 240 miles, when the gold has, consequently, become attenuated 800 times, each grain covering a surface of 9600 square inches. This wire being now flattened, the golden film suffers a further extension, and has its thickness re-

duced to the four or five millionth part of an inch. It has been asserted, that wires of pure gold can be drawn of only the 4000th part of an inch in diameter. But doctor W. H. Wollaston, by an ingenious process, has lately advanced much further. Taking a short cylinder of silver, about the third part of an inch in diameter, he drilled a fine hole through its axis, and inserted a wire of platinum, only the 100th part of an inch thick. This silver mould was now drawn through the successive holes of a steel plate, till its diameter was brought to near the 1500th part of an inch, and, consequently, the internal wire, being diminished in the same proportion, was reduced to between the four and five thousandth part of an inch. The compound wire was then dipped in warm nitric acid, which dissolved the silver, and left its core, or the wire of platinum. By passing the incrustated platinum through a greater number of holes, wires still finer were obtained, some of them only the 30,000th part of an inch in diameter. The tenacity of the metal, before reaching that limit, was considerable; a platinum wire of the 18,000th part of an inch in diameter, supporting the weight of one grain and a third. Such excessive fineness is hardly surpassed by the filamentous productions of nature. Human hair varies in thickness, from the 250th to the 600th part of an inch. The fibre of the coarsest wool is about the 500th part of an inch in diameter, and that of the finest only the 1500th part. The silk line, as spun by the worm, is about the 5000th part of an inch thick; but a spider's line is, perhaps, six times finer, or only the 30,000th part of an inch in diameter; insomuch, that a single pound of this attenuated substance might be sufficient to encompass our globe. The red globules of the human blood have an irregular, roundish shape, from the 2500th to the 3300th of an inch in diameter, with a dark central spot. The trituration and levigation of powders, and the perennial abrasion and waste of the surface of solid bodies, occasion a disintegration of particles, almost exceeding the powers of computation. Emery, after it has been ground, is thrown into a vat filled with water, and the fineness of the powder is distinguished by the time of its subsidence. In very dry situations, the dust lodged near the corners and crevices of ancient buildings is, by the continual agitation of the air, made to give a glossy polish to the interior side of the pillars, and the less prominent parts of those venerable remains. So fine is the sand on the

adust plains of Arabia, that it is carried sometimes 300 miles over the Mediterranean, by the sweeping sirocco. Along the shores of that sea, the rocks are peopled by the pholas, a testaceous and edible worm, which, though very soft, yet, by unwearied perseverance, works a cylindrical hole into the heart of the hardest stone. The marble steps of the great churches in Italy are worn by the incessant crawling of abject devotees; nay, the hands and feet of bronze statues are, in the lapse of ages, wasted away by the ardent kisses of innumerable pilgrims that resort to those shrines. What an evanescent pellicle of the metal must be abraded at each successive contact! The solutions of certain saline bodies, and of other colored substances, exhibit a prodigious subdivision and dissemination of matter. A single grain of the sulphate of copper, or blue vitriol, will communicate a fine azure tint to five gallons of water. In this case, the copper must be attenuated at least ten million times; yet each drop of the liquid may contain as many colored particles, distinguishable by our unassisted vision. A still minuter portion of cochineal, dissolved in deliquate potash, will strike a bright purple color through an equal mass of water. Odors are capable of a much wider diffusion. A single grain of musk has been known to perfume a large room for the space of 20 years. Consider how often, during that time, the air of the apartment must have been renewed, and have become charged with fresh odor! At the lowest computation, the musk had been subdivided into 320 quadrillions of particles, each of them capable of affecting the olfactory organs. The vast diffusion of odorous effluvia may be conceived from the fact, that a lump of assafœtida, exposed to the open air, lost only a grain in seven weeks. Yet, since dogs hunt by the scent alone, the effluvia emitted from the several species of animals, and from different individuals of the same race, must be essentially distinct. The vapor of pestilence conveys its poison in a still more subtle and attenuated form. The seeds of contagion are known to lurk, for years, in various absorbent substances, which scatter death on exposure to the air. But the diffusion of the particles of light defies all powers of calculation. A small taper will, in a twinkling, illuminate the atmosphere to the distance of four miles; yet the luminous particles which fill that wide concavity cannot amount to the 5000th part of a grain, which may be the whole consumption of the wax in

light, smoke and ashes. Animated matter likewise exhibits, in many instances, a wonderful subdivision. The milt of a codfish, when it begins to putrefy, has been computed to contain a billion of perfect insects; so that thousands of these living creatures could be lifted on the point of a needle. But the infusory animalcules display, in their structure and functions, the most transcendent attenuation of matter. The *vibrio undula*, found in duck-weed, is computed to be ten thousand million times smaller than a hemp seed. The *vibrio lineola* occurs in vegetable infusions, every drop containing myriads of those oblong points. Of the *monas gelatinosa*, discovered in ditch water, millions appear in the field of a microscope, playing, like the sunbeams, in a single drop of liquid. Insects have been discovered so small as not to exceed the 10,000th part of an inch, so that 1,000,000,000,000 of them might be contained within the space of one cubic inch; yet each animalcule must consist of parts connected with each other, with vessels, with fluids, and with organs necessary for its motions, for its increase, for its propagation, &c. How inconceivably small must those organs be! and yet they are, unquestionably, composed of other parts still smaller, and still farther removed from the perception of our senses.

DIVORCE is a separation, by law, of husband and wife, and is either a divorce *a vinculo matrimonii*, that is, a complete dissolution of the marriage bonds, whereby the parties become as entirely disconnected as those who have not been joined in wedlock, or a divorce *a mensa et thoro* (from bed and board), whereby the parties are legally separated, but not unmarried. The causes admitted by different codes of laws as grounds for the modification or entire dissolution of the marriage contract, as well as the description of tribunal which has jurisdiction of the proceedings, and the form of the proceedings, are quite various.

According to the law of Moses (*Deut.* xxiv. 1), "when a man hath taken a wife, and married her, and it come to pass that she find no favor in his eyes, because he hath found some uncleanness in her; then let him write her a bill of divorcement, and give it in her hand, and send her out of his house." This was a very summary proceeding, and the provision seems scarcely to recognise the force of a marriage contract, as binding upon the husband, who, according to the prevalent interpretation of this law among the Jews, might be his own judge of the sufficiency of the cause for repudiating his wife; and

one school of doctors, whose interpretations were had in respect, considered it to be sufficient cause if he preferred another woman, or if his wife did not dress his virginals to his satisfaction. This law is said (*Matt. xix.*) to have been a concession to the hardness of heart of the Jews, who were not prepared to receive a better doctrine. The wife, on receiving her bill of divorce, was at liberty to marry again, after waiting 90 days, in order to avoid doubts as to the paternity of her next born child. This law, like those of the Eastern countries generally, pays very little respect to the rights of the wife as a party to a matrimonial contract. The husband might marry another wife immediately. The wife could not divorce the husband.

The Mohammedan law of divorce, founded upon some passages in the Koran, allows of a separation by mutual consent, giving the wife the right of retaining her marriage portion, unless she agrees to relinquish a part of it as the price of the separation. The parties are permitted to separate and reunite twice, if they can so agree, without any particular conditions; but after the third divorce, the husband is not permitted to receive his wife again, until she shall have previously married another husband. The act of divorce is a judicial proceeding before the *cadi*, who does not decree it until three months after the application, which delay is made in order to determine whether the wife is pregnant; and if she be so, the divorce is delayed until after her delivery. The magistrates throw obstacles in the way of divorce, so that the expenses of the proceedings, and the necessity of allowing the wife her marriage portion back again, in case of divorce, sometimes discourage the husband from prosecuting the affair, and induce him to make a composition. But here, according to D'Arvieux's Memoirs, the magistrate interposes, and will not permit a reconciliation and discontinuance of the proceedings, until the wife is first married to another person; for which purpose some youth is agreed with to act the part of second husband, so far as may be necessary in order to afford a ground for the discontinuance of the proceedings, and the relenting husband must be a spectator of this second marriage and its incidents. A *cadi* informed this traveller that this condition was rigidly enforced, in order to prevent the tribunals from being overburdened with applications for divorce.

The Hindoo laws pay still less respect to the women, who are considered very much in the light of slaves to their husbands. According to a maxim of these

laws, "prudent husbands instantly forsake a wife who speaks unkindly." Barrenness, the bearing of daughters only, eating in her husband's presence, any incurable disease, or quarrelsomeness, is each a sufficient cause of divorce. The same law inculcates upon the wife the obligation to revere her husband as a god, although he is devoid of all good qualities, or enamored of another woman. If the wife is superseded by the husband's taking another, he must still maintain her. The wife is, however, so far protected, that the husband is not allowed to put her to death, or to mutilate her person, unless in case of an amour with one of a lower caste.

The Chinese laws of divorce are very similar to the Hindoo, but add some other sufficient causes, such as disregard to the husband's parents, loquaciousness, and jealousy of temper. But the husband cannot divorce a wife who has mourned three years for his parents, or if his family has become rich subsequently to his marriage, or if the wife have no parents living to receive her back again. A woman who has been deserted three years by her husband, may marry another.

The different Grecian states had each their respective laws of divorce. At Sparta, they do not seem to have greatly regarded the delicacy of the marriage bed, when the interest of the republic was in question; but divorces appear to have been rare, since the *ephori* fined Lysander for repudiating his wife. At Athens, either the husband or wife might procure a divorce, by exhibiting a bill for this purpose to the archon, and obtaining the verdict or consent of a jury, to whom the question was referred. But the party applying must, it seems, have made application personally; and Alcibiades, according to Plutarch, took advantage of his authority as a husband, to prevent his wife from making the application personally; for, when she was going from her brother's house, where she had taken refuge, to the archon's, to sue for a divorce, he forcibly seized upon her, and confined her to his own house.

The early laws of Rome, permitted the husband to divorce his wife for poisoning his children, counterfeiting his keys, or adultery. But other causes were afterwards added; for the first divorce recorded was for the sterility of the wife. This was by Sp. C. Ruga, in the year 523 after the building of the city. Divorces afterwards became very frequent, and a law was, on this account, made by Augustus, requiring additional ceremonies in a divorce; among other things, the presence of seven witnesses to the act of dissolution of the mar-

riage. By the Theodosian code, the husband could divorce the wife for adultery, or if she was a witch or a murderess, had sold a freeborn person into slavery, violated a sepulchre, committed sacrilege, been accessory to theft or robbery, was given to feeding with strangers without the knowledge or against the wishes of the husband, lodging abroad without good reason, or frequented theatres and shows, her husband forbidding, or was aiding and abetting in plots against the state, or dealt falsely, or offered blows. The wife had equivalent rights in this respect, for she could procure a divorce on similar charges against her husband. He could be married again immediately; she, not within a year.

The facility of divorce continued, without restriction, under the Roman emperors, notwithstanding the doctrine promulgated on the subject in the New Testament; but, as the modern nations of Europe emerged from the ruins of the Roman empire, they adopted the doctrine of the New Testament (*Matt. xix.*), "what God hath joined together, let not man put asunder." Marriage, under the Roman church, instead of a civil contract, came to be considered a sacrament of the church, and subject to the ecclesiastical jurisdiction, and so it is, at this time, in England; and the canonists founded upon this text the doctrine of the unlawfulness of dissolving this contract, the dissolution of which they considered to be a violation of a sacred institution. If parties were once legally married, they could not be unmarried, though they might be separated. But though marriage was thus held to be a sacrament, still the ceremony of union might pass between those who could not lawfully be joined in "holy" wedlock, in which case the marriage might be annulled, or rather declared, by the competent tribunals, to have been null from the first. Divorces *a vinculo* are, accordingly, decreed by the ecclesiastical courts in England, for prior contract, impotency, too near an affinity or consanguinity, and other causes, existing at the time of the marriage, but not for any subsequent cause. For any cause whatever, arising after the marriage, the ecclesiastical courts can only decree divorce *a mensa et thoro*, which does not leave either of the parties at liberty to marry again. To obtain a divorce *a vinculo matrimonii*, for any cause whatever, arising after the marriage of the parties, to whose union no legal impediment existed at the time of the marriage, the *omnipotence*, as it is called, of parliament, must be resorted to.

In the U. States, marriage, though it

may be celebrated before clergymen as well as civil magistrates, is considered to be a civil contract. The causes of divorce, and the facility or difficulty of obtaining it, are by no means the same in the several states; and the diversity in this respect is so great, that instances have heretofore not been unfrequent, of one of the parties removing into a neighboring state for the express purpose of obtaining a divorce *a vinculo*. The more general causes of such a divorce are, former marriage, physical incapacity, or fraudulent contract, according to the expression in the Connecticut law, to include these and other causes; consanguinity; and the New York code particularly enumerates idiocy and insanity, and the circumstance of either party being under the age of consent. Adultery is also a cause of divorce *a vinculo*; but the laws of some of the states prohibit the guilty party from marrying again. If the husband or wife is absent seven years, or, by the laws of some states, three years, and not heard from, the other is at liberty to marry again; and in some states, if the husband desert the wife, and make no provision for her support during three years, being able to make such provision, the wife can obtain a divorce. Extreme cruelty in either party is also, generally, a cause of divorce, either *a vinculo* or *a mensa*. In many of the states, applications to the legislature for divorce, in cases not provided for by the statutes, are very frequent. In New York and New Jersey, divorce is a subject of chancery jurisdiction, from which, as in other cases, questions of law may be referred to a jury for trial. But, in most of the states, the courts of law have cognizance of divorce. The laws prescribe the provision to be made for the wife in case of divorce, confiding to the courts, however, some degree of discretion in fixing the amount of alimony.

DJEBEL is an Arabian word, signifying *mountain*, as Djebel-el-Mousa, the *mountain of Moses*; Djebel-el-Tarik (Gibraltar), the *mountain of Tarik*.

DJEZZAR, Achmet, pacha of Acre, who checked the victorious career of Bonaparte in Egypt and Syria, was born in Bosnia, and is said to have sold himself as a slave to Ali Bey, in Egypt. There he ingratiated himself with his master to such a degree, that he rose from the low state of a mameluke to that of governor of Cairo. For his future success, he was not less indebted to his faithlessness and ingratitude, than to his courage and talents. As pacha of Acre, he rendered himself so formidable to the rebels, that he was

raised to the dignity of a pacha of three tails. Differences soon arose between him and the Porte, which is jealous of every pacha of spirit and enterprise. Obeying the commands received from Constantinople no farther than they coincided with his own plans, he maintained himself by force and cunning. On Bonaparte's invasion of Syria, in 1799, he broke out into the most ungovernable fury, that Christians from Europe should dare to attempt the conquest of his province. Assisted by the French engineer, Philippeaux, who conducted the defence with great ability, and by sir Sidney Smith, who supported him with several English men-of-war, Djeddar could boast of repelling the man before whom Europe trembled. He afterwards had several bloody struggles with the grand-vizier and the pacha of Jaffa, and died in 1804. He received the name of *Djeddar* (butcher) from his bloodthirsty disposition.

DJIDDA. (See *Jidda*.)

DNIEPER, or DNEPER, or NIEPER (anciently, *Borysthenes*); a river of Russia, which rises in the west part of the government of Tver, passes by Smolensk, Mogilev, Kiev, Ekaterinoslav, &c., and runs into the Black sea, near Otchakov. It begins to be navigable a little above Smolensk. Notwithstanding the course of this river is so extensive, its navigation is only once interrupted by a series of cataracts, which commence about 200 miles from its mouth, and continue 30 or 40 miles; these, however, are not very dangerous, and may be passed in the spring by loaded barks. Length, 1000 miles. The lower part of the river has been the theatre of many conflicts between the Russians and Turks.

DNIESTER, or DNIESTR (the ancient *Tyras* or *Danaster*); a large river of Europe, which has its source in a lake in the Carpathian mountains, in Austrian Galicia, and empties itself into the Black sea, between Ovidiopol and Akerman, after a course of between 500 and 600 miles, mostly through Russia, the government of which has done much towards improving its navigation.

DOBBERAN; a castle and borough (210 houses and 1400 inhabitants), under the jurisdiction of a bailiff, between two and three miles from the Baltic, in the duchy of Mecklenburg-Schwerin. About a mile from the place is the Heilige Damm, or Holy Dam, a high natural mound of stones, curiously formed and colored, stretching far into the Baltic. Tradition says, that the sea threw up these

stones in one night: it was, perhaps, the effect of an earthquake. Three miles distant from Dobberan is a bathing-house, the oldest establishment for sea-bathing in Germany. It was founded by the duke in 1793; and to it Dobberan has been chiefly indebted for its celebrity.

DOBROWSKY, Joseph, abbé, born in 1754, doctor of philosophy, member of the royal Bohemian society of sciences, and several other societies, lives at Prague, in the family of count Nostitz. He is the most learned Sclavonian in the Austrian empire. Beside other works, he has written a History of the Language and ancient Literature of Bohemia (revised edition, Prague, 1818); and a work entitled *Methodius and Cyrillus, the apostles of the Sclavonians*. He is now preparing a critical edition of *Jornandes*, for the society of ancient German history at Frankfort.

DOCK; a name applied to different species of the genus *rumex*. These are large herbaceous plants, with stout roots, alternate and often entire leaves, and bearing panicles of small greenish flowers. Several species have been introduced into our gardens from Europe, and have become troublesome weeds. Their roots have an austere taste, are astringent and styptic, and the seeds are sometimes employed in hemorrhage. The root of the water-dock (*R. aquaticus*) strikes a black color in a solution of sulphate of iron. About 60 species of this genus are known, five or six of which are really natives of the U. States. The term *dock* is frequently applied to other large weeds.

DOCKS. The word *dock* was formerly applied to the slip or excavation made for the purpose of building or repairing a vessel; and was distinguished as a *dry dock* when furnished with flood-gates to prevent the influx of the tide, if required; and as a *wet dock* when, having no flood-gates, the vessel could only be cleaned or repaired during the period in which the tide left her accessible. These slips or docks are still used. At present, the name of *graving or building dock* is more generally given to what we have termed *dry dock*, which latter term is applied to those docks or basins left dry by the tide; while the appellation *slip* is confined to the narrow inlet for building or repairing, unprotected by gates. During the growth of the maritime power and the commerce of Europe, it was found highly inconvenient to load and unload vessels in a tide-river or in a harbor not entirely land-locked; for either the ships could not be brought close to the wharves, or, when

conducted there at the flood of the tide, they were left dry at the ebb, and suffered continual damage by straining, by delay from neap tides, and other accidents and inconveniences. To obviate these inconveniences, improvements in the existing docks or slips were made from time to time, until England, taking the lead, introduced a system of floating docks, which have greatly contributed to her advancement and prosperity. Many of the principal maritime ports of Europe are provided with dry docks for building and repairing vessels; and of these Toulon, Havre and Brest have the most remarkable. Most seaport towns are provided with graving docks for the repairing of ships; but it is only in the British islands that the system has been carried to any extent of forming large basins or floating docks, furnished with flood-gates for the reception of shipping to load and unload, wherein the vessel remains safe at the quay-side. The docks of Liverpool were the first constructed in England; and many other maritime towns have been induced to follow her example. It is scarcely 30 years since nearly the whole of the vessels that entered the port of London were obliged to remain moored in the open stream of the Thames. The example which Liverpool had set for nearly a century pointed out the remedy for the existing evils, and the construction of floating docks in the port of London was resolved on. The first constructed, and those nearest the trading part of the metropolis, are called the *London docks*. They are just below the site of the Tower, and on the left bank of the Thames; were begun in 1800, and completed in 1805. The dock, properly so called, is 420 yards in length, 276 yards in breadth, and 29 feet in depth; its superficies is equal to 25 acres; that of the basin communicating with it is above $2\frac{1}{2}$ acres; and, including the ground occupied by warehouses, sheds and quays, the whole premises contain a superficies of 110 acres. Excepting those ships that trade to the East and West Indies, every vessel, whether English or foreign, may enter the London dock upon paying the duties, to unship her cargo or take in a new lading. For the convenience of business, ranges of sheds, low, and of a very simple construction, have been erected along the sides of the dock and near the edges of the quays, into which cargoes are removed. Behind these sheds, and in a parallel direction to them, stands a line of magnificent warehouses, four stories high, with spacious

vaults, into which the casks are conveyed by inclined planes. These buildings occupy a superficies of 120,000 square yards. The cellars are appropriated to wines and brandies, and railways, or rather tramways, running in all directions, facilitate labor. The London docks have their several parts perfectly adapted to each other, and are of the most admirable construction. The gates, like all those whose size much exceeds 20 feet, instead of being straight, are curved on the side on which the water presses. The *West India docks* are on the left bank of the Thames, at the distance of about one mile and a half below the London docks. They are situated on the base of a tongue of land of the Isle of Dogs—a sort of peninsula formed by a long circuit of the river. The West India docks are much superior to the London, both in extent and regularity. These vast works were undertaken and executed by an association of private individuals, and by means of a mere subscription. 27 months sufficed to accomplish the whole. The excavations of the West India docks were begun on the 12th of July, 1800; and as early as the month of September, 1802, vessels entered the import dock! At the highest tides, the depth of water in the two docks is 24 feet; they are formed parallel to each other; their common length is about 890 yards. The largest, which has a superficies of above 30 acres, is destined for those vessels returning to the West Indies, which deposit their cargoes in the warehouses of this artificial port. The second, the superficies of which is about 25 acres, receives the vessels laid up in ordinary, or taking the outward-bound cargoes. These docks, with their basins, and the locks which connect them with the river, present an area of 68 acres of ground, excavated by human hands, for the reception and moorage of vessels. The total superficies, including that of the quays and warehouses, is 140 acres. During the busy season, this establishment employs about 2600 workmen. It can admit, at the same time, 204 vessels in the import, and 195 in the export dock, forming a total of 120,000 tons. During the first 15 years, 7260 vessels entered them. Upon the quays, under the sheds, and in the warehouses, there have been deposited, at the same time, 148,563 barrels or casks of sugar, 70,875 barrels and 433,648 bags of coffee, 35,158 pipes of rum and Madeira wine, 14,021 logs of mahogany, 21,350 tons of logwood, &c. At the upper and lower entrances of the two docks, a basin

presents three locks of communication. The first communicates with the Thames; the water is kept in it by means of double gates. The second and third locks lead respectively into the export and import docks; they have also double gates. By this means, the vessels are able to come in and go out independently of the state of the tide; they may remain in the basin as long as is judged convenient. The water of the docks being but very little higher than that of the basins, it does not press violently on the gates of the locks. It should be also observed, that this water, having had time to settle in its previous passage through the basin, hardly deposits any sediment when introduced into the docks. The *East India docks*, belonging to the East India company, are inferior to the West India docks in magnitude, but equal in point of construction and security of property. Having to receive vessels of 2500 tons, they are deeper than the West India docks, and have never less than 23 or 24 feet water.

DOCK-YARDS; arsenals containing all sorts of naval stores, and timber for ship-building. In England, the royal dock-yards are at Chatham, Portsmouth, Plymouth, Deptford, Woolwich, and Sheerness, where the king's ships and vessels of war are generally moored during peace, and such as want repairing are taken into the docks, examined, and refitted for service.

DOCTOR. The title of *doctor* originated at the same time with the establishment of the universities. The dignity connected with it first received public sanction at the law university in Bologna, between 1128 and 1137, where the celebrated Irnerius (Werner) began to give instructions in law, in 1128, and was confirmed by the emperor as professor of law. He is said to have prevailed on the emperor Lothaire II, whose chancellor he was, to introduce the dignity of *doctor*. From the faculty of law, this title passed to that of theology. The faculty in Paris first conferred the degree of *doctor of divinity* on Peter Lombard, who, in 1159, became bishop of Paris. William Gordenio, of the college at Asti, in 1329, was the first person who was promoted to the dignity of *doctor artium et medicinæ*. The doctorate of philosophy was established last, because the faculty of philosophy was formed the latest. The title of *magister* was more common among the members of this faculty. The degree of *doctor* is either conferred publicly, with certain ceremonies, or by diploma. On the

continent of Europe, the order of rank is this—doctor of theology, of law, of medicine, and of philosophy; but in England and the U. States of America, the doctor of laws ranks first, and the doctor of divinity next. *Doctor of medicine* is a professional title.—The degree of *doctor of music* is conferred at the universities of Oxford and Cambridge (England). The great Haydn and Romberg received this title from the university of Oxford.

DOCTORS' COMMONS. (See *College of Civilians*.)

DOCTRINAIRES. Since the second restoration of the Bourbons, a small number of deputies in the French chamber would neither rank themselves among the friends of absolute power, nor among the defenders of the revolution. They supported Decazes, while he was minister; and several of them held offices in the ministry, as, for instance, the counsellors of state Camille Jordan and Royer-Collard. Their system embraced a constitutional monarchy, allowing the government more power than the ultra-liberals would admit, and, on the other hand, restricting the royal power more, and admitting less approach towards the old form of government, than the ultra-royalists demanded. They retired with Decazes, and afterwards joined the liberal opposition. The first orator among them was Royer-Collard, and their most distinguished writer out of the chamber, Guizot. (See *Chambers*.)

DODD, William, an English clergyman, born in 1729, the son of a clergyman, was educated at Cambridge. In 1750, he married without the means of support; in 1753, took orders, and soon became one of the most popular preachers in London. An expensive mode of living rendered his circumstances embarrassed, and he became the author or editor of several works which afforded him large profits. In 1764, he was chosen one of his majesty's chaplains, and was active in the formation of a society for the relief of persons confined for small debts. Being now much involved in debt, he disgraced his station, and violated the rules of common honesty, by offering a bribe to the lord chancellor's lady if she would procure his nomination to a vacant rectory. The lady was indignant, and informed the chancellor of the offer, who procured Dodd's name to be struck from the list of the king's chaplains. To escape from the disgrace which attended the knowledge of his conduct, he went to Geneva, where he met with the earl of Chesterfield, to whom he had been

tutor. This nobleman afterwards presented him with a living. In 1777, he committed a forgery upon his patron, by which he obtained a large sum of money, which he probably hoped to replace, and thereby avoid detection. But the offence was scarcely committed before the criminal was discovered. He was imprisoned, tried, convicted, and executed at Tyburn, notwithstanding great efforts to procure his pardon. He died with all the marks of sincere contrition for the crimes he had committed and the scandal he had brought upon his profession. His works were numerous.

DODD, Ralph, a civil engineer, the original projector of a tunnel under the Thames, and various other public works of importance. In 1795, he published an Account of the principal Canals in the known World, with Reflections on the great Utility of Canals. In 1798, he laid before the public his plan for a tunnel under the Thames, which was approved by government; but the scheme was abandoned soon after its commencement. He had also a share in the improvement of steam-vessels; and the first impetus to the scheme for navigating by steam in England was given by a patent which he obtained for a steam-boat on the Thames, from London to Gravesend, which, however, was not carried into effect. He afterwards navigated, in a steam-vessel, round the coasts of England and Ireland. In 1822, he was severely wounded by an explosion of the boiler of a steam-packet, and, after lingering a few months, died at Cheltenham, in April of that year.

DODDRIDGE, Philip; an eminent dissenting divine. His father was a tradesman in London, and he was born there in 1702. After some previous education, he became the pupil of Mr. John Jennings, who kept a theological academy. On the death of his tutor, he succeeded to the situation, but removed the seminary, in 1729, to Northampton. There he resided nearly 22 years, filling his station as a minister and academical preceptor with great credit. He died Oct. 26, 1751, at Lisbon, whither he had gone in the hope of deriving benefit from the change of air, in a pulmonary complaint. Doctor Doddridge distinguished himself by a commentary on the New Testament, published under the title of the *Family Expositor*, which became deservedly popular, and has gone through many editions. After his death appeared a Course of Lectures on the principal Subjects of Pneumatology, Ethics and Divinity, with References to the most con-

siderable Authors on each of those subjects (4to., 1763; republished, with improvements, by doctor Kippis, in 1794, 2 vols., 8vo.). Doctor Doddridge was also the author of sermons, hymns, devotional treatises, &c.

DODECANDRIA (from *δωδεκα*, twelve, and *ἀνρ*, man); the 12th class of Linnæus, in botany, because it comprises plants with hermaphrodite flowers, that have 12 male organs. It is, however, not limited to this number: several genera of this class have 16, 18, and even 19 stamens. The essential character is, that the stamens, however numerous, are inserted into the receptacle.

DODINGTON, George Bubb (lord Melcombe Regis), was the son of a gentleman of fortune; or, as others say, of an apothecary, named Bubb, who married into a wealthy family, in Dorsetshire. He was born in 1691, was elected member of parliament for Winchelsea, in 1715, and was soon after appointed envoy to the court of Spain. In 1720, by the death of his maternal uncle, he came into possession of a large estate, and took the surname of *Dodington*. In 1724, having closely connected himself with sir Robert Walpole, he was appointed a lord of the treasury, and became clerk of the pells in Ireland. He afterwards joined the opposition, and, on the fall of Walpole, became treasurer of the navy. This party he also quitted, in order to lead the opposition under Frederic, prince of Wales, whose death for some time arrested his career. In 1755, he accepted his former post of treasurer of the navy, under the duke of Newcastle, but lost it the following year. On the accession of George III, he was early received into the confidence of lord Bute; and, in 1761, was advanced to the peerage by the title of *lord Melcombe*, and died the following year. This versatile politician was generous, magnificent and convivial in private life, and the patron or friend of Young, Thomson, Glover, Fielding, Bentley, Voltaire, Lyttelton and Chesterfield, who, with many of meaner pretensions, mingled at his hospitable table. He is best known by his celebrated Diary, published in 1784, by Henry Penruddock Wyndham, Esq. A more curious exposition of avarice, vanity, servility and selfishness, as a place-hunter and trading politician, has seldom been exhibited. It is a most extraordinary instance of a self-recorded and seemingly unconscious prostration of honorable and manly feelings to the acquirement of place, emolument and court favor.

DODONA; a celebrated place in Epirus, built, according to tradition, by Deucalion, containing one of the most ancient oracles in Greece. The oracle belonged to Jupiter, and near the splendid temple was a sacred grove, in which there was a prophetic oak. Jupiter, says the fable, had presented to his daughter Thebe two doves, which possessed the faculty of speaking. One day they left Thebes in Egypt, taking their course, the one to Libya, where it founded the oracle of Jupiter Ammon, the other to Epirus, where, alighting on an oak tree, it announced, in a loud voice, to the inhabitants, that it was the will of Jupiter to establish there an oracle. The prophetic priestesses announced the divine communications in different ways. They approached the sacred tree, and listened to the rustling of its leaves, or, standing by the fountain at the foot of the tree, observed the murmuring of the water which gushed forth from the earth. They also prophesied from the sounds issuing from brazen vessels, which were suspended from the pillars of the temple, &c.

DODSLEY, Robert, an ingenious poet and dramatist, was born of parents in humble life, at Mansfield, in Nottinghamshire, in 1703. He was apprenticed to a stocking-weaver, but left that employment, became footman to the honorable Mrs. Lowther, and published by subscription a volume of poems, entitled the *Muse in Livery*, which attracted public favor less from its intrinsic merit than from the situation of the author. His next effort was the *Toy-shop*, a dramatic satire on the fashionable follies of the time. Pope patronised this piece, and, through his influence, it was brought upon the stage in 1735. Dodsley was enabled, by his profits as an author, to set up a bookseller's shop in Pall-Mall, which ultimately proved a very prosperous concern. He next wrote the farce of the *King and the Miller of Mansfield*, founded on an old ballad; which succeeded so well, that he produced a sequel to it, called *Sir John Cockle at Court*. In 1741, he brought out a musical piece, entitled the *Blind Beggar of Bethnal Green*; and, in 1745, he made an attempt to introduce on the stage a new species of pantomime, in *Rex et Pontifex*. A loyal masque in honor of the peace of Aix-la-Chapelle, appeared in 1749. His next work was the *Economy of Human Life*, a well known collection of moral maxims. He wrote a tragedy, entitled *Cleone*, which had some success on the stage, but possesses no extraordinary merit. A selection of Fables

in prose, with an *Essay on Fable* prefixed, was one of his latest productions. Having acquired a competent fortune by his double occupation of author and bookseller, he retired from business. He died at Durham, in 1764. He planned the *Preceptor*; the *Collection of Old Plays*, 12 vols., 12mo.; and the *Collection of Poems* by different Hands, 6 vols., 12mo.

DODWELL, Henry, a critic and theological writer of distinction, was born at Dublin, in 1641, and, owing to family misfortunes during the Irish rebellion, and the death of his father, was early subjected to a life of want and dependence. Sir Henry Slingsby, his mother's brother, at length enabled him to obtain some education. In 1656, he became a student of Trinity college, Dublin, where he distinguished himself by his application, and was chosen to a fellowship. This station he resigned in 1666, because he had scruples relative to the lawfulness of taking orders in the church, as enjoined by the statutes of the college. He then visited England, and for some time resided at Oxford. Returning to Ireland, he began his career of authorship with a preface to a theological tract of his tutor, doctor Stearn. His next production was entitled *Two Letters of Advice*; 1. for the Susception of Holy Orders; 2. for Studies Theological, especially such as are rational. To the second edition of this work (1681) was annexed a *Discourse on the Phœnician History of Sanchoniathon*, which he deemed spurious. In 1674, he came again to England, and settled in London, where he continued to employ his pen. In 1688, he was chosen Camden professor of history at Oxford. After the revolution, his high-church principles inducing him to espouse the cause of the nonjurors, he was deprived of his office. He died in 1711. He produced a multitude of works relating to theological and classical literature. Of these, the most valuable is entitled *De veteribus Græcorum, Romanorumque Cyclis, obiterque de Cyclo Judæorum Ætate Christi, Dissertationes X. cum Tabulis necessariis*, &c. (folio); and another, entitled *An Epistolary Discourse*, proving from the Scriptures and the first Fathers, that the Soul is a Principle naturally mortal, but immortalized actually by the Pleasure of God, to Punishment or to Reward, by its Union with the divine baptismal Spirit; where it is proved that none have the Power of giving this divine immortalizing Spirit since the Apostles, but only the Bishops. This work gave rise to a warm controversy, and subjected the author to much obloquy.

DOE, JOHN, and RICHARD ROE. (See *Bail*, and *Writ*.)

DOG (*canis familiaris*). To no animal is mankind more indebted for faithful and unswerving affection than to the dog. His incorruptible fidelity, his forbearing and enduring attachment, his inexhaustible diligence, ardor and obedience, have been noticed and eulogized from the earliest times. This valuable quadruped may be emphatically termed the friend of man; as, unlike other animals, his attachment is purely personal, and uninfluenced by changes of time or place. The dog seems to remember only the benefits which he may have received, and, instead of discovering resentment when he is chastised, exposes himself to torture, and even licks the hand from which it proceeds. Without the aid of this almost reasoning animal, how could man have resisted the attacks of the savage and ferocious tenants of the forest, or have procured sustenance in those ages of the world when agriculture was unknown!—When we attempt to trace the source or origin of the species, it will be found that the changes and varieties, which the influence of domestication and the intermixture of races have produced, are so multifarious and interminable as to baffle all research. Pennant is of opinion that the original stock of dogs in the old world is with great reason supposed to be the jackal; that from their tamed offspring, casually crossed with the wolf, the fox, and even the hyæna, have arisen the numberless forms and sizes of the canine race. Buffon, with much ingenuity, has traced out a genealogical table of all the known dogs, deducing all the other varieties from the shepherd's dog, variously affected by climate, and other casual circumstances. From the recent observations of travellers in the high northern parts of this continent, where, although dogs have been employed for an incalculable length of time, they still retain much of the external appearance and general carriage of a wild animal, it would seem that Pennant's suggestion is worthy of attention. But, at the same time, it should be remarked, that the breed of dogs, produced from the wolf and varieties of the domestic dog, during a long succession of generations, still retains marked characteristics of the predominance of the savage qualities derived from its untamed progenitors, in the keen and vivid expression of the eye, ferocity of disposition and severity of bite. It is also a singular fact, that the race of European dogs evince as great an antipathy to the Esquimaux species as they do to a wolf.

Linnaeus has asserted that the tail of this animal, in all its species and varieties, invariably bends to the left; but, although such is very often the case, it is by no means universal, as the slightest observation will demonstrate. Desmarest, however, has remarked a peculiarity as respects the tail of dogs, which appears much better entitled to rank as a specific character; that, whenever this member is of white united with any other color, the white is always terminal. The same remark applies to other species of this genus equally with the dogs. Naturalists have divided dogs into several classes: 1. *mastiffs*, including the dog of New Holland, the mastiff, (particularly so called), the Danish dog, and the varieties of greyhound; 2. the *spaniels*, including the spaniel and its varieties, the water-dog, the hound, the terrier, the shepherd's dog, the wolf-dog, the Siberian dog, the Esquimaux dog, and the alco or Peruvian dog; 3. *bull-dogs*, consisting of the bull-dog and its varieties, the house-dog, the turnspit, the pug, &c. The sagacity and attention of the dog are so great, that it is not difficult to teach him to hunt, dance, and exhibit a thousand tricks. The mode in which he is taught to point out different cards that are placed near him is this:—He is first taught, by repeated trials, to know something by a certain mark, and then to distinguish one ace from another; food is frequently offered him on a card he is unacquainted with, after which he is sent to search it out from the pack; and, after a little experience, he never mistakes. Profiting by the discovery of receiving food and caresses for his docility, he soon becomes able to know each particular card, which, when it is called for, he brings with an air of gayety, and without confusion. But of the attainments by which the dog has been distinguished, that of learning to speak is the most extraordinary. The celebrated Leibnitz communicated a fact of this nature to the royal academy of France; and were it not that he asserts, that he himself was a witness of the phenomenon, we should scarcely have dared to report the circumstance. The dog, from his account, could articulate about thirty words, but it was necessary that they should be first pronounced to him.—Dogs are found in all parts of the world, with the exception of a few groups of islands in the southern Pacific ocean. It is only in temperate climates that they preserve their ardor, courage, sagacity and other talents. When transported to very hot countries, they lose those qualities for which we admire them.

These animals form an important article of food among many nations. In China, the Society islands, &c., young puppies are considered a great delicacy, and are allowed by Europeans, who have overcome their prejudices, to be very sweet and palatable.—This taste for dog's flesh is of very early origin. The ancients regarded a young and fat dog as excellent food; and Hippocrates placed it on a footing with mutton and pork, and, in another place, observes, that the flesh of a grown dog is wholesome and nourishing. The Romans admired sucking puppies, and sacrificed them to the gods, as the most acceptable offering. Virgil has not thought the praise of dogs a subject unworthy of his pen. He recommends it to the husbandmen of Italy to pay particular attention to the rearing and training of dogs.* The dog is born with its eyes closed; they do not become opened until the tenth or twelfth day; its teeth begin to change about the fourth month, and its growth is perfected in two years. The female generally has a litter of from six to twelve pups. The dog seldom lives beyond fifteen years. (See *Bloodhound, Bull-Dog, Greyhound, Hound, Mastiff, Pointer, Spaniel, Shepherd's Dog.*)

DOG-BANE (*apocynum androsæmifolium*, Lin.), a perennial American plant found from Canada to Carolina, has an erect smooth stem from three to five feet high, and leaves acute, entire, and two or three inches long.—The whole plant is lactescent: the root is intensely bitter and nauseous. It is considered as containing a bitter extractive principle, soluble in water and alcohol, a coloring principle soluble in water only, a very large quantity of caoutchouc, and a volatile oil.—It is a very active plant, highly valued by our southern Indians. The root is the most powerful part, and is much employed by our country physicians instead of ipecacuanha. Thirty grains of the recently powdered root evacuate the stomach as effectually as two thirds of this quantity of ipecacuanha, by which name it is known in various parts of the Eastern States. Its power is diminished by keeping, and destroyed by age. Doctor Bigelow remarks, that we have very few indigenous vegetables which exceed this apocynum in bitterness, and thinks the sensible and chemical properties of the root promise a good effect, when given in small doses as a tonic medicine.

DOG-DAYS. This name is applied to the

period between the 24th July and 24th August, because the dog-star (Sirius), during this period, rises with the sun. The heat, which is usually most oppressive at this season, was formerly ascribed to the conjunction of this star with the sun.

DOGÈ; formerly the title of the first magistrates in the Italian republics of Venice and Genoa. (q. v.) He was chosen from the nobility, who governed the state, and formed a tyrannical aristocracy. In Venice, he held his dignity for life; in Genoa, for two years. His power became, by degrees, very limited. In rank he was considered only equal to a duke, though the republic of Venice was in dignity equal to a kingdom. (See *Ceremonial.*)

DOG-FISH; the popular name of several species of the genus *squalus*, or shark, which are arranged by Cuvier under his sub-genus *scyllium*. *S. canicula* and *S. catulus* are the two most common species, and those in particular to which the trivial name is given. In their general anatomy, they differ but little from the other sub-genera of the great shark family, so well known for their ferocious and savage habits. The *dog-fishes*, though among the smallest of the tribe, manifest propensities equally cruel with those which have rendered the white shark and others so justly dreaded. Although seldom or never injurious to man, they commit great ravages in the fisheries, and, where they abound, constitute one of the greatest nuisances of the fishermen. Exceedingly voracious, and devouring almost every thing they encounter, the mischief they occasion by taking the baits, and very often the hooks, of the deep sea lines, is very considerable, and not at all compensated for by the flesh of those which are captured. The sub-genus is characterized by having a short, obtuse snout; the nostrils situated near the mouth, and in a sinus, or groove, which runs along the edge of the upper lip, partially covered by two lobes or productions of the skin; teeth with a large triangular point, and a smaller one on each side.—The larger species, *S. canicula*, is distinguished by the following characters: blackish brown, marked with numerous small blackish spots; length 3 to 5 feet; inhabits the seas of almost every portion of the globe; swift, voracious, and very powerful; follows ships to feed upon the refuse which is thrown overboard; feeds on small fish mollusca, and destroys great numbers of the young of its own species; breeds several times a year, and brings forth numerous individuals at a birth. The young are hatched from the egg, in the compli-

* Nec tibi cura canum fuerit postrema; sed una Velocis Spartæ catulos, æremque molossum, Parce sero pingui, &c.—*Georg.* lib. iii. v. 404.

cated oviducts of the female, and are born alive. The eggs are similar to others of the family, and covered by a tough membranaceous integument. The skin of these fish is beset with numerous small asperities, which render it, when dried, well calculated for polishing wood, and for other mechanical purposes. When alive, it has a strong musky smell.—*S. catulus*, the lesser dog-fish, or rock shark, resembles the former in its general appearance and habits, but the spots with which it is marked are larger and more scattered. It has very frequently been confounded with it, and by some authors described as the male; color gray-brown, spots blackish, unequal, rounded; dorsal fins equal, nostrils bilobate; inhabits rocky bottoms, and preys principally on *crustacea* and shell fish; produces eighteen or twenty at a time. The young evince their ferocious propensities very soon after birth, and are destroyed by the larger individuals of their own species.—The flesh of all the species is hard, dry and unpalatable, requiring to be well-soaked before it is eaten. Oil, in considerable quantity, is obtained from the liver. Poisonous effects are, at certain times, observed in consequence of eating the livers of dog-fish; and some cases are recorded, in which the most distressing illness has been occasioned, followed by a heavy, torpid stupor of two or three days. The patients were afterwards affected by an erythematous eruption, which extended all over the body, and which was terminated by a general peeling off of the skin.—M. Cuvier has divided the genus *squalus* into numerous sub-genera, which include many new and extraordinary species. The sub-genus *scyllum* is now divided into two sections:—Sect. 1. anal fin situated under the interval between the two dorsals; sect. 2. anal fin placed posterior to the second dorsal.—The first division includes *S. canicula*, *S. catulus*, &c.; the second, *S. africanum*, *S. tuberculatum*, &c.

DOGGER; a Dutch vessel navigated in the German ocean; it is equipped with two masts, a main and a mizzen-mast, and somewhat resembles a ketch. It is principally used for fishing on the Dogger bank.

DOG-GRASS (*radix graminis*; *gramen caninum*; *triticum repens*, Lin.); a perennial plant, very common in uncultivated grounds; root repent; stems straight, about two feet high; leaves soft and green; spike elongate, compressed; spikelets distichous, unarmed, and formed of from four to five flowers. Dog-grass root is long, cylindrical, thin, knotty, white in-

ternally, yellowish and skinny externally, inodorous, of a farinaceous and sweet taste. This root is used in medicine.—Among the demulcent substances, dog-grass is one of the most frequently employed in France. It is used in most of the inflammatory and febrile diseases, and especially in those of the urinary passages. It was formerly recommended as a powerful diuretic, and was employed as such in dropsies; but we know, at present, this opinion to be erroneous.

DOGMAS, HISTORY OF; a branch of theology, more attended to in the universities of the north of Germany, than any where else. Its object is to exhibit, in a historical way, the origin and the changes of the various Christian systems of belief, showing what opinions were received by the various sects, in different ages of Christianity, the sources of the different creeds, by what arguments they were attacked and supported, what degrees of importance were attached to them in different ages, the circumstances by which they were affected, and the mode in which the dogmas were combined into systems. The sources of this branch of history are the public creeds, the acts of councils, and other ecclesiastical assemblies, letters and decrees of the heads of churches, liturgies and books of rituals, the works of the fathers of the church, and of later ecclesiastical writers, as well as the narrations of contemporary historians. It is easily seen how important and interesting a study this is, teaching, as it does, modesty and forbearance in the support of particular opinions, by showing the vast variety of those which have afforded subjects of bitter controversy at particular periods, and have then passed away into oblivion; and how much learning, industry, and critical acuteness, are often required, to make a thorough investigation of contested points of doctrine. The distinction between this branch of history and ecclesiastical history is obvious. It is the same as exists between political history and the history of politics. Lectures on this subject are delivered in all the German universities. It is evident that the views taken of the history of dogmas must vary according to the sect to which the writer belongs; because it does not consist of a series of facts, but of the representation of the development of certain ideas, which must appear different, according to the idea which is considered by the writer as the most important. This is more or less the case with all history, in proportion as the writer abandons mere relation for an

analysis of the nature, the causes and consequences of what he describes. Thus a republican would give a very different history of politics from a royalist; and a writer of the nineteenth century a different history of civilization from that which would be given by a writer of the seventeenth. One division of dogmatical history, by a Protestant professor, is the following:—1st period; from the foundation of Christianity, to the beginning of gnosticism (about 125, A. D.). The 2d period (from 125 to 325, A. D.) is that of the dawn of speculation, and the rise of the desire for settled creeds, and systems of Christianity, which appeared very strongly in the council of Nice, in 325. The 3d period (from 325 to 604) is that of the increasing authority of councils, and the heads of the church. Able men, as Athanasius, the great Basil, the two Gregories, Jerome, Augustine, and the popes Leo I and Gregory I, exercised great influence in settling the dogmas during this period. 4th period; from the death of Gregory, in 604, to Gregory VII, in 1073; characterized by the rapid growth of the papal power. In this period, the first system of dogmatics was settled by the influence of John of Damascus (died in 754), founded on a systematical revision of the dogmas of the church. 5th period; from Gregory VII, in 1073, to Luther, in 1517; in which the power of the popes attained its highest point, and, at the same time, a new spirit of philosophy arose, which, influenced by mistaken notions of the Greek philosophy, gave rise to the scholastic theology, the opposition to which gave birth to mysticism. 6th period; that of the reformation, the period since which, of course, admits of many divisions, according to the different views which may be taken of the subject.

DOGMATICS; a systematic arrangement of the articles of Christian faith (dogmas). It is the duty of the compiler of such a system, to collect the religious ideas, which are scattered through the Holy Scriptures, to explain, establish and combine them. No one can successfully treat this important but difficult subject, who is not well acquainted both with exegesis and philosophy. The first attempt to furnish a complete and coherent system of Christian dogmas was made by Origen in the 3d century, who was succeeded by Aur. Augustine in the 4th, by Isidore of Seville in the 6th, and by John of Damascus (see *Damascenus*) in the 8th century. In the middle ages, ingenious examinations of the Christian doctrines

were made by the schoolmen; but, agitating as they did subtle questions of little practical importance, they loaded the science with useless refinements. Among the Protestants, Melancthon was the first who wrote a compendium of the Christian doctrine, which is still justly esteemed. This science has been successfully cultivated by the Protestant theologians since the last century.

DOGS, ISLE OF; in England, in the county of Middlesex, opposite Greenwich. In this island are magnificent docks, with large and convenient warehouses for the accommodation of the West India merchants. (See *Docks*.) One of the largest canals ever attempted in England has been cut nearly one mile and a quarter in length, 142 feet wide at top, and 24 feet deep, across the Isle of Dogs, for the purpose of shortening the passage of vessels to and from the pool, and avoiding the long circuit by Greenwich and Deptford.

DOG-STAR; Sirius; the star that gives their name to the dog-days. (q. v.)

DOGWOOD (*cornus florida*) is a small tree, inhabiting the U. States from the 43d parallel of latitude to Florida, and extending westward beyond the Mississippi. The leaves are oval, entire, pointed, and whitish beneath; the flowers small, yellowish, and surrounded with an involucre composed of four large white leaves; the berries are red, and remain on the tree during a great part of the winter. Throughout a great part of the U. States, the large white involucres of the dogwood, together with the rose-colored flowers of the Judas tree (*cercis Canadensis*) make a beautiful appearance in the spring. The dogwood attains the height of 20 or 30 feet, and has a trunk 8 or 10 inches in diameter; the wood is white, hard, of a fine texture, and much esteemed; it is used by cabinet-makers for inlaying, &c. different ornamental works; for the handles of tools, plane-stocks, &c., it is considered little inferior to box. The bark of this tree, as well as that of several other species of *cornus* inhabiting Canada and the Northern States, possesses similar properties with the Peruvian bark, and is employed successfully in the cure of intermittent fevers. The bark of the root, stem and branches tastes very much like this famous bark; it is bitter, astringent, and slightly aromatic. Its astringency is, however, stronger than that of the Peruvian bark. This bark is, without doubt, one of our most valuable native articles. As a substitute for the Peruvian bark, much has been written in commendation of it.

The resemblance extends to its chemical and physical, as well as therapeutical properties. The bark of the dogwood is extensively employed by country practitioners in intermittent fevers, and the report they give of it is very favorable and satisfactory. It is remarked that, in its recent state, it is apt to disagree with the stomach, and to produce pains in the bowels; but, in order to prevent this effect, it is simply needful to add to it, when used, a few drops of laudanum, or to use the bark after it has been collected for some time. This bark may be used with still greater advantage in intermittents, if combined with serpentaria. The *C. sericea* and *C. circinata*, Linn. (swamp and round-leaved dogwood), seem to possess the same properties as the preceding. Some other plants have received the name of dogwood in the U. States, particularly the poisonous sumach (*rhus vernix*).

DOHM, Christian William von; a statesman and scholar, distinguished for his principles, genius and merits; born at Lemgo, Dec. 11, 1751. He was the son of a Lutheran minister in that city, and cultivated his taste by the study of ancient literature and the English classics. He lived for some time in a private condition at Berlin, where he made himself known by his writings. He was then employed by the Prussian government, and, during the reign of the two last kings and the present, gradually rose from one post to another. He was Prussian ambassador at the congress of Rastadt, in 1797, and, in the name of the whole diplomatic corps, made a report concerning the murder of the two French envoys. He remained in Westphalia while the country was occupied by Napoleon; for, as his estates were in this part of the Prussian dominions, he was compelled to continue his residence there, after they had been separated from Prussia by the peace of Tilsit in 1807. By the command of the French intendant general, he went to Paris in September, 1807, at the head of a delegation of the states of the province and the administrative authorities. After his return, in December of the same year, he was made a member of the council of state; and in February, 1808, he was appointed by the king ambassador to the court of Dresden. A dangerous inflammation of the lungs forced him to retire in April, 1810. He was permitted to reside on his estate of Pustleben, in the county of Hohenstein, till he should be able to take his place again in the council of state. From that time he devoted himself exclusively to his-

torical pursuits. His work *Denkwürdigkeiten meiner Zeit, oder Beiträge zur Geschichte von 1778 bis 1806*, Lemgo and Hanover, 1814—19, 5 vols. (which extend to the death of Frederic the Great) gives much information respecting the most memorable persons and events since 1778, drawn partly from his own observation and experience, partly from other sources. It is esteemed also on account of its clearness, correct spirit, and impartiality. Dohm died at his estate of Pustleben, May 29, 1820.

DORT was the ancient Scottish penny piece, of which twelve were equal to a penny sterling. Two of them were equal to the bodle, six to the baubee, and eight to the acheson. There was also in Lower Germany a small coin called *deut* (pronounced like *doit*) and *dütchen*, the diminutive of *deut*. In the Netherlands, the coin is called *dayt*, and Frisch believes that these words took their origin from the French *tête*, head; the piece of 20 kreuzer is still called, in Germany, *kopfstück* (head-piece).

DOLCE, Carlo (also *Carlino Dolce*), a celebrated painter, of the Florentine school, born at Florence, in 1616, and died there in 1686, was a disciple of Jacopo Vigniali; and his works, in Fiorillo's opinion, bear the character which his name implies. His subjects are principally heads of madonnas and saints, so mild and soft that they have been reproached with want of character. In minuteness and accuracy of finish, he approaches the Dutch school. It must be confessed, however, that in his madonnas we discover frequent repetitions, and that his paintings betray that timidity and melancholy to which he was subject. His works are spread over all Europe; many of them are in Florence. Three of his best pieces are in the gallery at Dresden—namely, Cecilia, or the Organ-Player, Christ blessing the Bread and Wine (which has been very frequently engraved), and Herodias with the Head of John the Baptist. Among his chief productions, also, is Christ on the Mount of Olives, now at Paris.

DÖLL, Frederic William; professor of the art of sculpture in Gotha, born at Hildburghausen in 1750; a distinguished German artist. His first important work was the monument of Winkelmann, which was honored with a place in the Pantheon at Rome. His best works are the Reliefs in the riding-academy at Dessau; a large group representing Faith, Hope, and Charity, for the principal church at Lunenburg; the monument of Leibnitz at Hanover, and Kepler's at Ratisbon. He died at Gotha, March 30, 1816.

DOLLAR; a coin of different value. (See *Coins*.) This word corresponds to the German *thaler*, the Low-German *dahler*, the Danish *daler*, the Italian *tallero*. All these words, together with our *dollar*, are derived from the name of the Bohemian town *Joachims-Thal* (Joachim's Valley), where, in 1518, the count of Schlick coined silver pieces of an ounce weight. These, indeed, were not the first of the kind coined; yet, as they were numerous and very good, they became generally known by the name of *Joachims-thaler*, which is the German adjective of *Joachims-thal*, and also *Schlickenthaler*, from the name of the counts. As these coins were in good repute, *thalers* were also coined in other countries, but of different value: thus originated the *laub-thaler* (leaf-dollar) *Philipps-thaler*, the Swedish copper dollar, &c. In Russia, a dollar is called *jephimock*, from *Joachim*.

DOLLOND, John, an eminent optician of French descent, was born in Spitalfields in 1706. He was brought up a silk-weaver, and carried on that business for many years; but, finding it little congenial to his taste, he devoted himself to the study of mathematics, optics, and astronomy, and at last commenced optician, in conjunction with his eldest son, Peter. His first attention was directed to the improvement of refracting telescopes, an account of which was printed in the *Philosophical Transactions*, vol. xlviii; and he soon after communicated his discovery of the micrometer, as applied to the reflecting telescope. Mr. Dollond then engaged in a defence of Newton's doctrine of refraction, against Euler, which correspondence was also published in the *Philosophical Transactions*. He next constructed object-glasses, in which the different refrangibility of the rays of light was corrected, to which the name of *achromatic* was given by doctor Bevis, on account of their being free from the prismatic colors. In 1761, Mr. Dollond was elected F.R.S., and appointed optician to the king; but died of apoplexy in the same year.

DOLLOND, Peter, eldest son of the preceding, was born in 1730. In 1765, he communicated a paper to the royal society, upon his improvement of telescopes, and another in 1772, on his additions to, and alterations of, Hadley's quadrant. He also gave a description of his equatorial instrument for correcting the errors arising in altitude from refraction. In 1789, he published *Some Account of the Discovery made by his Father in refracting Telescopes*. He died in 1820.

DOLOMIEU, Déodat Guy Silvain Tancrède Gratet de, a geologist and mineralogist, born June 24, 1750, at Dolomieu, in Dauphiny, was received into the order of the knights of Malta while yet a child, and began his novitiate in his 18th year. On his first cruise in the Mediterranean, he killed one of the officers of his galley in a quarrel. He was tried at Malta, and condemned to lose the robe of the order; but the grand-master, considering his great youth, reprieved him; and the pope was at last prevailed on to give his consent to a full pardon. Dolomieu was in prison nine months, and, during his confinement, acquired a taste for poetry. He continued his studies at Metz, whither he was transferred as an officer of a regiment of carbineers, in garrison at that place. The duke de la Rochefoucault became acquainted with him there, and, through his influence, Dolomieu was made a corresponding member of the academy of sciences. In order to devote himself entirely to his studies, Dolomieu left the military service, and returned to Malta, whence he went to Portugal in 1777, in the retinue of the bailli de Rohan. He examined this country, visited Sicily and the neighboring islands, Naples and mount Vesuvius in 1781, travelled over the Pyrenees in 1782, and in 1783 passed through Calabria, which had just been desolated by an earthquake. In consequence of some secret communications, which he made to the grand-master on his return, being betrayed to the court of Naples, which was interested in them, he was forbidden to enter that kingdom, and experienced many difficulties in Malta. Leaving this island again, he visited the mountains of Italy, the Tyrol, and the country of the Grisons. He returned once more to Malta, for the purpose of bringing off his collection, and thence went to France, in May, 1791, where he resided at Roche-Guyon, the estate of his friend the duke de la Rochefoucault, who had fallen a victim to the revolutionary fury. After the 9th Thermidor, he renewed his geological excursions through France, always on foot, with a hammer in his hand, and a bag on his back. In 1796, he was appointed engineer and professor, and, at the establishment of the institute, was made a member of that society. In these capacities, he published several works relative to the theory of the earth and the nature of minerals. He eagerly seized the opportunity of visiting Egypt, offered to him by the French expedition to that country. But the occupation of Malta on the way

made him dissatisfied with the whole undertaking, and the situation of the army in Egypt soon condemned him to inactivity. In March, 1799, he embarked for Europe. On the passage, the vessel sprung a leak, and only succeeded, after great efforts, in reaching the harbor of Tarentum. There the crew were treated as prisoners of war; and, when the rest were set at liberty, Dolomieu was recognised and detained as a prisoner. During twenty-one months, he suffered hardships and privations of every kind. Even books and writing materials were denied him. His firmness, however, sustained him. On the margins of two or three books, which he had contrived to conceal from the eyes of his sentinel, he wrote his treatise on mineralogical philosophy: his pen was a piece of wood, and the soot of his lamp supplied him with ink. In consequence of the peace concluded between France and Naples, March 15, 1801, he obtained his liberty, and received the professorship of mineralogy in the museum of natural history, which had become vacant by the death of Daubenton. His health, however, having been already undermined by his captivity, was entirely destroyed by a journey to Switzerland, Savoy and Dauphiny, in 1801, and he died at Chateauneuf, Nov. 28 of the same year. With a passionate love for geology, Dolomieu united all the qualities, physical and moral, necessary for the successful study of this science; and it is therefore much to be regretted, that he was prevented from combining and systematizing his views and observations.

DOLOMITE; a mineral species, specimens of which occur under considerably diversified aspects. A variety called *bitter spar*, and sometimes *rhomb spar*, is found in crystals, having the form of a rhomboid, with angles varying from $106^{\circ} 15'$ to $107^{\circ} 20'$ and $73^{\circ} 45'$ to $72^{\circ} 40'$. It cleaves with ease parallel to this form. Color grayish, yellowish or reddish brown; hardness a little above that of calcareous spar, but is easily scratched with the knife; semitransparent and very brittle. It is found in steatite or soapstone, disseminated in crystals, varying in size, from three-fourths to one-fourth of an inch in diameter. It has numerous localities in the U. States, one of the most remarkable of which is at Marlborough, in Vermont, where it exists in a soapstone quarry. It is also found abundantly in other countries. A second variety of this species is denominated *pearl spar*. It differs from bitter spar chiefly in the slightly curvilinear faces of its crystals, and in possessing a more shin-

ing, pearly lustre, and usually lighter shades of color, being sometimes quite white. It is found principally in metallic veins accompanying the ores of lead and tin. It occurs abundantly, however, in cavities along with calcareous spar and selenite, in the secondary limestone of Lockport, N. Y. The most abundant variety of the present species goes by the name of *dolomite*. It is massive, or consists of fine crystalline grains, but slightly coherent, and of various shades of white. It constitutes beds of very great extent, and therefore belongs to the class of rocks; and, as such, comes under the division of *primitive rocks*. It exists in great abundance in Litchfield county, in Connecticut, and in the south-western towns of Massachusetts. It abounds in the Apennines, the Tyrol, Switzerland and Tuscany. It is frequently employed as a marble, both in the U. States and Europe. It is composed of carbonate of lime and carbonate of magnesia; but the relative quantity of the two seems not to be exactly the same in all varieties. Its decomposition is conceived to form a good soil for agriculture.

DOLPHIN (*delphinus*). A cetaceous animal, the name of which is improperly applied to a fish, the *coryphæna hippuris*, or dolphin of navigators, so celebrated for the beautiful changes of color which it exhibits when dying. The real dolphin has been rendered famous by the tales related of it by the ancient writers; one of the most familiar of which is the fable of the musician Arion. (q. v.) There are several species of dolphins enumerated by naturalists. Those which occur commonly are *D. delphis*, or common dolphin, *D. rostratus*, and *D. tursio*. Dolphins are cosmopolite animals, inhabiting every sea, from the equator to the poles, enduring equally well the extremes of heat or cold; they are gregarious, and swim with extraordinary velocity, outstripping in their course the fleetest vessels. During the electrical excitement of the atmosphere previous to changes of weather, they are observed to be very active and vivacious, leaping considerable distances out of the water, and displaying, in their rapid movements, their uncommon muscular powers. The characters distinctive of the common dolphin are—black, beneath white; snout porrect, depressed; jaws with forty or forty-two curved, pointed teeth on each side; length eight or ten feet; flesh coarse, rank, and disagreeable (used by the Laplanders, and the inhabitants of Greenland, as food, but is apt

to produce sickness in persons who eat it for the first time); skin smooth, soft, with a layer of very white fat or blubber under it; liver large, yielding a larger quantity of oil than the blubber. The orifice from whence the water, inspired by the mouth, is ejected, is of a semilunar form, with a kind of valvular apparatus, and opens on the vertex, nearly over the eyes. The volume and development of the brain have induced naturalists to consider the dolphin an animal of unusual intelligence, and capable of feeling an attachment to man. Many stories are related of its docility, but, unfortunately, want confirmation. The skeleton presents a modification of the principal bones of the higher mammifera, and the absence of many of minor importance. The structure of the ear renders the sense of hearing very acute, and the animal is observed to be attracted by regular or harmonious sounds. Owing to the flattened form of the cervical vertebræ, which amount to seven, the neck is very short, and, the two first being immovably connected, the motion is very limited. A single bone, composed of or replacing those of the arm, is the support of the pectoral fins: it articulates with a peculiar shaped scapula, and the muscular arrangement is such as to give the fin great force. The whole number of vertebræ amounts to fifty-three, the sacrum being produced to support the tail. Compactness and strength are the characteristics of the genus, and the muscular powers of the tail are proverbial. The food of the dolphin consists of fish, mollusca, &c.; and shoals of dolphins are observed to hover round the herring and other fisheries, in pursuit of their prey. When one of a shoal is struck, the rest are observed to pursue it immediately, probably for the purpose of devouring the wounded animal. One or two young are produced by the female, who suckles and watches them, with great care and anxiety, long after they have acquired considerable size. It is stated by some authors, that they cease growing at ten years of age, and live eighty or a hundred years.—The dolphin respiring by lungs, and not in the manner of fishes, it is compelled to rise to the surface, at short intervals, to breathe, throwing out the water from the blow-hole, or aperture on the head, like a cloud of steam. The color varies in different individuals: some are black, olive or gray, and others mottled, or even quite white. The inhabitants of ancient Byzantium and Thrace pursued a regular fishery of the dolphin, destroying them

with a kind of trident attached to a long line. Figures of this animal are found on antique coins, and very good representations of it occur on the Corinthian medals.

DOLPHIN of navigators; a fish, the *coryphæna hippuris* of authors; celebrated by travellers and poets in their marvellous recitals of its changes of color when expiring. Such changes do occur, and are curious, but by no means so much so as romantic travellers would have us believe. The color of the dolphin is silvery white, spotted with yellowish. Body compressed, elongate, gradually decreasing from the front (which is very obtuse) to the tail; dorsal fin extending from the nape nearly to the caudal; caudal fin large, furcate; anal nearly reaching the base of the caudal; pectorals somewhat falciform; length usually four or five feet, though specimens of six feet in length are occasionally taken. Few fish are more agile, or swim with greater velocity. They abound within the tropics, and are found in all temperate latitudes. In the neighborhood of the equator, they commit great havoc in the immense shoals of flying fish which inhabit those regions, and which constitute the principal food of the *coryphæna*. It is remarkable that, in swallowing their prey, the position of the captured fish is reversed, and it passes down the throat head foremost: by this manœuvre the fins are prevented from impeding its passage. The flesh of the dolphin is coarse and dry, but, to those who have subsisted for a long while on salted provisions, is very acceptable. At certain times, and in particular localities, the flesh acquires a deleterious quality, which has often proved fatal to persons who have eaten of it. The best antidote to its poisonous effect is a copious emetic, administered as soon as any symptom of poison is apparent. The dolphin bites freely at a hook baited with a piece of salted meat, or better with a flying fish, and, from its great strength, affords fine sport to the fisherman.

DOMAIN, or DEMAINE, or DEMESNE (in French *domaine*), in its popular sense, denotes the lord's manor-place, with the lands thereto belonging, which he and his ancestors have from time to time kept in their own occupation. In England the domains of the crown (*terræ dominicales regis*) denote either the share reserved to the crown, in the distribution of landed property at the time of the conquest, or such as came to it afterwards, by forfeitures or other means. They are, at present, contracted within a very narrow com-

pass, having been almost entirely granted to private subjects; and though this was often done in a most injudicious manner, it has been of great benefit to the English nation, by diminishing the power of the crown, and making it dependent on the grants of parliament; whilst, in many other countries, the wealth of the crown has rendered it independent, and strong enough to oppress the subjects, and undertake wars injurious to the public welfare. The rents and profits of the demesne lands of the crown constitute, at present, one branch of the king of England's ordinary revenue. (For more information respecting the history of crown lands in England, see the article *Civil List*.)

In France, there are several different kinds of domains:—1. *Domaine de l'état*, or *public domains*, comprising highways, harbors, rivers, canals, sea-coasts, banks of rivers, fortifications, &c. (*Code Napoleon*, a. 538—541), to which the estates of the emigrants were also added (*Charte Const.*, a. 9). 2. *Domaine* or *dotation de la couronne* (*Senatus Cons.* of January 30, 1810, and law of Nov. 8, 1814). To this class belong the palaces, gardens, forests, farms, crown jewels, &c., of the sovereign, which are all inalienable, and not chargeable with debts, and pass thus from each king to his successor. 3. *Domaine privé* consists of such estates as the king acquires as a private person, and over which he exercises an entire control. But whatever portion of this the king does not dispose of by testament becomes, at his death, a part of the public domains; so, also, whatever a prince possesses, before he ascends the throne, becomes a part of the public domain at the moment he becomes king, and his debts, at the same time, become charges on the public treasury. 4. Napoleon had also a *domaine extraordinaire* (law of Jan. 30, 1810), which consisted of his acquisitions by conquests, and were kept entirely at his disposal: these supplied the means of donations to his generals, &c. The *domaine extraordinaire* has been also retained by the Bourbons (law of May 22, 1816). The administration of these donations was conducted with great wisdom; and Napoleon, as Las Cases relates, dwelt with pleasure on this branch of his government. (See *Dotations of Napoleon*.) There also existed, formerly, domains which were inalienable in the ruling family, but did not belong to the state; and in some countries there are still such. The question, what part of the domain a sovereign may alienate,

what are public domains, and what the private property of the ruling family, &c., is extremely difficult to be decided, in states in which the origin of the domains goes back to periods when few political subjects were distinctly settled, and particularly in countries in which there is no constitution binding the sovereign, and settling the distinction between these different kinds of property. Power will generally decide, instead of justice, whenever it is for the advantage of the sovereign, as has often been the case in Germany. An important question arose in Germany, in regard to the sale of the domains in the kingdom of Westphalia, during the reign of Jerome. The elector of Hesse-Cassel and the duke of Brunswick, having resumed possession of their countries, which had been included in that kingdom, declared the sales void, because, as they said, they never had acknowledged the king of Westphalia. Prussia, which received back a part of the territory which constituted the kingdom of Westphalia, acknowledged the validity of the sale, because it had recognised Jerome Bonaparte as king. Much discussion took place respecting these sales. Austria, as well as Prussia, showed a disposition to favor the purchasers. The diet of the Germanic confederacy showed its weakness on this occasion, as it could effect nothing against the elector and the duke. (Whoever wishes to read a full account of these transactions, is referred to the article *Domainenverkauf*, in the *German Conversations-Lexikon*.)

For the public lands of the U. States, see the article *United States*.

DOMAT, John; an eminent French lawyer, who was born in the province of Auvergne, in 1625. He was king's advocate in the presidial court of Clermont, for thirty years. He died at Paris, in 1696. His treatise, entitled *Les Loix civiles, dans leur Ordre naturel*, was published in 1694, 3 vols. 4to.; and after his death appeared three volumes more, on public law, &c. An improved edition of his works was published in 1777, and there is an English translation of them, 1720, 2 vols. folio.

DOME. (See *Architecture*, vol. i. page 336, right column; also the article *Cupola*.)

DOMENICHINO; the name, among artists, of *Domenico Zampieri*, a painter of great eminence, of the Lombard school, born at Bologna, in 1581. He was sent to study first with Calvart, and afterwards with the Carracci. From the slowness of his performance, he was named, by his fellow-

students, the *ox of painting*; but Annibal Carracci predicted that the ox would "plough a fruitful field." Having contracted a great friendship for Albano, he joined him at Rome, and his former master, Annibal Carracci, jealous of Guido, procured for him the execution of one of the pictures for a Roman church, which had been promised to that great painter. It was a custom with Domenichino to assume, for a time, the passion he was depicting; so that, while working by himself, he was often heard to laugh, weep and talk aloud, in a manner that would have induced a stranger to suppose him a lunatic. The effect was, however, such, that few painters have surpassed him in lively representation. His Communion of St. Jerome has been considered, by some connoisseurs, inferior only to the Transfiguration of Raphael; and the History of Apollo, which he painted in ten frescoes, for cardinal Aldobrandini, is also much admired. Although a modest and inoffensive man, his merit excited so much envy, that he retired to his native city, where he married, and employed himself two years on his famous picture of the Rosary. He was afterwards recalled to Rome, by Gregory XV, who created him his first painter, and architect of the Vatican. Losing this post after the pope's death, he accepted an invitation to Naples, to paint the chapel of St. Januarius. But here he encountered a jealousy so rancorous, that his life became altogether embittered by it; and so great was his dread of poison, that he prepared all his eatables with his own hand. He died in 1641, at the age of sixty. Domenichino, who understood every branch of his art, produced nothing excellent without study and labor; but, in consequence of his great premeditation, no painter has given his pieces more of the properties belonging to the subject. At the same time, his designs are correct; and he succeeded equally in the grand and the tender. Nearly fifty of his pieces have been engraved.

DOMESDAY OR DOOMSDAY BOOK, a very ancient record, made in the time of William the Conqueror, which now remains in the exchequer, and consists of two volumes; the greater contains a survey of all the lands in most of the counties in England, and the less comprehends some counties that were not at first surveyed. The Book of Domesday was begun by five justices, assigned for that purpose, in each county, in the year 1081, and finished in 1086. It was of such authority, that the Conqueror himself submitted, in

some cases wherein he was concerned, to be governed by it. Camden calls this book the *Tax-Book* of king William; and it was further called *Magna Rolla*. There is likewise a third Book of Domesday, made by command of the Conqueror; and also a fourth, being an abridgment of the other books.

DOMICIL. The dwelling had peculiar privileges among the Romans; it was regarded as inviolable; for example, no debtor could be arrested in his domicile; no officer of the police or court could pass the threshold of a private house, to arrest even a person who did not dwell there. These rights and privileges still belong to the dwelling-house in England, the Netherlands and the U. States of America. The name *domicil* implies, in general, a place of residence; in a narrower sense, the place where one lives, in opposition to that where he only remains for a time. (See *Appendix*.)

DOMINGO, St. (See *Hayti*.)

DOMINIC DE GUZMAN, St., founder of the Dominican order, born in 1170, at Calahorra, in Old Castile, applied himself, in his early years, with zeal and ability, to the acquisition of knowledge, was made canon and archdeacon at Osma, in Castile, and was employed with others by pope Innocent III, to discover, confute, and punish heretics, especially the Albigenses in France. This was the origin of the court of the inquisition, and St. Dominic is considered as the first inquisitor-general. As he prescribed to the members of his order a certain number of Pater Nosters and Ave-Marias daily, he is supposed to have introduced the rosary. He died at Bologna, in 1221, and in 1233 was canonized by Gregory IX. In the examination, previous to the canonization, it was proved that he had converted more than 100,000 souls to the true faith. An interesting comparison might be made between St. Dominicus and St. Franciscus, certainly two of the most powerful minds among the saints. St. Franciscus labored all his life to relieve the poor and persecuted, to propagate the gospel among the lower classes, who, in those convulsed periods, were almost entirely excluded, in most countries, from education and instruction in Christianity; whilst St. Dominicus strove to spread Christianity by persecution. The character of the two founders is deeply imprinted on the two orders—the humble Franciscans and the zealous Dominicans. Dante speaks of these two saints, in one of the most beautiful passages in his Paradise.

DOMINICA; one of the Caribbee islands in the West Indies, belonging to Great Britain; situated between Guadaloupe and Martinico; about 29 miles in length, and 16 in breadth, containing 186,436 acres of land. Colquhoun estimated the population, in 1812, at 26,500. An article on the state of the English colonies, in the *Edinburgh Review*, gives it, in 1823, as only 16,554. This same article gives the imports from this island into Great Britain, in 1823, at 39,013 quintals of sugar, 17,136 quintals of coffee, and 14,310 gallons of rum. It was discovered by Columbus, Nov. 3, 1493, on Sunday—hence its name. It contains many high and rugged mountains, among which are volcanoes, that frequently discharge eruptions. From some of these mountains issue springs of hot water, whose medicinal virtues are much commended. Dominica is well watered, there being upwards of 30 rivers in the island, besides a great number of rivulets. The soil, in most of the interior country, is a light, brown-colored mould, and appears to have been washed from the mountains. Towards the sea-coast, and in many of the valleys, it is a deep, black, and rich native earth, which seems well adapted to the cultivation of all the articles of West Indian produce. The principal towns are Portsmouth and Roseau or Charlotte's Town. Lon. $61^{\circ} 23' W.$; lat. $15^{\circ} 32' N.$

DOMINICAL LETTER, in chronology; properly called *Sunday letter*; one of the seven letters of the alphabet, A B C D E F G, used in almanacs, ephemerides, &c., to designate the Sundays throughout the year. In our almanacs, the first seven letters of the alphabet are commonly placed to show on what days of the week the days of the month fall throughout the year. And because one of those seven letters must necessarily stand against Sunday, it is printed in a capital form, and called the *dominical letter*; the other six being inserted in different characters, to denote the other six days of the week. Now, since a common Julian year contains 365 days, if this number be divided by 7 (the number of days in a week), there will remain one day. If there had been no remainder, it is obvious the year would constantly begin on the same day of the week; but, since one remains, it is plain that the year must begin and end on the same day of the week; and therefore the next year will begin on the day following. Hence, when January begins on Sunday, A is the dominical or Sunday letter for

that year: then, because the next year begins on Monday, the Sunday will fall on the seventh day, to which is annexed the seventh letter, G, which, therefore, will be the dominical letter for all that year: and, as the third year will begin on Tuesday, the Sunday will fall on the sixth day; therefore F will be the Sunday letter for that year. Whence it is evident, that the Sunday letters will go annually in retrograde order, thus, G, F, E, D, C, B, A; and, in the course of seven years, if they were all common ones, the same days of the week and dominical letters would return to the same days of the months. But, because there are 366 days in a leap-year, if the number be divided by 7, there will remain two days over and above the 52 weeks, of which the year consists. And, therefore, if the leap-year begins on Sunday, it will end on Monday; and, as the year will begin on Tuesday, the first Sunday thereof must fall on the 6th of January, to which is annexed the letter F, and not G, as in common years. By this means, the leap-year returning every fourth year, the order of the dominical letters is interrupted, and the series cannot return to its first state till after four times seven, or 28 years; and then the same days of the months return in order, to the same days of the week as before. The dominical letter may be found universally, for any year of any century, thus: Divide the centuries by 4, and take twice what remains from 6; then add the remainder to the odd years, above the even centuries, and their 4th. Divide their sum by 7, and the remainder taken from 7 will leave the number answering to the letter required. Thus, for the year 1878, the letter is F. For the centuries, 18, divided by 4, leave 2; the double of which, taken from 6, leaves 2 again; to which add the odd years, 78, and their 4th part, 19, the sum, 99, divided by 7, leaves 1, which, taken from 7, leaves 6, answering to F, the sixth letter in the alphabet. (See *Cycle*, and *Calendar*.)

DOMINICANS, called also *predicants* or *preaching friars* (*prædicatores*), derived their name from their founder, Dominic. At their origin (1215, at Toulouse), they were governed by the rule of St. Augustine; and the principal object of their institution was to preach against heretics. They retained these rules and regulations after they had adopted a white habit, similar to that of the Carthusians, and the character of monks, in 1219. They were called *Jacobins* in France, because their first convent at Paris was in the *rue St.*

Jaques. The Dominican nuns were established, in 1206, by St. Dominic, and increased in numbers after 1218, when he founded a nunnery in Rome. They follow the same rules; they are required, also, to labor, which is not expected of the friars, on account of their higher duties. A third establishment of St. Dominic was the military order of Christ, originally composed of knights and noblemen, whose duty it was to wage war against heretics. After the death of the founder, this became the order of the penitence of St. Dominic, for both sexes, and constituted the third order of Dominicans. These Tertiarians, without making any solemn vows, enjoy great spiritual privileges, for the observance of a few fasts and prayers; they continue, also, in the enjoyment of their civil and domestic relations. Some few companies of Dominican sisters of the third order, particularly in Italy, united in a monastic life, and became regular nuns; the most celebrated of whom is St. Catharine of Sienna. That they might devote themselves with success to the promulgation and establishment of the Catholic faith, which was, in fact, the object of their institution, and the first proof of their zeal for which they gave in the extirpation of the Albigenses, the Dominicans received, in 1272, the privileges of a mendicant order, which contributed greatly to their rapid increase. They filled not only Europe, but the coasts of Asia, Africa and America, with their monasteries and missionaries. Their strictly monarchical constitution, which connected all the provinces and congregations of their order under one general, secured their permanent existence, and a unity in their successful efforts to obtain influence in church and state. They made themselves useful by preaching, which was much neglected at the period of their establishment, and by their missions; respectable and serviceable to the church by the distinguished scholars they produced, such as Albertus Magnus and Thomas Aquinas; and formidable as managers of the inquisition, which was committed exclusively to them, in Spain, Portugal and Italy. After they had obtained permission to receive donations, in 1425, notwithstanding their original vow of absolute poverty, they ceased to belong to the mendicants, and, in the enjoyment of rich benefices, superior to other orders, they paid more attention to politics and theological science. They gave to kings father-confessors, to universities instruct-

ers, and to the pious rosaries; and for all they were richly rewarded. From their establishment they found dangerous rivals in the Franciscans (q. v.), and engaged in contests with them, the heat and bitterness of which have been perpetuated by the hostilities of the Thomists and Scotists (see *Duns*, and *Schoolmen*), and have continued even to modern times. These two orders divided the honor of ruling in church and state till the 16th century, when the Jesuits gradually superseded them in the schools and courts, and they fell back again to their original destination. They obtained new importance by the censorship of books, which was committed, in 1620, to the master of the sacred palace at Rome, who is always a Dominican. What the reformation took from them in Europe, the activity of their missions in America and the East Indies restored. In the 18th century, the order comprised more than 1000 monasteries, divided into 45 provinces and 12 congregations. To the latter belonged the nuns of the holy sacrament, in Marseilles, established by Le Quien, in 1636, under the strictest rules. They dress in black, with white mantles and veils, while the Dominican nuns wear white, with black mantles and veils. The Dominican order is now flourishing only in Spain, Portugal, Sicily and America: they have hopes of a revival in Italy. The good Las Casas (q. v.) belonged to this order.

DOMINIQUE LE PÈRE, harlequin of the Italian theatre (properly, *Gius. Dominico Biancolelli*), born at Bologna, in 1640, was invited, in 1660, to Paris, by cardinal Mazarin, where he played the harlequin with the greatest applause, till his death, in 1688. The French comedians wished to prevent the Italians from bringing French pieces on their stage, and Louis XIV gave both parties an audience. Baron and Dominique were ordered to appear as their deputies. The former having spoken, in the name of the French, it was Dominique's turn to plead his cause; and he asked the king how he should speak. "Speak as you please," answered the king. "That is all I want," rejoined the harlequin; "I have won." The king received this sally with a laugh, and from that time the Italian theatre represented French pieces without opposition.

DOMINO; formerly a dress worn by priests, in the winter, which, reaching no lower than the shoulders, served to protect the face and head from the weather. At present, it is a masquerade dress, worn

by gentlemen and ladies, consisting of a long silk mantle, with a cap and wide sleeves.

DOMITIAN, Titus Flavius Sabinus, son of Vespasian, and brother of Titus, born A. D. 51, made himself odious, even in youth, by his indolence and voluptuousness, by his cruel, malignant and suspicious temper, and Rome trembled when, on his brother's death, he obtained the diadem (A. D. 81). At first, indeed, he deceived the people by acts of kindness, good laws and a show of justice, so that their fears vanished; but he soon returned to his former excesses and cruelty. He first caused his kinsman, Flavius Sabinus, to be put to death, though entirely innocent. No less vain than cruel, while his general, Agricola, was victorious over the Caledonians, in Britain, he made a ridiculous expedition against the Catti, returned speedily to Rome, without having effected any thing, and carried a multitude of slaves, dressed like Germans, in triumph to the city. Agricola's victories exciting his jealousy, he recalled that general to Rome, and kept him in total inactivity. At the same time, he spread terror through Rome by the execution of a great number of the first citizens. He gave himself up to every excess, and to the meanest avarice. He at last conceived the mad idea of arrogating divine honors to himself, assumed the titles of Lord and God, and claimed to be a son of Minerva. His principal amusement consisted in the shows of the circus. In the year 86, the bloody war with the Dacians began, which was carried on with various success, and terminated (A. D. 90) by a peace bought by the promise of paying a certain tribute. Notwithstanding this, Domitian celebrated a grand triumph on the occasion. The misery of the people was, meanwhile, continually increasing; and, after the revival of the law against high treason, no one was secure of his property or his life. The tyrant once made a feast, on purpose to terrify the senators and knights. They were assembled in a dark hall, in which were coffins, with the names of the individuals invited inscribed upon them; suddenly the doors opened, and a troop of naked men, painted black, with drawn swords and blazing torches, rushed in, and danced about the guests, until the emperor had sufficiently enjoyed their terror, when he dismissed the supposed executioners. The fears of the tyrant increased his cruelty. A paper fell into the hands of his wife, the infamous Domitia, in which she found her

own name, and those of the two commanders of the pretorian guards, noted down by the emperor, with many others, to be sacrificed. This discovery induced her to conspire against him, and to murder him in his chamber, A. D. 96. He had reigned 15 years, and was 45 years old. Domitian built the most magnificent temple in Rome.

DOMREMY LA PUCELLE; the birth-place of Joan of Arc (q. v.); a small village in the department of the Vosges, in France, not far from Vaucouleurs, in the department of the Meuse, in a fruitful region. The house is still shown here in which the heroine was born. In the neighborhood is the monument erected to her memory by the prefect of the department of the Vosges, with her marble bust, which was solemnly consecrated, Sept. 10, 1820. A free school is established there, for the instruction of girls. (See the description, in the *Hist. abrégée de la Vie et des Exploits de Jeanne d'Arc, par Jollois* (with engravings, 1821, folio).)

DON, the *Tanaïs* of the ancients, a river of European Russia, rising in the small lake of Ivan Ozero, in the government of Toulá, has a course of about 880 miles, generally from north to south, passes Azoph, and falls into the sea, two leagues below this place. Many large rivers empty into the Don, and its valley is one of the most extensive in Europe. A canal, dug by Peter the Great, in 1707, connects the Volga and the Don, by the help of intermediate rivers. It is intended to dig another canal between the Don and Volga, which, in the 49th parallel of latitude, are distant from each other 33 leagues only; and thus a communication would be easy between the sea of Azoph and the Caspian. (For information respecting the Cossacks of the Don, see the article *Cossacks*.)

DON (Spanish, from the Latin *dominus*). In Naples, however, the Spanish fashion of giving every gentleman the title of *don* became common during the time when that country was under the government of Spain. In the north of Italy, it is given only to ecclesiastics.

DONATISTS; the followers of Donatus, a Numidian bishop, who, with his friends, refusing, in 311, in a contested election of a bishop, to recognise the Traditors (i. e. the ecclesiastics who had given up the sacred books to the heathen magistrates, during the periods of persecution) as eligible to office in the church, quitted the Roman church, with his friends, and founded a peculiar sect, which refused to

receive Christians of other sects, without a second baptism. These schismatics prevailed in the Christian provinces of northern Africa, and, in 330, numbered 172 bishops of their persuasion. Their strictness was increased by the adoption of the Novatian principle of excommunicating apostates, or gross offenders, and declaring the most perfect blamelessness of life and doctrine essential to the members of the true church—a principle afterwards adopted by the Catholics. The Donatists made themselves formidable, when swarms of fanatical peasants, inflamed by their doctrines, in 348, under the name of *Circumcelliones*, attacked the imperial army, sent to convert them by force, and, in Mauritania and Numidia, for 13 years after, desolated the land with pillage and murder. Martyrdom was eagerly sought by them, and they voluntarily gave themselves up to the Catholics, to be executed. This sect, which flourished in the fourth and fifth centuries, was finally extinguished when the country was conquered by the Saracens.

DONATUS, Ælius; a Roman grammarian and commentator (e. g., on Terence), who lived in the 4th century. He wrote an elementary work on the Latin language (*De octo Partibus Orationis*), which served as a guide to the learning of Latin in the middle ages. It was not till a recent period that it was superseded by more judicious grammars. It was one of the first books printed by Guttenberg.

DONAU. (See *Danube*.)

DON GRATUIT; a free gift, bestowed by the subject on the sovereign, in extraordinary cases, especially in countries where the prince can levy no new tax without the consent of the estates. For example, the ancient French provinces, in which the representation of the estates existed, viz., Burgundy, Provence, Languedoc, Brittany, Artois, and the kingdom of Navarre, granted the king a tax as a *don gratuit*. This used to be the case, formerly, in the Austrian Netherlands, and in the German ecclesiastical principalities having similar representative governments.

DONJON, in fortification, signifies a strong tower or redoubt, in old fortresses, whither the garrison could retreat in case of necessity.

DONNE, John, D. D., a celebrated poet and divine, was the son of a merchant of London, in which city he was born in 1573. He studied both at Oxford and Cambridge, and was then entered at Lincoln's Inn. His parents were Catholics; but, in his 19th year, he abjured the Cath-

olic religion, and became secretary to the lord chancellor Ellesmere. He continued in that capacity five years; but finally lost his office by a clandestine marriage with his patron's niece. The young couple were, in consequence, reduced to great distress. At length, his father-in-law relented so far as to give his daughter a moderate portion; and they were lodged in the house of sir Robert Drury, in London, whom Donne accompanied in his embassy to Paris. On his return, he complied with James's wish, by taking orders, and was soon after made one of his chaplains. He immediately received fourteen offers of benefices from persons of rank, but preferred settling in London, and was made preacher of Lincoln's Inn. In 1619, he accompanied the earl of Doncaster in his embassy to the German princes. He was chosen prolocutor to the convocation in 1623—4; and, in consequence of a dangerous illness, soon after wrote a religious work, entitled *Devotions upon emergent Occasions*. He died in March, 1631, and was interred in St. Paul's. As a poet, and the precursor of Cowley, Donne may be deemed the founder of what doctor Johnson calls the *metaphysical* class of poets: abounding in thought, this school generally neglected versification, and that of doctor Donne was peculiarly harsh and unmusical. He wrote Latin verse with much elegance, of which a collection was published in 1633. Of his prose works, one of the most remarkable is that entitled *Biathanatos*, to prove that suicide is not necessarily sinful, which he never published himself, but which found its way to the press after his death. His style is quaint and pedantic; but he displays sound learning, deep thinking, and originality of manner. Besides the works already mentioned, he wrote the *Pseudo Martyr* (4to., 1610), *Letters*, *Sermons*, *Essays on Divinity*, and other pieces.

DONNER, George Raphael; a sculptor, born in Lower Austria, 1680. He was, at first, a goldsmith. He received his earliest instructions in art from John Giuliani, a sculptor of the neighborhood, and, from 1726, devoted himself entirely to sculpture. Donner's works, in many Austrian churches and palaces, are masterpieces. The beautiful statues, which form one of the finest ornaments of the fountain in the new market-place at Vienna, and the statue of Charles VI. at Breitenfurt, are particularly admired. He died at Vienna, Feb. 16, 1741.

DON QUIXOTE. (See *Cervantes*.)

DOPPELMAYR, John Gabriel; a mathe-

matician, born in 1671, at Nuremberg. He travelled through Holland and England, and received a mathematical professorship at Nuremberg, which he held 46 years. He published mathematical, geographical and astronomical works, among which his celestial atlas has spread his name the farthest (*Atlas celestis*, with 30 astronomical tables, Nuremberg, 1743, folio). He gained the esteem of Leibnitz, was received into several learned societies, and died in 1759; or, according to some accounts, in 1750. In Will's Nuremberg Literary Lexicon, there is a catalogue of his works on dialling, experimental physics, astronomy, &c. Doppelmayr's Account of the Nuremberg Mathematicians and Artists (Nuremberg, 1730, folio), is an important work in respect to literary history. It contains interesting notices of the geographical discoveries of Martin Behaim. (See *Behaim*.)

DORAT, Claude Joseph; a poet, born in 1734, at Paris. He renounced the study of law, and afterwards the military service, into which he had entered as a musketeer, and devoted himself entirely to poetry. Among his earlier works are his tragedies and heroides. Though the latter were received with much applause, he was little fitted for this sort of poetry. His dramatical works were unsuccessful. He has succeeded better in songs, tales and poetical epistles, and in these departments he is still in high estimation. Owing to his vanity in causing his works to be published with the greatest splendor, he wasted a considerable part of his property. He died at Paris, April 24, 1780. His works appeared at Paris complete in 20 vols. His *Œuvres choisies* were published in 1786, 3 vols., 12mo. For several years he was editor of the *Journal des Dames*.

DOREE. (See *Dory*.)

DORF; a very common syllable at the end of German names, signifying *village*; as, *Altdorf*, *Düsseldorf*.

DORIA; one of the oldest and most powerful families of Genoa. The annals of this republic do not reach further back than the year 1100; but, even at this period, we find the Doria family in the highest offices of the state. Four of them were distinguished admirals before the 14th century. The most celebrated of the whole family was Andrew Doria, born at Oneglia, in 1468. He gained renown when but a youth, by his heroic conduct against the pirates and Corsicans, and, in 1524, was made admiral of the French galleys by Francis I. Receiving some

offence from the French, he went over to the Spanish-Austrian party, and thereby prevented the progress of the French arms in Italy. This great naval hero was the deliverer of his country. Since 1339, Genoa had been governed by a chief magistrate, called the *doge*, whose office lasted for life; but the constitution was so disordered, and party spirit so violent, that sometimes the state, sometimes one of the parties in it, was compelled to seek protection from a foreign power, which usually became the oppressor of the whole. Thus Genoa was, at one time, under the yoke of Milan or Austria; at another time, of France. In 1528, France had possession of Genoa, when Doria surprised the city, drove out the French without bloodshed, received the title of father and deliverer of his country, and established an improved constitution. Only 28 noble families were allowed to be eligible to the highest offices, which were annually filled anew. The doge and his council presided over the affairs of state, and were chosen at the end of every two years. The great Doria, however, failed in remedying the oppressions and evils of aristocracy; and many of his institutions were changed by a statute, in 1576, on which the future constitution was based. Notwithstanding Doria held the office of doge for life, he again entered the naval service of Charles V, contended with brilliant success against the Turks and Corsairs, and died in 1560, at the age of 93. Noble as was the character of this great man, and honored as he was by the Genoese, several conspiracies were yet formed against him, of which that of Fiesco (q. v.) was the most dangerous; but they were suppressed by his address and decision.

DORIC; belonging to the Dorian race, or of a quality or style common in that race. The Dorians, one of the four great branches of the Greek nation, derive their name from Dorus, the son of Hellen. They dwelt first in Estiæotis, were then driven by the Perrhæbi into Macedonia, forced their way into Crete, where the lawgiver Minos sprang from them, built the four Dorian towns (Dorica Tetrapolis) at the foot of mount Ceta, between Thessaly, Ætolia, Locris and Phocis, and subsequently, together with the Heraclidæ, made a settlement in the Peloponnesus, where they ruled in Sparta. Colonies emigrated from them to Italy, Sicily and Asia Minor. The four chief cities of the Greek race were distinguished from each other by marked peculiarities of dialect, manners and government; and the Dori-

ans were the reverse of the Ionians. The Doric manner always retained the antique style, and with it something solid and grave, but, at the same time, hard and rough. The Doric dialect was broad and rough; the Ionic, delicate and smooth; yet there was something venerable and dignified in the antique style of the former; for which reason it was often made use of in solemn odes, e. g., in hymns and in choruses, which belonged to the liturgy of the Greeks. The Cretan and Spartan legislative codes of Minos and Lycurgus were much more rigid than the mild Athenian institutions of Solon. The Spartan women wore the light, tucked up hunting dress, while the Ionian females arrayed themselves in long, sweeping garments. Both have been idealized by artists; the one in Diana and her nymphs, the other in Pallas Athene and the Canephoreæ. The same contrast appears no less strikingly in their architecture, in the strong, unadorned Doric, and the slender, elegant Ionic columns. (See *Orders of Architecture*.) In the music of the ancients there was also a Dorian mode. (See *Music*.)

DORIGNY; the name of several celebrated engravers and painters:—1. Michael Dorigny, born at St. Quentin, in 1618, a scholar of Simon Vouet, whose works he etched, and whose faults in drawing he copied. His style of execution is bold, and his management of light and shade good. He died while professor of the academy at Paris, in 1665.—2. His son Louis, born in 1654, entered the school of Lebrun, and made a journey to Italy, where he copied the great masters. From Venice he went to Verona, where he settled, and died in 1742.—3. Nicholas, the brother of the latter, born in 1657, at Paris, is the most celebrated engraver of the three here noticed. He spent 28 years in Italy, in studying the most illustrious masters, and 8 in engraving the famous cartoons of Raphael, at Hampton court, for which he received the honor of knighthood from king George I. In 1725, he became a member of the academy at Paris, and died in 1746. One of his best engravings, besides his cartoons, is the Transfiguration, from Raphael, and the Apotheosis of St. Petronilla, after Guercino. His engraving is easy and strong, and the work of the needle and the graver happily united.

DORIS. (See *Nereus*.)

DORMANT state of animals. We are all accustomed to see a large part of creation, during summer, in great activity, and in

winter returning to an apparently inanimate state: we mean the plants; but this phenomenon is not common in the case of animals. There is, however, a small number of animals, which, besides the daily rest that they have in common with most other animals, remain, during some months in the year, in an apparently lifeless state; at least, in utter inactivity. Except the hedgehog and the bat, all the *mammalia* subject to this dormant state, belong to the class of digitated animals. They are found not only in cold climates, but in very warm ones; for instance, the jerboa in Arabia, and the taurick in Madagascar. The period of long sleep generally begins when the food of the animal begins to become scarce, and inactivity spreads over the vegetable kingdom. Instinct, at this time, impels the animals to seek a safe place for their period of rest. The bat hides itself in dark caves, or in walls of decayed buildings. The hedgehog envelopes himself in leaves, and generally conceals himself in fern-brakes. Hamsters and marmots bury themselves in the ground, and the jumping-mouse of Canada and the U. States encloses itself in a ball of clay. At the same time, these singular animals roll themselves together in such a way that the extremities are protected against cold, and the abdominal intestines, and even the windpipe, are compressed, so that the circulation of the blood is checked. Many of them, especially the gnawers, as the hamster and Norway rat, collect, previously to their period of sleep, considerable stores of food, on which they probably live until sleep overpowers them. In this period we observe in the animals, first, a decrease of animal heat, which, in the case of some, is diminished 20°, with others, 40° to 50° Fahrenheit; yet it is always higher than the temperature of the atmosphere in the winter months. If these animals are waked during winter, they soon recover their natural warmth, and this artificial awaking does not injure them. Secondly, animals in the dormant state breathe much slower and more interruptedly than at other times. Some will remain even a quarter of an hour without any respiration; and animals in this state seldom breathe more than once in a minute. Hence they corrupt the surrounding air much less than if their respiration was free. Of course, the heart moves proportionally slow. With the hamster, it only beats 15 times a minute, whilst, in a waking state, it beats 115 times a minute. The irritability of the animals is very low; and

hamsters in this state have been dissected, which only now and then gasped for air, or, at least, opened the mouth; and on which sulphuric acid, put on their intestines, had little or no effect. Marmots can be awakened only by powerful electric shocks. The digestion is also diminished; the stomach and intestines are usually empty; and, even if the animals are awakened, they do not manifest symptoms of appetite, except in heated rooms. The causes of the dormant state of animals have generally been sought in a peculiar construction of the organs. It is true, that the veins in such animals are usually much wider and larger than in others; hence the arteries can exert comparatively little activity. The great *vena cava* also not merely opens into the right auricle of the heart, but divides itself into two considerable branches; and the thymus gland, which, in the fetus, is so large, is also very extensive in this species of animals. The immediate cause, however, producing this torpidity, is mostly, if not entirely, the cold. The animals of this species fall into this sleep in the middle of summer, if they are exposed to a cold temperature; on the other hand, they remain awake during winter, if they are brought, towards autumn, into a warm room. Yet they fall asleep if the heating of the room is discontinued for some time. In the case of some of them, confined air produces the sleep; thus a hamster may be made to sleep very easily if it is put into a vessel which is buried deep under ground. Among the birds, some of the swallows are subject to a similar sleep. The swift (*hirundo apus*) is not only found in the crevices of walls, but also in morasses, in a dormant state, during winter; and many have concluded from this that all swallows pass the winter in this state, which is incorrect, as they are known to be birds of passage. Most probably those swallows which have been found in a dormant state, were prevented from emigrating by accident, and became torpid in their retreat, through cold. In a similar way, young cuckoos have been found torpid in the water, though this state is by no means natural to them. With frogs and other amphibious reptiles, the dormant state is very common. As soon as the temperature of the atmosphere sinks under 50° Fahrenheit, the number of pulsations of the heart is diminished from 30 to 12 in a minute. If, in this state, food is put into the stomach by force, it remains undigested for a long time. Frogs, serpents and lizards, kept in artificial cold, may remain for years in this

state: hence they have been sometimes found enclosed in stones, in which they have been, perhaps, for centuries. The other lower animals, as snails, insects, &c., are also subject to a similar torpidity. A state of partial torpor takes place in the case of the common bear and the raccoon. The bear begins to be drowsy in November, when he is particularly fat, and retires into his den, which he has lined with moss, and where he but rarely awakes in winter. When he does awake, he is accustomed to lick his paws, which are without hair, and full of small glands; hence the belief that he draws his nourishment only from them. The badger also sleeps the greater part of the winter.

DORMOUSE (*myoxus*, Gm. Cuv.); a genus of mammiferous quadrupeds, of the order *glires* (L.). These little animals, which appear to be intermediate between the squirrels and the mice, inhabit temperate and warm countries, and subsist entirely on vegetable food. They have not the activity and sprightliness of the squirrel, but, like that animal, can ascend trees in search of their food, which they carefully store up for their winter consumption. This, however, is not great, as, during the rigor of winter, they retire to their retreats, and, rolling themselves up, fall into a torpid or lethargic state, which lasts, with little interruption, throughout that gloomy season.

Tota mihi dormitur hyems, et pinguior illo
Tempore sum, quo me nil nisi somnus alit.

Mart. Lib. xiii. Ep. 39.

Sometimes they experience a short revival, in a warm, sunny day, when they take a little food, and then relapse into their former condition. During this torpidity, their natural heat is considerably diminished. They make their nests of grass, moss and dried leaves, about six inches in diameter, and open only from above. The number of young is generally three or four. Their pace is a kind of leap, in which, it is said, they are assisted by their tails. Like the jerboa, whilst feeding, they sit upright, and carry the food to their mouth with their paws. When they are thirsty, they do not lap, like most other quadrupeds, but dip their fore feet, with the toes bent, into the water, and thus carry it to their mouths. They are distinguished from all the rest of the gnawers, by the want of the *cæcum*, and large intestines. They were esteemed a great delicacy by the Romans, who had their *gliraria*, or places in which they were kept and fattened for the table.

DORPAT, DÖRPT (in Esthonian, *Tart-Lin*); a city on the Embach, formerly an important commercial place, at present the chief town of the government of Riga (764 houses and 8450 inhabitants), about 175 miles S. W. of St. Petersburg; lat. $58^{\circ} 23' N.$; lon. $26^{\circ} 46' 15'' E.$ The transit trade of Dorpat, in products of the interior, is still considerable, and will be increased when the Alexander canal is finished. The emperor Alexander established here, in 1802, a university for Finland, Esthonia, Livonia and Courland. The students (about 400) wear a uniform, and, after finishing their studies, have the rank of a commissioned officer. The library contains 40,000 vols. There are, besides, many scientific institutions. Dorpat is situated on the road from Petersburg to Germany. Its environs are agreeable and fertile.

DORSEY, John Syng, an eminent physician, was born in Philadelphia, Dec. 23, 1783, and received an excellent classical education, at a school in Philadelphia, of the society of Friends. He here manifested the same vivacity of genius, and mild and amiable disposition, for which he was subsequently conspicuous. At the age of 15 years, he applied himself to the study of medicine; and, in the spring of 1802, being then in his 19th year, was graduated doctor in physic, having previously defended an inaugural dissertation On the Powers of the Gastric Liquor as a Solvent of urinary Calculi. This work exhibits some original views, illustrated by a number of well conducted experiments. Not long after he received his degree, the yellow fever appeared in Philadelphia, and prevailed so extensively that an hospital was opened for those sick with this malady, to which he was appointed resident physician. He improved this opportunity of investigating the disease, elucidated some of the more intricate parts of its pathology, and aided in the establishment of a better system of practice. At the close of the same season, he visited Europe. He returned home in December, 1804, and entered on the practice of his profession. His reputation, amiable temper, popular manners, and fidelity and attention, soon introduced him to a large share of business. In 1807, he was elected adjunct professor of surgery, and held the office till he succeeded to the chair of *materia medica*. He delivered two courses of lectures on this subject, when, the chair of anatomy becoming vacant by the death of doctor Wistar, he was raised to that professorship. He

opened the session by one of the finest exhibitions of eloquence ever heard within the walls of the university. But, on the evening of the same day, he was attacked with a fever, which in one week closed his existence. He had cultivated every department of medicine assiduously, but for surgery he evinced a decided predilection, and in this made the greatest proficiency. He was one of the most accomplished surgeons of this country, equally distinguished for the number, variety and difficulty of his operations, and the skill and boldness with which they were performed. As a teacher of medicine, his merits were great, and he was constantly resorted to in cases of emergency in the school. He has been known, in the same day, to lecture on surgery and the *materia medica*, the details of the anatomical structure and the laws of the animal economy. He contributed many valuable papers to the journals, and his Elements of Surgery (2 vols., 8vo.) is probably the best work on the subject. It embraces, in a narrow compass, a digest of surgery, with all the recent improvements which it had received in Europe and this country. It has been adopted as a text-book in the university of Edinburgh, and was the first American work on medicine reprinted in Europe.

DORT; a pleasant commercial town in South Holland (18,000 inhabitants, 3900 houses), on the Merwe and Biesbosch, situated on an island, which was formed by the inundation of 1421, when 72 villages and 100,000 persons were destroyed. Lat. $51^{\circ} 48' 54'' N.$; lon. $4^{\circ} 39' 42'' E.$ Its great church is a fine building. Its harbor is spacious, and its commerce in Rhenish wines and lumber (which is brought down in rafts, and exported to Spain, England and Portugal) is important. Ship-building, the manufacture of salt, bleaching, and the salmon fisheries, are extensively carried on. Dort has an artillery and engineer school. It was formerly the residence of the counts of Holland, and is the native place of De Witt (q. v.), John Gerhard Vossius, the painter Varestag, and other distinguished persons. In 1618 and 1619, the Protestants held here the famous synod of Dort, the resolutions of which still constitute the laws of the Dutch reformed church. The synod declared the Arminians heretics, and confirmed the Belgic confession with the Heidelberg catechism. Since the navigation of the Rhine has not yet been regulated according to the promise of the congress of Vienna, Dort is still in possession

of its ancient and unjust right of staple. (For a more particular account of the synod of Dort, see *Arminians*, and *Arminius*.)

DORTMUND; a city on the Ems, in Prussian Westphalia (900 houses and 4500 inhabitants); lat. $51^{\circ} 31' 24''$ N.; lon. $52^{\circ} 26' 41''$ E. It was formerly a free, imperial and Hanseatic city. In 1803, it was bestowed on the prince of Orange; in 1808, Napoleon gave it to the grand-duke of Berg; in 1815, it was ceded to Prussia. Its archives contain interesting manuscripts and documents of the time when the chief tribunal of the Vehme (q. v.) was here.

DORTRECHT. (See *Dort*.)

DORY, or **JOHN DORY**; a fish belonging to the genus *zeus* of Linnæus, and celebrated for the delicacy of its flesh. The species is distinguished by having the spinous portions of the dorsal and anal fins separated by a deep emargination from the soft-rayed portion, and having the base of all the vertical fins, and the carina of the belly anterior to the anal fin, furnished with spines or serratures; color, yellowish-green, with a blackish spot on each side; dorsal and anal with furcate spines, and a long filament produced from behind each dorsal spinous ray. Tradition has rendered this fish famous on several accounts. First, it is said to derive the mark on each side of its body, from the impression of the fore finger and thumb of the apostle Peter. There is a schism among the superstitious in relation to this story, as the haddock also enjoys a similar distinction, it is affirmed, from the same cause. Another fable is, that the impression was produced by the foot of St. Christopher, which, it is fair to say, is equally probable. The dory obtains its food very much by stratagem, and its exceedingly protractile jaws enable it to capture small fish, &c., in its vicinity with ease, when lying concealed in the ooze or weeds. Torbay, in England, is distinguished as the locality from whence the greatest number of these fish is obtained. They are also found on the coasts of France, on the Atlantic shores of Europe, and in the Mediterranean.

Dosso Dossi; a painter of Ferrara, much honored by duke Alfonso, and immortalized by Ariosto (whose portrait he executed in a masterly manner) in his *Orlando*, canto 23. His manner approaches to that of Titian, with whom he painted some apartments in the ducal castle. His paintings there represent bacchanalians, fauns, satyrs and nymphs. In other paintings he imitated Raphael. Among eight

of Dossi's pictures in Dresden, the *Dispute of the four Fathers of the Church* is distinguished as a masterpiece by accurate delineation and peculiar power of coloring, and is entirely in the style of Titian. His brothers are less celebrated. He was born 1479, and died 1560.

DOTATIONS OF NAPOLEON; gifts from the national domains, which Napoleon bestowed on his generals in the conquered countries, as the ancient Lombard kings made grants to their vassals, on the division of the countries which they subdued. These gifts, sometimes connected with a title of nobility, formed a sort of fief, and, both in respect to possession and inheritance, had the character of majorats (q. v.); and the donees stood, as such, under the general superintendents of the *extraordinary domains*, so called, to whom was committed the care of all those portions of land, capitals, or other sources of revenue, which the emperor was accustomed to reserve to himself (chiefly with a view to making such dotations), in the conquered countries, and those transferred by him to other princes. It was the duty of the above-mentioned officers of state to see that all who had received from the emperor dotations in foreign countries, should sell their estates, one half within the first 20 years, and the remainder within a second period of the same length; so that, in the course of 40 years, all these estates were to be alienated and changed, either into landed or other property, in France. Deeds of investiture were prepared for these donees, by the arch-chancellor of the kingdom, as president of the *conseil du sceau des titres*; but within three months after the death of the donee, documents of confirmation must be applied for by the heirs. By this officer, many dotations owned by the same man might be thrown into one mass, or the amount might be augmented out of the other property of the donee, if the dotation alone did not afford income enough to enable it to be raised to a majorat, with the title of knight, baron, count or duke annexed. If the attorney-general of the council was informed of the extinction of the male line of the descendants of the owner of a majorat, received wholly or in part from the emperor, he was obliged to make a report of it to the superintendent of the extraordinary imperial domains, or of the imperial private domains, according as the estate had been granted from one or the other; upon which the intendant immediately took possession, in order to secure the property to the treasury. A

decree of May 13, 1809, established in countries not belonging to the French imperial states, where the emperor had raised such grants to majorats, particular officers (*agens conservateurs*), whose principal duty was to see that the owners of the majorats managed them well, and that, if any lapse of such property took place, it should be united again, entirely and without delay, to the French crown. All gifts of this sort, so far as they had not been alienated, became null and void on the death of the giver.

DOUANE; in France, the name given to the custom-houses on the borders.—**DOUANIER**s; the officers who received the customs. During the wars of France with England (1793—1814), and particularly while the continental system was in operation, the French douaniers were of much political importance. They were divided into bodies of six men each, had a military organization, and were well armed. Thus they guarded, in three lines, the boundaries of France, against the introduction of all prohibited articles, including not only English produce and manufactures, but also those of nearly all other countries. They likewise collected the export duties. Their number, in 1812, was 80,000, and the expense to the French government amounted, in 1809, to 50,000,000 francs. The severity with which the French revenue system was executed; the interruptions it caused to almost all classes, particularly in the conquered provinces, and the arbitrary extortions of the douaniers, exasperated the people, especially in the newly acquired provinces. In the insurrections, in 1813, in Germany and Holland, against the French, the people attacked, in the first instance, the custom-officers and custom-houses, tearing down and burning the latter, in Hamburg and Amsterdam.

DOUBLE ENTENTE (*French*). *Mots à double entente* are words which have two different meanings; *entente* being, properly, the interpretation given to a word. *Double entendre* is often used for a phrase which has a covert as well as an obvious meaning.

DOUBLING a cape is to sail round or pass beyond it, so that the point of land shall separate the ship from her former situation, or lie between her and any distant observer.

DOUBLING upon, in a naval engagement; the act of enclosing any part of a hostile fleet between two fires, or of cannonading it on both sides. It is usually performed by the van or rear of the fleet

which is superior in number, taking the advantage of the wind, or of its situation and circumstances, and tacking or running round the van or rear of the enemy, who are thereby exposed to great danger.

DOUBLOON; a Spanish coin of the value of two pistoles. (See *Coin*.)

DOUGLAS, Gawin; an early Scottish poet of eminence. He was the son of Archibald, earl of Angus, and was born at Brechin, in 1474—5. He received a liberal education, commenced at home, and completed at the university of Paris. On returning to Scotland, he took orders in the church, and was made provost of the church of St. Giles's, at Edinburgh, afterwards abbot of Aberbrothick, and, at length, bishop of Dunkeld. Political commotions, after a time, obliged him to seek a retreat in England, where he was liberally treated by Henry VIII. He died of the plague, in London, in 1522, and was interred in the Savoy church. Gawin Douglas translated the poem of Ovid, *De Remedio Amoris*; also, the *Æneid* of Virgil, and the supplementary book of Maphæus, in heroic verse. This work, in the Scottish dialect of the English language, is executed with great spirit; and, considering the age of the author, with extraordinary elegance of diction, far surpassing, in that respect, the succeeding productions of Phaer, Swyne, and even of lord Surrey. It was written about 1512, and is said to have been completed in 16 months. To each book is prefixed a highly poetical prologue. It was first published in 1553 (London, 4to.); and reprinted at Edinburgh (1710, folio).

DOUGLAS, John, a learned divine and critic, was born in Scotland in 1721. After some education at a grammar-school in his native country, he was sent to the university of Oxford in 1736, and in 1743 he took the degree of M. A. Soon after, he was appointed chaplain to the 3d regiment of foot-guards. He was afterwards a travelling tutor to lord Pulteney, with whom he visited several parts of the continent, but quitted him and returned to England in 1749, when his patron, the earl of Bath, presented him with several benefices. His first literary production was a letter to the earl of Bath, entitled *Milton vindicated from the Charge of Plagiarism*, brought against him by Mr. Lauder (1751, 8vo.). (See *Lauder*, *W*.) In 1754, he published a tract, entitled the *Criterion, or a Discourse on Miracles*. In 1762, he was made canon of Windsor, which benefice he exchanged with doctor Barrington for a residentiary canonry of

St. Paul's. His next preferment was the deanery of Windsor. In 1777, he was employed in preparing for the press the journal of captain Cook's second voyage, to which he prefixed a well-written introduction, and added notes. He assisted lord Hardwicke in arranging and publishing his Miscellaneous Papers, which appeared the following year. In 1778, he was elected a fellow of the royal and antiquarian societies; and, in 1781, he edited the account of captain Cook's third voyage. In 1787, he was raised to the see of Carlisle, and, in 1792, was made bishop of Salisbury. He died May 18, 1807.

DOUSA, or VAN DER DOES; born 1545, at Noordwyk, in Holland; a statesman, philologist, historian and poet. He studied at Delft and Louvain, resided some time at Paris, and then lived in domestic retirement, devoted to literary pursuits, till 1572, when he went ambassador to England to obtain the support of queen Elizabeth for the cause of the Dutch. As chief commander, during the siege of Leyden by the Spaniards, he conducted with prudence and unshaken courage, in the midst of the horrors of famine, plague and civil dissensions. He kept up an intercourse with the expected deliverers by means of trained pigeons; and to these faithful messengers he has expressed his gratitude in some of his poems. The stadtholder, William I, compensated the city for its sufferings, by the establishment of the university, of which Dousa was the first curator. His extensive connexions with the literary men of other countries enabled him to procure for the new institution that most distinguished instructor, Joseph Scaliger. After the assassination of William I, Dousa secretly visited London to seek the protection of queen Elizabeth, for the freedom of his country, of which he was always the faithful defender; and during the period when the government of the earl of Leicester proved oppressive to the Dutch nation (see *Dudley*), he conducted with prudence and moderation. Domestic misfortunes, particularly the death of his eldest son, Janus Dousa, a youth of great promise, afflicted the last years of his life, and he died 1604. The many works which he left show how true he was to his motto—*Dulces ante omnia Musæ*. His best known work is *Bataviæ Hollandicæque Annales*, extending to 1606, which had been commenced by his son. It was published both in verse and in prose.

Douw, Gerard. (See *Dow*.)

DOVE. (See *Turtle Dove*, and *Pigeon*.)

DOVER; a post-town of New Hampshire, capital of Strafford county, 12 miles N. W. by N. Portsmouth, 40 E. Concord, 50 S. W. Portland, 60 N. Boston; lon. 70° 54' W.; lat. 43° 13' N.; population, in 1820, 2871; in 1826, 4160. It is situated on the west side of the Piscataqua, and the Cochecho flows through it. This river has several falls, the largest of which, upwards of 40 feet perpendicular, are at the centre of the town, and afford water-power equal to any in New England. The supply of water is abundant, and the river never rises so high as to endanger the buildings on it. These falls are 15 miles from the sea, at the head of tide water. Gondolas come up to the mills, and sloops within a quarter of a mile. Large iron and cotton manufactories have been erected on these falls, and others two miles higher up the river. Dover is one of the most considerable and flourishing towns in the state. It contains a courthouse, a jail, a bank, a printing-office, an academy, and three houses of public worship. The greatest part of the timber exported from the state, is brought to this town. Considerable shipping is also owned here. Dover is the oldest town in New Hampshire, having been settled in 1623, by Edward and William Hilton. The part first settled is in the south of Dover, an elevated and beautiful neck of land, called by the Indians *Winnichahan-nat*, and by the first settlers *Northam*.

DOVER; a post-town of Delaware, the seat of the government of the state, in the county of Kent, on Jones's creek, 7 miles above its entrance into Delaware bay; 36 S. Newcastle; lon. 75° 30' W.; lat. 39° 10' N. It contains a handsome state-house, a jail, an academy, a bank, &c. The town is well built, chiefly of brick, and carries on a considerable trade with Philadelphia in flour.

DOVER; a seaport of England, in the county of Kent, situated on a small stream which falls into the harbor. It consists chiefly of three long streets, converging to one point. Dover is defended by a strong and spacious castle, and all the neighboring heights are fortified. The castle occupies a lofty eminence, steep and rugged towards the town and harbor, and presents a precipitous cliff, 320 feet higher than the sea. Subterraneous works and casemates have been added, since the alarm of French invasion, capable of accommodating 2000 men. Dover is one of the Cinque ports, and a borough returning two members to parliament, who are elected

by about 2000 voters. The harbor can receive vessels of 400 or 500 tons, and is defended by strong batteries. It is the principal place of embarkation to France, and steam-packets ply daily to Calais and Boulogne. Population, 10,327; 8 miles from Deal, 72 E. S. E. London; lon. $1^{\circ} 19' E.$; lat. $51^{\circ} 6' N.$

DOVER, STRAITS OF; the narrow channel between Dover and Calais, which separates Great Britain from the French coast. Britain is supposed by many to have been once a peninsula, the present straits occupying the site of the isthmus, which joined it to Gaul. "The correspondency of strata," says Mr. Pennant, in his *Arct. Zoology*, "on part of the opposite shores of Britain and France, leaves no room to doubt that they were once united. The chalky cliffs of Blancnez, between Calais and Boulogne, and those to the westward of Dover, exactly tally: the last are vast and continued, the former short, and the termination of the immense bed. Between Bologne and Folkstone (about six miles from the latter) is another memorial of the junction of the two countries—a narrow submarine hill, called the *Rip-raps*, about a quarter of a mile broad, and ten miles long, extending eastward, towards the Goodwin sands. Its materials are boulder-stones, adventitious to many strata. The depth of water on it, in very low spring tides, is only 14 feet. The fishermen from Folkstone have often touched it with a 15 feet oar; so that it is justly the dread of navigators. Many a tall ship has struck on it, and sunk instantly into 21 fathoms of water." In July, 1782, the *Belleisle*, of 64 guns, struck and lay on it during three hours; but, by starting her beer and water, got clear off. These celebrated straits are only 21 miles wide, in the narrowest part; from the pier at Dover to that of Calais, 24 miles. It is said that their breadth is diminishing, and that they are two miles narrower than they were in ancient times. An accurate observer for fifty years remarks that the increased height of water, from a decrease of breadth, has been apparent, even in that space. The depth of the channel, at a medium, in the highest spring tides, is about 25 fathoms; the bottom is either coarse sand or rugged sears, which have, for ages unknown, resisted the attrition of the currents.

DOVE-TAILING, in carpentry, is the fastening boards together, by letting one piece into another, in the form of the tail of a dove. The dove-tail is the strongest of jointings, because the tenon, or piece of

wood which is put into the other, goes widening to the end, so that it cannot be drawn out again.

Dow (also written *Douw*), Gerard; born at Leyden, 1613, son of a glazier. He studied under Rembrandt, and was distinguished for the excellence of his coloring and *chiaro scuro*. He surpassed his master in diligence, and nothing can be more finished than his small pieces. They are so delicate that a magnifying glass is necessary to see distinctly the work in them. His softest figures are full of life, and he never neglected, in his representations, the almost invisible minutiae of nature. Still, his paintings do not appear artificial nor forced. He is regarded as the inventor of the ingenious mode of painting large pictures on a reduced scale, by covering the original with a frame, including a space divided into small quadrangular parts, by means of threads, and then transferring the parts into an equal number of similar divisions, drawn on the canvass. He made use of the convex mirror, to represent objects on a reduced scale. Dow died in 1680, leaving a large property. His works brought high prices, and are still among the dearest of the Dutch school. In 1809, a picture, painted by him for the royal museum of Holland, was sold for 17,000 guilders; and at the auction of Peter de Smith in Amsterdam, in 1810, Dow's pictures brought from 5 to 10,000 guilders. His scholars, Metzŭ, Schalken and Mieris, are worthy of their master.

DOWER is the portion which a widow has in the lands of her husband, after his decease, by the operation of law, and without any special provision, by will or marriage settlement. There are three species of dower enumerated in the books of the common law, which are now obsolete. A fourth kind of dower, in England, includes several sorts. It is *dower by custom*, as distinguished from dower at common law. In some particular manors and districts in England, the widow is endowed, not according to common right, but according to the practice or custom in that particular district or manor; as of half her husband's lands, by the custom of *gavel-kind*, or of the whole of them, for her life, where she is entitled to her *free bench*.

But the general kind of dower, or that by the common law, is the third part, for life, of the lands or tenements whereof the husband was seized, in fee simple or fee tail, during the time of the marriage. If the parties have been divorced from

the bonds of marriage, the woman is not entitled to dower. But if the divorce be from bed and board only, her dower is not barred. The common law of England and the U. States respects the laws of other countries, so that a marriage, valid where it is contracted, is considered as valid by the common law, and entitles the wife to dower, in the countries just named. The wife of an idiot is not entitled to dower, because the marriage was not valid, from the want of the power of consent in the husband. By the ancient English law, the wife of a traitor was not entitled to dower. Some say the reason was, that the wife was presumed to be privy to the treason; others say, that it was intended to secure the loyalty of the subject, by an appeal to his affection for his wife and children. The statute of 1 Edward VI, c. 12, abated the rigor of the law, and allowed the widow of a traitor dower; a subsequent statute, however, passed five or six years afterwards, restored the old law in respect to most kinds of treason. According to an opinion, supported by very respectable authorities, the death of the husband is not necessary, in all cases, to entitle the wife to dower; as, if he is outlawed, banished, or transported for life, she is, according to this opinion, entitled to dower. So, in New York, the wife is endowed, if the husband is condemned to imprisonment for life. In one of Mr. Hargrave's notes to Coke's Littleton, it is said that an act of parliament of 8 Henry V, provides, that where an Englishman marries a foreigner, "by license of the king," she shall be endowed; and statutes of many of the U. States contain a similar provision, allowing to alien widows, who have resided in the U. States, the same rights of dower as if they had been born in the country. A seizin (q. v.) in law, no less than a seizin with actual possession, entitles the widow to dower. But if the husband is only seized for an instant, and the same transaction which gives him the fee passes it to another, the wife does not thereby gain the right of dower. This right of the wife is an inseparable incident to an estate in fee or in tail, so that, if such an estate be conveyed upon condition that it shall not be subject to this right, the condition will be void. A woman is not, by the common law, entitled to dower in lands held in trust for her husband; and, as a large part of the lands of England are so held, jointures were introduced instead, and, as it is usually expressed, *in bar* of dower. The statutes of some of the U. States, as

Pennsylvania, Virginia, Mississippi, provide for the wife's dower in trust estates. In England, the wife is barred of her dower by a jointure, although she may be married under the age of 21, and so within the age requisite to make a valid contract to most other purposes. But, after her marriage, her acts are void, as she is then supposed to be under the authority, and subject to the coercion of her husband, and, accordingly, cannot release her right of dower, except by a fine or common recovery, which are acts done in court. (See *Fine*.) But, in the U. States, although the general rule as to the wife's inability to contract is the same as in England, yet one exception is made, in respect to the right of dower, in all those states which borrow this right from the common law of England; for the wife may, in all those states, release her right of dower, by joining her husband in the conveyance, or by endorsing upon the deed, or subjoining to it, an agreement to that effect; or, in a number of the states, by making a distinct agreement to this effect. But, to satisfy the rule that the wife cannot bind herself by any contract made by her during her coverture, and as a substitute for the English fine and common recovery, as far as the right of dower is concerned, the laws of many of the states, as Rhode Island, New York, Pennsylvania, Virginia, Ohio, Illinois, Georgia, Alabama, Missouri, Mississippi, Maryland, Delaware, Kentucky, and New Jersey, require that the wife shall be examined by a magistrate, separately from her husband, to ascertain whether she signs the deed freely, and without compulsion; and, on her acknowledging that it is a free act on her part, the magistrate certifies accordingly, and her right of dower is released. The rule of the English law, as to a married woman's incapacity to bind herself, would be exceedingly troublesome in the U. States, if applied to her right of dower, by embarrassing the conveyance of lands; and so the statutes or usages avoid the inconvenience, by this formality of a private examination, which, if the rule be literally well founded, is a very unsatisfactory compliance with it, or excuse for deviating from it; for if the wife be, in fact, under the coercion supposed by the rule, she would hardly be liberated from it by merely going into an adjoining room, or into open court; so that, if the theory of the law were true, she would be compelled to make a false declaration, as well as to lose her dower. But the theory

of the common law is by no means true: that of the civil law is much more just, namely, that the wife is capable of volition, and of making contracts, as far as her own rights are concerned; and so is the rule as to the conveyance of real estate in some of the U. States; for in Maine, New Hampshire and Massachusetts, although, in general, the law supposes a married woman to have no discretion or liberty as to contracting about other things, yet it allows her to release her dower in her husband's lands, and to convey those which she holds in her own right, by merely joining in the deed with the husband, and without any private examination as to her being under compulsion. In other states, the difficulty is avoided by altering the law of dower, and giving it only in the lands of which the husband "dies seized." This is the law of Vermont, Connecticut, N. Carolina, S. Carolina and Tennessee. The civil law being the common law of Louisiana, the wife is there a *partner* of the husband, and, accordingly, instead of being entitled to dower, she is, on the dissolution of the copartnership, by his decease, entitled to her share of the joint stock. The laws of the other U. States, generally, agree with the English in giving the wife, for dower, a life estate in one third part of the lands and tenements of which the husband was seized, in fee simple or fee tail, during the coverture, or, in some of the states, as before mentioned, at the time of his decease. In some states, as Alabama and Tennessee, the widow has the right to occupy the principal mansion-house of her husband during her life, unless, in the opinion of the court, this would be too great a share; and much discretion appears to be given to the court in judging whether this is an excessive proportion of the husband's estate. As to the particular modes of proceeding in assigning or setting off the widow's dower, in England and the different U. States, it would too much extend this article to go into the detail of them. Besides dower, the widow is generally entitled to a greater or smaller portion of her husband's personal property, not, as in case of the dower, merely to receive the income of it for her life, but she has it absolutely. The laws of some of the U. States provide, that lands sold by the sheriff, to pay the debts of the husband, shall be discharged of the wife's dower; in others, it is set off to the creditor, or sold under a judgment obtained by him, subject to this right, and is, accordingly,

set off at a lower appraisement, or sold at a lower price.

DOWNING STREET, Westminster, London; a street from which many important state papers are dated, because here are the offices of the ministers of the foreign and home departments. Business with foreign ministers is generally transacted in Downing street. The two offices are not far from Westminster abbey and St. Stephen's, where parliament assembles.

Downs; banks or elevations of sand, which the sea gathers and forms along its shores, and which serve it as a barrier. The term is also applied to large tracts of naked, poor land, on which sheep usually graze.

Downs; a celebrated road for ships, extending six miles along the east coast of Kent, in England, between North and South Foreland, where both the outward and homeward bound ships frequently make some stay, and squadrons of men-of-war rendezvous in time of war. It affords excellent anchorage, and is defended by the castles of Deal, Dover and Sandwich, as well as by Goodwin sands.

Doxology (from *δοξα*, praise, glory, and *λογος*, the word). This name is given to hymns in praise of the Almighty, distinguished by the title of *greater* and *lesser*. Both the doxologies have a place in the church of England, the former being repeated after every psalm, and the latter used in the communion service. Doxology the greater, or the angelic hymn, was of great note in the ancient church. It began with the words which the angels sung at our Savior's birth, "Glory be to God on high," &c. It was chiefly used in the communion service, and in private devotions. Doxology the lesser was anciently only a single sentence, without response, in these words—"Glory be to the Father, and to the Son, and to the Holy Ghost, world without end; amen." Part of the latter clause, "as it was in the beginning, is now, and ever shall be," was inserted some time after the first composition. Some read this ancient hymn, "Glory be to the Father, and to the Son, with the Holy Ghost"; others, "Glory be to the Father, in or by the Son, and by the Holy Ghost." This difference of expression occasioned no disputes in the church, till the followers of Arius began to make use of the latter as a distinguishing characteristic of their party, when it was entirely laid aside by the Catholics, and the use of it was sufficient to bring any one under suspicion of heterodoxy. The doxology was used at the close of every

solemn office. The Western church repeated it at the end of every psalm. Many of the prayers were also concluded with it, particularly the solemn thanksgiving or consecration prayer, at the celebration of the eucharist. It was also the ordinary conclusion of the sermons.

DOYEN, Gabriel François, born at Paris, in 1726, a pupil of the painter Vanloo. At the age of 20, he gained the first prize for painting. He went to Rome, in 1748, where the works of those painters, who were distinguished for boldness of design and strength of expression, as Annibal Carracci, Pietro di Cortona, Giulio Romano, Polidore, and Michael Angelo, were the particular objects of his study and enthusiastic emulation. After his return to Paris, he remained a long time without employment, occupied solely with his art. He spent two years in the execution of his *Virginia*, which procured him admission into the academy of painting, in 1758. The picture *La Peste des Ardents*, for the church of St. Roch, increased his reputation. To give his works more truth, he visited the hospitals, and studied the expression and appearances of the sick and dying. He executed several works for the court. In the beginning of the revolution, Catharine II invited him to Russia, gave him a pension of 1200 rubles, with a residence in one of the palaces, and appointed him professor in the academy of painting at Petersburg. After the death of the empress, Paul II continued to treat him with equal favor. He painted much for the imperial palaces, and died at Petersburg, June 5, 1806.

DRACHM (*δραχμή*), the unit of weight and of money among the ancient Greeks, both as a weight and a coin, contained six oboli (*ὀβολοί*), and was itself the 100th part of a mina (*μνᾶ*), and the 6000th part of a talent (*τάλαντον*). 1. According to the calculations of Wurm (*De Pond. Nummorumque rat.*, Stuttgart, 1821), the weight of the Attic drachm is 67.383 grains English Troy weight, and the Attic talent 70 lbs. 6½ oz. The calculation of M. Letronne differs slightly from this. There were several other kinds of drachm and talent in use: those of Ægina were the heaviest, the Æginetic talent being equal to 1,0000 Attic drachms; the Euboic talent was nearly the same as the Attic; the Rhodian and Egyptian talents were each about one third of the Attic. Whenever no particular kind is designated, the Attic talent is meant. 2. The principal Grecian coin was the drachm: it was of silver: it was divided, like the weight, into

six oboli (silver). The tetradrachm (of four drachms) was called the *stater*. These coins differed much in value in different countries in Greece, and in different ages in the same country. The Attic drachm and stater occur most frequently. Those coined previous to the time of Pericles were worth about 17.05 cents, the talents (silver), of course, \$1023; the value of the later drachms (during the two centuries before and after the Christian era), was 15.20 cents; of the talents, \$912.50. The stater, in the former period, was worth 68.2 cents; in the latter, 60.8 cents. Besides these silver coins, there were also the stater of gold, equal in value to 20 drachms, and the talent of gold, which was used sometimes to designate a quantity of gold equal in *value*, sometimes a quantity of gold equal in *weight*, to the silver talent. It sometimes, also, designates a gold coin, weighing six drachms. In the time of Solon, a sheep could be bought for one drachm, an ox for five. In the time of Demosthenes, a fat ox cost 80 drachms, a lamb, 10.

DRACO; an archon and legislator of Athens, about 600 B. C., celebrated for the extraordinary severity of his laws. The slightest offence, such as stealing fruit, and even idleness, he punished with death, no less than sacrilege, murder or treason. Hence his laws were said to be written in blood. Nothing was more natural than that this rigor should render them odious, and prevent their execution, especially as the people became more civilized and refined. Solon was therefore commissioned to compose a new code. (See *Attica*.) Tradition relates that Draco, on his appearance in the theatre at Ægina, where he is said to have carried his laws, was suffocated amidst the applauses of the people, who, according to their custom, threw their garments and caps upon him. He was buried under the theatre.

DRACUNCULI, in medicine; small, long worms, which breed in the muscular parts of the arms and legs, called Guinea-worms, common among the natives of Guinea. The worm is white, round and uniform, resembling white, round tape. It is lodged between the interstices and membranes of the muscles, where it insinuates itself, sometimes exceeding five ells in length. It occasions no great pain in the beginning; but, at such times as it is ready to go out, the part adjoining to the extremity of the worm, where it attempts its exit, begins to swell, throb, and become inflamed: this generally happens about the ankle, leg, or thigh, and rarely higher.

The countries where this distemper is observed are hot and sultry, subject to great droughts, and the inhabitants make use of stagnating and corrupted water, in which it is very probable that the ova of these animalculæ may be contained; for the white people who drink this water are liable to the disease as well as the Negroes.

DRAG; a machine consisting of a sharp, square frame of iron, encircled with a net, and commonly used to rake the mud off from the platform or bottom of the docks, or to clean rivers.

DRAWING THE ANCHOR; the act of trailing it along the bottom, after it is loosened from the ground, by the effort of the wind or current.

DRAGOMAN; an interpreter, employed in the East, and especially at the Turkish court. The dragoman of the Porte, who is in the service of the court, and through whom the sultan receives the communications of the Christian ambassadors, was formerly a Christian, by birth a Greek, and often attained the rank of a prince (*hospodar*) of Moldavia or Wallachia.

DRAGON; 1. One of the northern constellations. Fable says that Juno translated to the heavens the dragon which kept the golden apples in the chamber of the Hesperides, and was slain by Hercules. 2. The dragon of fable. The fabulous stories of this monster reach back almost as far as history. His form is described as most terrible, and his residence has been assigned to almost all countries, particularly that part of India and Africa that was formerly unknown. His length is represented from 20 to 70 ells. Of the latter sort was the dragon which lived in India, according to Ælian, in the time of Alexander the Great, and was venerated as a god. The dragon is described as having no feet, but as crawling like a serpent, his body covered with scales, and his neck, according to some accounts, adorned with a mane. These relations are almost all contradictory, and agree only in this—that the dragon had very acute senses, especially a piercing vision. His strength was so great that he could easily strangle an elephant. His food consisted of the blood and flesh of all sorts of animals, and of various fruits. Notwithstanding his ferocity, however, the dragon might be confined and tamed, which the old authors represent as having happened in various cases. The animal which gave occasion to these fables is probably no other than the great boa constrictor. (See *Boa*.) The fabled dragon of the middle ages had four lion's

feet, a long, thick, serpent's tail, and an immense throat, from which streamed flames of fire. This dragon played a distinguished part in the ages of chivalry: he is one of those monsters whom it was the business of the heroes of romance to destroy. The idea of the dragon of the middle ages probably grew out of indistinct and exaggerated accounts of the crocodile of the Nile, which were brought to Europe by means of the crusades, and from similar descriptions of the largest land serpents. Even at the present day, the existence of dragons is fully believed in by the inhabitants of certain countries. 3. The researches of modern naturalists have served to explode this and many other fictions connected with the history of animals; and, at the present day, the curious inquirer, who seeks for the celebrated dragon, will be disappointed in discovering that the animal to which the name properly belongs, is not an untamable and ferocious monster, but an inoffensive lizard, a few inches long, formidable to nothing but the small insects on which it feeds. The love of gain often makes the natives of warm climates guilty of the most ingenious frauds on the credulity of strangers, for whom they prepare, with great art, fictitious animals, which are purchased by the ignorant, as genuine dragons, mermaids, &c. In this way, ill-informed travellers are led occasionally to revive the fable of the existence of the dragon. Two species of dragon-lizard are described by naturalists, but it is most probable that the second is merely a variety of the first (*D. volans*), which is said to inhabit Asia, Africa, and South America. Length, seldom exceeding 12 inches; body lacertiform; sides furnished with peculiar productions of the skin, supported by internal cartilaginous rays, which, when expanded, enable it to support itself in the air for a few seconds, in springing from branch to branch, among the lofty trees in which it resides; body and wings covered by small scales; back slightly carinate; throat with the skin produced into a pouch-shaped expansion, which is inflated with air, at the pleasure of the animal. The food consists almost exclusively of insects. Color varied with blackish, brown and whitish. The proportions of the animal are delicate, and it is very active. Dried specimens, preserved in the cabinets of the curious, do not give a good idea of the animal, as the process of drying destroys the proportions; and it is also to be regretted that few engraved figures are commendable for their fidelity.

DRAGON'S BLOOD; a resinous juice obtained by incision from several different plants, found between the tropics;—from the trunk of the *pterocarpus draco*, a tree of the natural order *leguminosæ*, growing in the East Indies, which yields *Oriental dragon's blood*; from the *pterocarpus santalinus*, inhabiting tropical America, which affords it in less quantity and more impure; from the *calamus draco*, a palm of the East Indies, from which it is obtained, according to Kämpfer, by boiling the fruit; from a *dalbergia* in Guiana, and a *croton* in South America; from the *dracæna draco*, the native country of which is not known with certainty, but is supposed to be Africa. A single tree of this last species, which was introduced into the Canaries at the time of the conquest, acquired enormous dimensions, and has been visited and celebrated by every traveller, but was destroyed by a storm, in 1822. Dragon's blood is obtained, in commerce, in three principal forms—in that of oval masses, of the size of a pigeon's egg, enveloped with leaves of the pandanus; in cylinders, covered with palm leaves; and in irregular masses, marked with impressions of leaves: that in oval masses is the most esteemed. It is often very much adulterated, and other substances are substituted; particularly gum Arabic and gum Senegal, colored with logwood, &c. Several of these substances may be detected by their dissolving in water, while dragon's blood is nearly insoluble; others require to be submitted to some chemical tests. Madagascar furnishes this resin of a good quality, but so much mixed with foreign substances, that it is little used. Dragon's blood is opaque, of a deep reddish-brown color, brittle, and has a smooth and shining conchoidal fracture; when in thin laminae, it is sometimes transparent; when burnt, it gives out an odor somewhat analogous to benzoin; its taste is a little astringent; it is soluble in alcohol, and the solution will permanently stain heated marble, for which purpose it is often used, as well as for staining leather and wood. It is also soluble in oil, and enters into the composition of a very brilliant varnish, which is much esteemed by artists. Its quality may be proved by making marks on paper: the best leaves a fine red trace, and commands a pretty high price. It was formerly in high repute as a medicine, but at the present time is very little used. An astringent resin, obtained from the *eucalyptus resinifera* of New Holland, bears the name of *dragon's blood* in the English settlements in that country.

DRAGON-SHELL, in natural history; a name given to a species of concamerated patella or limpet. It has a top very much bent, and is of an ash-color on the outside, but of an elegant and bright flesh-color within. It has been found sticking to the back of a tortoise, as the common limpets do to the sides of rocks, and some have been affixed to large shells of the *pinna marina*.

DRAGOON; a kind of light-horseman, of French origin, trained to fight either in or out of the line, in a body, or singly, chiefly on horseback, but, if necessary, on foot also. The dragoons were mounted, armed and exercised as these objects require. They probably took the name of dragoons from the Roman *draconarii*, whose lances were adorned with figures of dragons. Experience proving that they did not answer the end designed, they were hardly ever used in infantry service, and now form a useful kind of cavalry, mounted on horses too heavy for the hussars, and too light for the cuirassiers. —*Dragoonades*, dragoon-conversions; i. e. conversions which are compelled by force of arms; forced conversions. Louis XIV, for instance, sent dragoons for this purpose to the Cevennes, in 1684, to chastise the Huguenots.

DRAKE, sir Francis, a distinguished English navigator, was born at Tavistock, in Devonshire, 1545, and served as a sailor in a coasting-vessel, which sometimes made voyages to France and Ireland. He gained the favor of his master, who, on his death, left his vessel to him. Sir John Hawkins, one of his relations, then took him under his care, and, at the age of 18, he served as purser of a ship which traded to Biscay. At 20, he made a voyage to the coast of Guinea; at 22, received the command of a ship, and distinguished himself by his valor in the unfortunate expedition of sir John Hawkins against the Spaniards, in the harbor of Vera Cruz. In this affair, however, he lost all which he possessed. Hereupon he conceived an inveterate hatred against the Spaniards, and projected new expeditions against them. He had no sooner made his plans known in England, than a multitude of adventurers joined him. He now made two cruises to the West Indies, but avoided an engagement with the Spaniards. The result of these voyages, however, was so successful, that he received the command of two vessels, in 1572, for the purpose of attacking the commercial ports of Spanish America. One of them was commanded by his

brother. He captured the cities of Nombre de Dios and Vera Cruz, lying on the eastern coast of the isthmus of Darien, and took a rich booty. After his return, he equipped three frigates at his own expense, with which he served as a volunteer, in an expedition to Ireland, under the command of the earl of Essex, father of queen Elizabeth's favorite. On the death of his protector, he returned to England. Sir Christopher Hatton, vice-chamberlain and privy-counsellor of queen Elizabeth, introduced him to this princess. Drake disclosed to her his plan, which was to pass through the straits of Magellan to the South seas, and there to attack the Spaniards. The queen furnished him with means for equipping a fleet of five ships for this purpose. Drake sailed from Plymouth Nov. 13, 1577, and arrived at the straits of Magellan Aug. 20, 1578. Nov. 6, he succeeded in leaving the straits, but was overtaken by a storm the day after, which compelled him to steer to the south. Returning to the extremity of the straits, he called the bay in which he anchored The Parting of Friends, on account of the separation of one of his ships. New storms again drove him to the south. He now found himself between the islands which geographers, in later charts, have laid down as 200 leagues west of America. But Fleurieu has proved that they belong to those numerous islands, as yet but little known, which compose the south-western part of the Archipelago of the Terra del Fuego: he has shown, likewise, that Drake then saw cape Horn, and has, therefore, the honor of the discovery. November 20, Drake came in sight of the island of Mocha, south of Chile, where he had appointed a rendezvous for his fleet. As none of his vessels arrived, he continued his course to the north, along the coast of Chile and Peru, in search of Spanish ships, and suitable places for making incursions into the country. When his crew was sufficiently enriched with booty, he followed the coast of North America, to 48° north latitude, hoping to find a passage into the Atlantic. Deceived in his expectations, and compelled by the cold to return to 38°, he named the place where he repaired his vessels New Albion, and took possession of it in the name of queen Elizabeth. Sept. 29, 1579, he directed his course to the Moluccas, and anchored at Ternate, Nov. 4. He narrowly escaped being lost near the Celebes. Nov. 3, 1580, he arrived at Plymouth; April 4, 1581, Elizabeth herself went on board Drake's

vessel, then at anchor at Deptford, dined with him, knighted him, and approved of what he had done. In 1585, Drake disturbed the Spaniards anew in the Cape Verd islands, and in the West Indies. In 1587, he commanded a fleet of 30 sail, which burned a part of the celebrated armada in the harbor of Cadiz, and, in 1588, commanded, as vice-admiral, under lord Howard, high-admiral of England, in the conflict with the Spanish armada. A rich galleon surrendered to him at the mere sound of his name, and he distinguished himself in the pursuit of the enemy. In 1589, he commanded the fleet intended to restore don Antonio to the throne of Portugal. But this enterprise failed on account of a misunderstanding between Drake and the general of the land forces. The war with Spain still continued. Drake and Hawkins proposed to Elizabeth a new expedition against the Spaniards in the West Indies, which should surpass all that had preceded it. They were willing to bear a part of the expense, and the queen furnished ships. The expedition, however, was unfortunate. Nov. 12, 1595, the day of sir John Hawkins's death, Drake's vessel, in sailing from the port of Porto Rico, was struck by a cannon-ball, which carried away the chair in which he sat, without doing him any injury. The next day, the Spanish vessels were attacked before Porto Rico with great violence, but without success. He then sailed to the continent, and set fire to Río de la Hacha and Nombre de Dios; but, having undertaken an expedition against Panama, some days after, which entirely failed, the disappointment threw him into a slow fever, which terminated his life, Dec. 30, 1596, O. S. (Jan. 9, 1597). Among the honorable uses of his wealth must be mentioned his providing Plymouth with water, which he brought from the distance of 20 miles. To him Europe is indebted for the introduction of the potato. (See *The famous Voyage of Sir Francis Drake into the South Sea, and hence about the whole Globe of the Earth*, London 1600, 12mo., edited by Francis Pretty, who served under Drake.)

DRAMA (the Greek δράμα, from δράω, I act); a class of writings in which the author does not appear as such, either reasoning or relating, but persons are represented as acting and speaking, and the course of the story and the feelings of the parties are to be gathered from what they say. In epic poetry, the persons of the poem are also often introduced speaking, but description is the prevailing

characteristic of the epopee, whilst, in the drama, every thing is represented as actually happening. The drama, therefore, represents *action* and its motives directly, not in the way of description. Taking the word in its most general sense, we also call an epic poem or a novel *dramatic*, when a quick succession of interesting events is rapidly developed; when, in a word, action prevails over description or reasoning. The French, however, designate by *drame* only something intermediate between tragedy and comedy. The origin of the drama must be sought for in that powerful agent in human nature—the love of imitation. The rude war-dance of a savage tribe is a beginning of the drama, because it represents an action for the entertainment of the spectators or performers, and the dance is found among all early religious rites. (See *Dance*.) So dramatic performances, that is to say, imitative representations of important events, in religious history, are found among the rites or religious services of all nations in their early period. With many they are always preserved; as the Catholics, both Greek and Roman, to this day, at the celebration of their various festivals, bring forward exhibitions, which represent, with more or less accuracy, the chief particulars of that event which is to be commemorated. These religious performances are connected with or give rise to the symbolical performances in the different rites. Thus the Catholic priest, by moving from one end of the altar to the other, while reading mass, indicates the flight of Joseph and Mary to Egypt. The elements of the dramatic art, as has already been said, are found among all nations; and every people, which has made progress in civilization, has, at the same time, developed this art. The Chinese and the Indians have their dramatic performances; but the Europeans are indebted for the drama, as for so many other productions of civilization, to the Greeks. From them it passed to the Romans, whose acquisitions in civilization were in part preserved, and in part revived by the Italians, though the latter never cultivated this species of poetry, at least the tragic branch of it, so much as the epic and lyric. The gifted Machiavelli, inspired by the productions of the ancients, may be said to have commenced a new era of the drama, though the art had been in some measure cultivated by the Italians before his time. But the dramatic genius who has surpassed all ancient and modern writers, in universality of conception and

knowledge of human nature, appeared among the English. The drama began with action; that is to say, with pantomimic dances. No art, useful or ornamental, is, in its origin, clearly defined. The dramatic art, in its origin among the Greeks, was by no means so distinctly separated from epic and lyric poetry as we find it at a later period. The Greek comedy commenced about 580 B. C., with Susarion, the contemporary of Thespis, who travelled from place to place, holding up to ridicule, on a small movable stage, the follies and vices of his age. The old comedy of the Greeks consisted of dramatic-epic songs connected with dancing, by which travelling actors entertained the people; hence the name *comedy* (*κωμῳδία*), signifying, originally, *village-song*. The contents of these songs were mirthful, ludicrous, often indecent. By degrees, tragedy became a distinct branch of the art, and its graver scenes served as an entertainment for the inhabitants of the cities, whilst the comedy retained its gay character, and chiefly served to amuse the country people of Attica. Regular companies of comedians were at length established at Athens, where they were only tolerated by the government. A chief, a dancing and singing chorus, together with several actors, appeared on a convenient stage. Epicharmus, about 485 B. C., introduced unity of action, and modeled his comedies after the tragedies. His comedies were popular in Greece, and among his followers are distinguished Phormes, Magnes, Crates, Cratinus, Eupolis, Pherecrates and Aristophanes. With all these, personal satire was the chief object, and magistrates, as well as private persons, were called by name and exhibited on the stage. The old comedy of the Greeks was thoroughly national, with somewhat of a political tendency. It was in vain prohibited by laws and decrees of the people. At the end of the Peloponnesian war, comedy received a new character and form. The *middle comedy*, so called, now began. The new oligarchy deprived the people of the privilege of ridiculing the measures of government. It was strictly prohibited to bring living persons by name on the stage, and the chorus, till then the chief instrument of vituperation, was abolished; whilst, with the representations of general characters, corresponding masks were introduced, instead of those imitating the countenances of particular individuals. Even Aristophanes was obliged to submit to these regulations in his last productions, and thus comparative decorum was

introduced into the representations. The subjects of comedy continued to be taken from mythology and history; but the descriptions of the ridiculous were more general than formerly, when they were often entirely individual. The chorus rarely appeared. To the *new comedy* of the Greeks belongs Menander, about 300 B. C., who, by the keenness of his wit, and the regularity of his pieces, began a new period of the Greek comedy. Of him and Philemon fragments only have come down to us. (For a particular account of the character of the Greek comedy, as distinguished from the tragedy, we refer the reader to the excellent *Lectures on Dramatic Literature*, by A. W. Schlegel.) Tragedy consisted, originally, of lyric and epic songs, sung in honor of Bacchus, at the festival of the vintage. The traces of its origin are lost. (See *Greek Literature*.) The invention of tragedy is generally ascribed to Thespis (q. v.), who was followed by Phrynichus. The true creator of the tragedy was Æschylus (q. v.); Thespis had only one actor, who from time to time relieved the chorus by declamation. Æschylus changed this representation into real action, by making use of two, sometimes three or four actors, and inventing the dialogue. Being assisted by the liberality of the government, he increased the number of his actors, who now became the principal object of interest with the spectators: the chorus, on the other hand, became less prominent; its songs were shortened, though they still remained very long, and were always written in a tone of the highest lyrical elevation, which sometimes appears even in the dialogue. Æschylus aimed more at sublimity than beauty. There are many traces of rudeness in his plays, yet they are wonderfully grand. The action is simple in the extreme. The chorus no longer chants songs which have no connexion with the play, but it forms a part of one whole, is the adviser of kings, the confidant of the persons of the action, the comforter of the unhappy, the terror of tyrants. Instead of wine lees, with which the actors of Thespis had besmeared their faces, Æschylus introduced masks; and, by means of a long gown and the *colthurnus* (q. v.), the lofty stature of the heroes was imitated. The accommodations for the spectators were improved, and machinery and scenery were introduced. Æschylus generally instructed his actors himself, in the declamation of his pieces. Sophocles (q. v.) followed him, and showed himself

a master of the tragic art: he knew better than his predecessor how to excite compassion, and to move the human heart. Euripides (q. v.) was superior to both in this respect, but he is not so happy in the plan and execution of his plays. These three great poets carried the Greek tragedy to its perfection. Many poets followed them, but only the three just named have left works which have come down to us. (See Böckh *Ueber die griechischen Tragiker*—On the Greek Tragedians.) The Romans, a practical nation, and not possessing that keen sense of beauty which we find in ancient Greece, never accomplished much in this branch. The earliest specimens of the drama in Italy were the *Fabula Atellana*, so called from *Atella*, a city of the Oscians, whence the performers in these entertainments came to Rome. Plautus and Terence were imitators of the new Greek comedy. Of the Roman tragedy, the dramas which go under the name of Seneca are the only specimens extant. (See *Seneca*, and *Ennius*.) When the enormous accumulation of wealth in Rome, and the total depravity of morals, had corrupted almost every thing which ancient Rome and Greece had produced, the theatre became little better than a show-place, where spectacles were exhibited, rather than plays performed. In the beginning of the middle ages, when every thing noble was buried under the deluge of barbarism, the dramatic art was lost, or existed only among the lowest classes of the people, in plays improvised at certain festivals, for instance, the carnival. These were attacked as heathenish, immoral, and indecent exhibitions; but the favor which they enjoyed among the people, and the spirit of the times, induced the clergy to encourage theatrical exhibitions of subjects from sacred history. These were called *mysteries* (q. v.), and, in all the southern countries of Europe, as well as in Germany and England, preceded the rise of the national drama. (See *Ancient Mysteries*, especially the *English Miracle-Plays*, by William Hone, London, 1823.) Of this kind were the ridiculous *Festa Asinaria*, in which mass was read by persons dressed like asses, and every means taken to divert the people in churches, on the occurrence of the festival of Easter. So popular were these extravagances, that even the decrees of popes against them were for a long time of little avail. With Albertino Mussati (born 1260) a better kind of drama arose. He wrote some tragedies, and the drama, in Italy, was divided into the *eru-*

dita and the *commedia dell' arte*, which last is supposed to be derived from the ancient *Fabula Atellanæ* and the *mimi*. Cardinal Bibbiena wrote the first genuine Italian comedy—the *Calandria*—an account of which would startle the reader, who should be told that it was performed for the amusement of the holy fathers of the church, and the principal clergy, in the presence of the ladies of the court. Ariosto and Machiavelli wrote dramas; and of the *Mandragola* of the latter, Voltaire says, that it is worth all the comedies of Aristophanes; which shows, at least, that it is a truly valuable performance. The comedy was cultivated by many Italians, including numerous ecclesiastics. Leo X was a great patron of the theatre. Alfieri is the most important of the dramatic writers of Italy; yet his comedies are to be considered rather as bitter satires. His comedies are more tragic than his tragedies. (See *Alfieri*, and *Goldoni*.) The other European nations cultivated the dramatic art much later than the Italians. The English and Spaniards devoted their attention to it almost at the same time; the former reaching their acme in Shakspeare, the latter in Lope de Vega. The history of the English theatre and the drama is naturally divided into two parts, the first of which begins with Elizabeth, and ends with the reign of Charles I. The Puritans then prohibited all kinds of plays, and the theatres were shut up for 13 years. With Charles II the drama reappeared, and exhibited a licentiousness hardly equalled by that of any other Christian nation. No species of literature was more admired and more debased than this. From the close of the 17th to that of the 18th century, British comedy was cultivated with much success by Cibber, Farquhar, Congreve, Sheridan and others. In tragedy, during the same period, the British have little to boast of, and at present the theatre of Britain is at a very low ebb. The French drama was in a miserable state before Corneille. "It was," says Schlegel, "in its childhood, and that not a healthy and promising childhood, but a crippled one." Corneille, Racine, Voltaire, Molière, Scarron, Boursault, &c., are some of the most distinguished dramatists. The theory of the unities, to which the French have so tenaciously adhered, is so opposed to what the English and Germans call true, elevated poetry, that the latter have been little satisfied with the French tragic muse, whom they consider cold, stiff and un-

poetical; but French comedy is universally admired. So much has been said about the difference between tragedy and comedy—a difference greater than exists between any other species of poetry that fall under the same general class—and the explanations of what constitutes this difference are often so unsatisfactory, that we may be excused for introducing, at some length, the remarks of Schlegel on this subject, in his work above mentioned:

"Tragedy and comedy bear the same relation to one another as earnestness and mirth. Both these states of mind bear the stamp of our common nature; but earnestness belongs more to the moral, and mirth to the sensual side. The creatures destitute of reason are incapable of either. Earnestness, in the most extensive signification, is the direction of our mental powers to some aim. But as soon as we begin to call ourselves to account for our actions, reason compels us to fix this aim higher and higher, till we come at last to the highest end of our existence; and here the desire for what is infinite, which dwells in our being, is thwarted by the limits of the finite, by which we are fettered. All that we do, all that we effect, is vain and perishable; Death stands every where in the back ground, and every good or ill spent moment brings us in closer contact with him. And even if a man has been so singularly successful as to reach the utmost term of life without misfortune, he must still submit to leave all that is dear to him on earth. There is no bond of love without separation, no enjoyment without grief for its loss. When we contemplate, however, all the relations of our existence; when we reflect on its dependence on an endless chain of causes and effects; when we consider that we are exposed in our weakness to struggle with the immeasurable powers of nature, and with conflicting desires on the shores of an unknown world; that we are subject to all manner of errors and deceptions, every one of which is capable of undoing us; that, in our passions, we carry our own enemy in our bosoms; that every moment demands from us the sacrifice of our dearest inclinations, in the name of the most sacred duties, and that we may, at one blow, be robbed of all that we have acquired by toils and difficulties; that, with every extension of possession, the danger of loss is proportionally increased, and we are the more exposed to the snares of hostile attack,—then every feeling mind must be filled by melancholy,

against which there is no other protection than the consciousness of a destiny above this earthly life. This is the tragic tone; and when the mind dwells on the consideration of the possible, as an existing reality; when that tone is inspired by the most striking examples of violent revolutions in human destiny, either from dejection of soul, or after powerful but ineffectual struggles,—then tragic poetry has its origin. We thus see that tragic poetry has its foundation in our nature, and, to a certain extent, we have answered the question, why we are fond of mournful representations, and even find something consoling and elevating in them? As earnestness, in the highest degree, is the essence of the tragic tone, the essence of the comic is mirth. The disposition to mirth is a forgetfulness of all gloomy considerations, in the pleasant feeling of present happiness. We are then inclined to view every thing in a sportive light, and to admit no impressions calculated to disturb or ruffle us. The imperfections of men, and the incongruities in their conduct and relations, are no longer an object of dislike and compassion, but serve to entertain the mind. The comic poet must, therefore, carefully abstain from whatever is calculated to excite moral disgust with the conduct of men, or sympathy with their situation, because this would bring us back to a tone of earnest feeling. He must paint their irregularities as arising out of the predominance of the sensual part of their nature, and as constituting a mere ludicrous infirmity, which can be attended with no ruinous consequences. This is uniformly what takes place in what we call *comedy*, in which, however, there is still a mixture of seriousness, as I shall show in the sequel. The oldest comedy of the Greeks was, however, entirely gay, and, in that respect, formed the most complete contrast with their tragedy. Not only the characters and situations of individuals were worked up into a picture of the true comic, but the state, the constitution, the gods, and nature, were all fantastically painted, in the most extravagantly ridiculous and laughable colors."

We shall now say a few words respecting the so much talked of unities in the drama. In consequence of a passage in the Poetics of Aristotle, the French, principally through the influence of Boileau, adopted the theory of the three unities in a drama,—those of action, place and time,—and this theory has recom-

mended itself so strongly to the national taste, that a strict observance of the unities is considered, by the French, one of the chief merits of a dramatic production. The reader who wishes to form a correct idea of the theory of Aristotle, may consult with advantage the work of Schlegel, above mentioned. The French have construed it to mean, in substance, as follows: 1st, that the action of the drama must be one; the interest or attention must not be distracted by several plots, but every thing must be subservient to the main action; 2dly, all the actions must take place on the same spot, or very nearly so, in order that the illusion may not be disturbed; and, 3dly, every thing ought to happen on the same day, for the same reason. These three rules are all true to a certain degree. The unity of action is as necessary in a drama as in any production of the fine arts; the whole must be essentially one; but the Germans and English think it absurd to confine unity of action within such narrow limits as the French do. On the contrary, as, in a picture of Raphael, many groups exist, all interesting, yet all contributing to form one great picture, and subservient to the main object of the work; so they think it not only allowable, but an excellence, to introduce a number of actions in a drama, if they are so connected as all to make but one whole. What a variety of character and action is to be found in *Romeo and Juliet*! and yet how closely is every thing connected! how directly every scene draws towards the great tragic end! The grandeur of a lofty dome is not diminished by the statues and bas-reliefs which it may contain. The two other unities—those of place and time—may also be too servilely followed. As for disturbing the illusion, Schiller very truly says, that every thing on the stage is different from reality. Who thinks that the light of the lamps is daylight? Who, we ask, ever found such a precise square as the stage in a forest? or who ever saw people in real life turning their faces all to one point, as the actors necessarily do, that their action may be seen. The French consider it a great fault if an actor turns his back towards the audience. Is not this inconsistent? Besides, is not the very theory of unity of time, which requires all the events in a drama to happen on one day, entirely at variance with nature? and which is easier, to consider all the events represented in a drama, all the developments of the actions, as happening in one day, or to transport ourselves, in imagina-

tion, from one place to another, and suppose weeks and months to pass between the falling and rising of the curtain? Yet there is no doubt that the performance may make too great claims on our imagination. It is impossible to settle precisely the limits within which the dramatic writer should confine himself. As long as he can avoid offending the imagination by the abruptness of his transitions, he may be considered as not having overstepped the just bounds. The liberties allowed in the drama, as in all the higher branches of art, must depend very much on the genius of the artist. Since the revolution, particularly since 1814, a new dramatic school has been formed in France, which, departing from the ancient strictness of the *classic drama*, so called, approaches more and more to the German and English, or the *romantic drama*, so called. Madame de Staël, in her *L'Allemagne*, treats this subject at some length. We must refer the reader, for further information on this interesting subject, to Augustus William Schlegel's work, *Ueber dramatische Kunst und Litteratur*, Heidelberg, 1809 (On dramatic Art and Literature; translated into English, by John Black, London, 1815), which may be considered at once as a model of the higher species of criticism, and a specimen of German erudition and philosophy.

DRAMATURGY; the science which treats of the rules for composing a drama and representing it on the stage, as far as the subject can be brought under general rules. It comprehends the whole poetry of the drama, and the theory of dramatic representation. No work embracing the subject in its whole extent has yet been published. The splendid lectures of Schlegel on dramatic art and literature approach nearest to it. The first who published a work under this name was Lessing. Tieck's *Dramaturgical Essays* deserve to be mentioned here.

DRAPERY. (See *Costume*.)

DRAUGHT; the depth of a body of water necessary to float a ship; hence a ship is said to draw so many feet of water, when she is borne up by a column of water of that particular depth; for instance, if it requires a body of water whose depth is equal to 12 feet, to float or buoy up a ship on its surface, she is said to draw 12 feet water; and, that this draught may be more readily known, the feet are marked on the stem and stern-post from the keel upwards.

DRAUGHTS; a game played on a checkered board, like the chess-board, with 24

pieces, which, by angular movements, are enabled to take each other, according to certain rules, until one of the parties has lost all his men, or is placed in a situation to lose them all, when the game is at an end.

DRAWBACK, in commerce; an allowance made to merchants on the re-exportation of certain goods, which in some cases consists of the whole, in others of a part, of the duties which had been paid upon the importation. A still more equitable arrangement than that of drawbacks, is, to allow the merchant, who imports any commodity which he may probably wish to export again, to deposit it in the public warehouses, giving a bond for the payment of the duties, should he dispose of it for home consumption. This is called *bonding*, and is allowed to a considerable extent in England.

DRAWING, considered as a distinct branch of art, is the elder sister of painting, and, in the course of time, became connected with geometry. It is the art of representing, by means of lines, upon a flat surface, the forms of objects, and their positions and relations. The attempt to imitate, by lines, the forms which we see in nature, is the commencement of all drawing. According to a Greek tradition, drawing and sculpture took their rise together, when the daughter of Dibutades drew the outline of the shadow of her lover upon the wall, which her father cut out and modelled in clay. We can distinguish, in the earliest attempts at drawing, different epochs, which are found in almost all nations:—1. Objects were delineated only with rude, shapeless lines; e. g., an oval represented a head. 2. In order to make such drawings more striking to the eye, the sketch was filled up with black, or some other color, and then the eyes, eyebrows, nose, mouth and hair were marked with white upon the dark surface. To all these figures the name was attached, and, in general, explanatory words, such as we find upon all the old vases. This custom was continued by the Greeks, even in the most flourishing period of the art of drawing among them; for the figures of the great picture of Polygnotus, at Delphi, were designated by such inscriptions. In the 3d epoch, an attempt was made to give animation to pictures, by representing the different colors of the drapery; but, as yet, there was no attempt at perspective. In this manner Helen and Andromache embroidered tapestry, as described in the poems of Homer. In the 4th period, the want of

prominence in the figures was remarked. Ardices and Telephanes (probably fictitious names) began, by drawing lines in the back ground, to produce the appearance of shadow, and to give prominence to their figures. In later times, Polidoro di Caravaggio delineated in this way many frescoes in Rome, where he used only a single color, but produced the shading by lines drawn thus, in the manner called *hatching*. These works are called *al sgraffito* or *peintures hachées*. This manner of drawing, however, was very hard. Philocles and Cleanthes invented the *monochrome*, or picture with one color. In the *monochrome*, the color used was mixed with white, so that this resembled the manner that is now called *en camayeux*. This was the first step from drawing to proper painting, which is distinguished by having the back ground of the picture filled. The Greeks were very careful and particular in their instruction in drawing. Pamphilus, the teacher of Apelles, wished his pupils to remain with him 10 years. There were three stages of instruction: in the first, firmness of hand and of stroke was obtained, and the learners drew with styles upon tablets covered with wax; in the second, fineness and delicacy of stroke was studied, while the learner labored with the style upon smooth tablets, made of boxwood, and sometimes upon membranes, or upon the skins of wild beasts, properly prepared, and covered with wax. In the third stage, freedom and ease were to be acquired; here the pencil was used instead of the style, and with it black or red sketches were drawn upon white tablets, or white sketches upon black tablets. The tablets used were covered either with chalk or gypsum. Line-drawing was carried to the highest perfection, and was the glory of the greatest masters. The rivalry of Apelles and Protogenes in such lines, drawn with distinguished delicacy and skill, and displaying a master's hand, is well known. This fineness and clearness of outline is also the chief merit of the celebrated vase painters. Something hard and dry was found in the pictures executed on such outlines, and it may well be maintained that this manner of drawing, through the influence of the Byzantine school on the west of Europe, gave rise to the dry and meager style of the old Italian as well as of the old Dutch school.

When we consider the art of drawing as it exists at the present time, we perceive that the kinds of drawing are three—with the pen, with crayons, and with Indian

ink, or similar substances. Artists sometimes employ colored and sometimes white paper; in the former case, the lights are produced by white crayons; but in the latter case, they are produced by leaving the paper uncovered. The drawings with the pen have always something hard and disagreeable, yet they give steadiness and ease to the hand, and are peculiarly serviceable to landscape painters. There are two different ways of drawing with the pen; either the drawing is darkened on the shaded side with lines, or the outline only is given by the pen, and the shades are delicately touched in with India ink. This mode is peculiarly adapted to architectural drawings. The crayon drawings are the most common, and the most suitable for beginners, because any faults can be effaced or covered over. Artists make use of black, as well as of red crayons; and, when the ground is colored, they produce the light by means of white crayons. If the crayon is scraped, and the powder rubbed in with little rolls of paper or leather, the drawing becomes exceedingly delicate and agreeable, though its outline is deficient in strict precision. This manner, which, from the French name of the rolls used, is also called *à l'estompe*, is peculiarly suitable for large masses, and shades, and *chiaroscuro*, and for producing a harmonious effect of light. There are also crayon drawings, where the principal colors of the objects painted are delicately sketched with colored pencils. These are peculiarly suitable for portraits. To this kind of drawings belong likewise those made with lead and silver pencils, upon paper and parchment, which are suitable for the delicate delineation of small objects. In some cases, drawings of this description are softly touched with dry colors. There is another style of drawing, in which India ink, or sepia and bistre intermingled with carmine and indigo, are used. The lights are produced by leaving the white surface uncovered. This mode produces the finest effect, and is very much used in the representation of all kinds of subjects. There are various classes of drawings, as sketches, studies, academy figures, cartoons, &c. *Sketches* are the first ideas of the subject of a picture, thrown off hastily, to serve as the basis of a future drawing. They are made with charcoal, with the pen or the pencil. To the rapidity of their execution may be ascribed the animation perceptible in the sketches of great masters, of which there are rich collections. *Studies* are copies of single parts of subjects,

made either after life or from models ; as heads, hands, feet, sometimes also whole figures. Drawings from skeletons and anatomical preparations, those of drapery, animals, plants, flowers, scenery, &c., are also called by this name. *Academy figures* are drawn from living models, who stand in academies of fine arts and other establishments, intended for the education of artists. The models, male and female, of all ages, are placed in different situations and attitudes, on an elevated spot, by lamp light. The pupils stand round and draw, under the direction of professors. Experienced painters and sculptors likewise continue to draw from living models, either in private or in company. The most perfect figures, of course, are selected. In order to study drapery, a little figure of wood, with movable limbs, is placed so that the student can draw from it. The drapery is often put on wet, that it may follow more closely the form of the body, and that the folds may be more marked and expressive. *Cartoons* (q. v.) are drawings on gray paper, of the same size as the paintings which are to be copied from them. These are, for instance, large oil paintings, fresco pictures, &c. Artists make use, also, of other means, in order to transfer the outlines of a painting upon another canvass, if they wish to copy very faithfully. If the copy is to be on a larger or a smaller scale than the original, it is customary to place on each canvass frames of wood, the space enclosed by which is divided, by means of threads, into quadrangular compartments. The compartments on the original are larger or smaller than the others, as the case may be. The artist then draws in each square of his canvass what he finds in the corresponding square in the original. If the copy is intended to be precisely of the same size with the original, the outlines are often traced through a black gauze, from which they are afterwards transferred by pressure to the canvass of the copy. This, it is true, does not give any distinct forms, but it indicates precisely the spot where every object is to be placed, which saves much time. If the intention is to copy the outlines of the original exactly, it is necessary to make a *calque*, that is, a paper saturated with varnish, and quite transparent, which is put on the painting ; the outlines are drawn ; then the paper is blackened with crayons on one side, put on the new canvass, and the outlines are followed by some pointed instrument, and thus transferred to the canvass. It is evident, that it is never allowable to take a

copy in this way from very valuable pictures. The sketches of great masters are always valued very highly, because they show most distinctly the fire and boldness of their first conceptions. But for this very reason, because their excellence depends on the freedom with which they are thrown off, it is far more difficult to make copies from them than from finished paintings. The great schools in painting differ quite as much in respect to drawing as in respect to coloring. The style of drawing of the old Italian school is as hard, dry and meager as that of the old German school. The defects of the former are more often redeemed by beautiful forms and just proportions, whilst in the latter a meaning is frequently expressed which inclines more to poetry than to art. At a later period, the Roman school became, in Italy, through the influence of Raphael's exquisite sense of the beautiful and expressive in form, and through the study of the antique, the true model of beautiful drawing. The Florentine school strove to excel the Roman in this respect, and lost, by exaggeration, the superiority which it might, perhaps, otherwise have gained from its anatomical correctness and deep study of the art. The masters of the Florentine school often foreshorten too boldly. In the Lombard school, delicate drawing appears through enchanting coloring ; but perhaps it is more true to nature and feeling than to scientific rules. The Venetian school, in reference to the other schools of Italy, has many points of resemblance, good and bad, with the Dutch school, in reference to Germany. In the Venetian school, the drawing is often lost in the glow and power of the coloring ; and it is very often not the nobleness of the figures and ideas in the drawing, but the richness, boldness and glowing nature of the painting, which delight us. The French school was, in Poussin's time, very correct in drawing ; and he was justly called the *French Raphael*. At a later period, the style of this school became *maniéré*. David introduced again a purer taste in drawing, and a deep study of the antique. This study of the antique, together with the precision of their drawing, are the distinguishing characteristics of the modern French school. In Germany, there cannot be said to be any general style of drawing peculiar to her artists. The many distinguished artists of that country have formed themselves individually, by the study of nature and works of art ; and whilst some of the most celebrated painters are distinguished for cor-

rect drawing, others are reproached for the want of it, in some of their finest pictures. On the whole, their drawing is not so correct as that of the French. Many young German artists unfortunately consider the *naïveté* of the ancient masters of their country as beauty, and strive to imitate it.

DRAWING SLATE, sometimes called *black chalk*, is a fine-grained, soft stone, pretty nearly allied to clay slate or argillite, a rock along with which it always occurs. It adheres slightly to the tongue, and feels fine and rather meager. It soils more or less, and writes; hence its use as a marking or drawing material. The best kind comes from Italy, Spain and France.

DRAYTON, William Henry, a statesman of the American revolution, and an able political writer, was born in South Carolina, in September, 1742. In 1753, he went to England, and was placed in Westminster school; thence he removed, in 1761, to Oxford, where he continued nearly three years, when he returned to South Carolina. In 1771, he was appointed, by the British government, privy counsellor for the province, and became conspicuous by his defence of the rights of his country against the encroachments and irregularities of the crown officers and judges. In 1774, he accepted the office of an assistant judge of the province. When the continental congress was about to sit at Philadelphia, he wrote and published a pamphlet under the signature of *Freeman*,—a production, of which Ramsay, in his History of South Carolina, observes, that "it substantially chalked out the line of conduct adopted by the congress." The lieutenant-governor suspended him from his place in the king's council, in consequence of his representation of American grievances, and the "bill of American rights," which he submitted to the congress in his pamphlet. As soon as the revolution began, he became an efficient leader, and, in 1775, was chosen president of the provincial congress. In March of the next year, he was elected chief justice of the colony, in which character he delivered to the grand jury political charges of the most energetic character. He published, besides, a pamphlet, refuting the suggestions in favor of lord Howe's plan of a reconciliation with the mother country. *Independence*—unqualified independence—was his constant advice. In the year 1777, Mr. Drayton was invested with full powers, as president of South Carolina, and, early in the following year, was elect-

ed a delegate to the continental congress. In this body he took a prominent part. His speeches and writings against the propositions of the three British commissioners were particularly celebrated. The congress employed him on various important missions. The censure which he pronounced upon major-general Charles Lee's conduct at the battle of Monmouth, caused that officer to challenge him. The reasons which he assigned for declining the duel are such as became a true patriot and honorable man.—Mr. Drayton continued in congress until September, 1779, when he died suddenly at Philadelphia, in the thirty-sixth year of his age. His political resolution and sagacity, his literary attainments, his domestic virtues, and his polished manners, rendered him valuable to his country, and dear to all his associates. He left behind a considerable body of historical materials, which his only son, John Drayton, revised and digested, and published at Charleston, in 1821, in two octavo volumes, under the title of *Memoirs of the American Revolution, from its Commencement to the Year 1776, inclusive, as relating to the State of South Carolina, and occasionally referring to the States of North Carolina and Georgia*. The work is much esteemed.

DREBBEL, Cornelius; a natural philosopher and philosophical instrument maker, born at Alkmaer, in North Holland, in 1572, possessed a great spirit of observation, and a sufficient fortune to enable him to perform his mechanical and optical experiments. He soon became so famous, that the emperor of Germany, Ferdinand II, intrusted to him the instruction of his sons, and appointed him imperial counsellor. In the troubles of 1620, he was made prisoner by the troops of Frederic V, elector palatine, and plundered of his property. He was liberated by the interference of James I of England, the father-in-law of Frederic, who delighted in the conversation of learned men, and to whose court he repaired. From this time, he lived in London, constantly occupied in scientific pursuits, and died there in 1634. The accounts which his contemporaries give of his experiments are not to be trusted, on account of the ignorance and credulity of the time. It is certain that, in mechanics and optics, he possessed great knowledge for the age. He invented several mathematical instruments, and the thermometer (about 1630), which Halley, Fahrenheit and Réaumur afterward brought to perfection. The invention of telescopes, which has been also attributed

to him, probably belongs to Zachariah Janson (1590). His *Tractatus de Natura Elementorum et Quinta Essentia*, published by Joh. Ernst Burggrav, Leyden, 1608, passed through several editions. His *Epistola de Machina Astronomica perpetuo mobili*, was published at Leyden, 1620, by Joach. Morsius. A letter in German to the emperor Rodolph II, in which he describes an instrument of his called *Machina musica perpetuo mobilis*, is contained in Harsdörffer's *Delicia physico-mathematicæ*, 2d vol.

DRESDEN, one of the finest places of Germany, the residence of the kings of Saxony, is situated in the circle of Meissen, on the Elbe, which separates Dresden Proper from the Neustadt (New Town). Dresden has more than 55,000 inhabitants. It consists of the Royal Residence or Dresden Proper, and the Neustadt (so called since 1732, and handsomely built since the time of Augustus II, formerly Old Dresden), and of Friederichstadt (formerly Ostra, laid out since 1670). Among the objects worthy of notice are, the stone bridge across the Elbe, 552 feet long, consisting of 16 arches, with a raised foot-path of flag stones, round stone seats and an iron railing; the equestrian statue of Augustus II, erected in 1736, in the Neustadt, made of gilt bronze; the Catholic church for the court, and several pictures; among others, the Ascension of Christ, by Mengs; the famous gallery of pictures; the royal library, and the cabinet of antiques, together with a collection of porcelain, and the first attempts of Böttcher; the gallery of the casts of Mengs (besides the antiques); the cabinet of natural history; the arsenal, and the cabinet of works of art; the great garden; the garden of Brühl, with a small collection of pictures. In the vicinity of Dresden, the Plauensche Grund (valley of Plauen) and the vale of Seifersdorf are well known to the lovers of nature. Besides these, may be mentioned the royal summer residence, Pillnitz; the fortress of Königstein; the Sonnenstein (at present an insane hospital); the Saxon Switzerland (q. v.); and the heights of Kesselsdorf, rendered famous by a battle in the seven years' war. The city suffered much in this war. In 1760, it was bombarded by Frederic the Great nine days, and has been frequently exposed to the devastations of war. The importance of its situation occasioned the building of a fort, probably as early as the 9th century. The Austrians occupied the city in 1809 without injuring it. In the following years, they commenced pulling down the

fortifications, but desisted from it on the breaking out of the Russian war. Marshal Davoust caused a pier and two arches of the bridge to be blown up (March 19, 1813), which the Russian government rebuilt in 1814. The campaign of 1813 was most ruinous for the city and its environs. After nine years of war and suffering, on the 7th of June, 1815, peace and industry returned to the *German Florence*, as Herder calls Dresden. Since that time, dwelling-houses, gardens and parks have taken the place of the former fortifications. The city is also distinguished for its excellent literary institutions, among which are the surgical and medical academy, and a veterinary school, which is connected with it; the military academy; the academy for noblemen, established since 1725; the academy of fine arts, with a school for architecture. The last academy, enlarged since 1763, has a branch in Leipsic, and an exhibition yearly (3d of August).—We may here say a few words on the collections of art. The gallery of pictures, one of the finest in the world, was begun very early, but first became of much importance under Augustus II, king of Poland and elector of Saxony. It owes its most valuable treasures, however, to Augustus III, a prodigal monarch, who exhausted his country by his extravagances. He purchased the gallery of pictures of Modena for \$912,000, and many single pictures; among them Raphael's masterpiece, the Madonna di Sisto. The gallery is rich in pictures of the different schools, with the exception of the old German. From the Dutch school there are, among others, 30 Rubens, 18 Van Dykes, many Rembrandts, Ostades, Gerard Dows, Teniers, Wouvermanns, &c. Of the old German school, Holbein's Madonna, a sublime work, is particularly distinguished. Of the French school, there are many Claude Lorraines, Poussins, Le Bruns and others. Of the Italian school, the gallery is rich in pictures of Correggio, including his famous Night; of Raphael, the Madonna di Sisto, the Madonna della Seggiola and others. There are also works of Leonardo da Vinci, Giulio Romano, Andrea del Sarto, Battoni, Titian (his famous Venus), Garofalo, Paul Veronese, Guido Reni, Carracci, Carlo Dolce, and every distinguished Italian painter. There are 150 pieces in pastel. This collection is liberally open every day to all visitors. Six pieces of tapestry, from designs by Raphael, a present from pope Leo X, which were lost, have lately been found again. The gal-

lery of pictures in the garden of Brühl is likewise valuable. The *Augusteum*, or collection of antiques, was commenced as early as the 16th century. It contains some excellent statues, among which are distinguished three female figures from Herculaneum. The cabinet of engravings is one of the richest in the world. It contains 200,000 pieces, and the rarest productions of the art. The cabinet of casts contains copies of all the most important antiques, made under the direction of Raphael Mengs, in Italy. The collection of porcelain is valued at several millions. Dresden being thus rich in treasures of art, and favored by a beautiful natural situation, is the summer resort of many foreigners, especially since the artificial mineral waters have been prepared in the beautiful garden of Struve.—Dresden was the centre of operations in the contest of 1813, when almost all the powers of Europe were arrayed against Napoleon. Besides the political importance of Dresden as a capital, the possession of the Elbe, by means of the fortresses of Torgau, Wittenberg and Magdeburg, was another motive which induced Napoleon to place himself with his whole army *à cheval* (that is, on both sides) of the river; and the whole neighborhood resembled a great fortified camp, from which he could pour out his columns, with equal ease, on Prague, Breslau, or Berlin. The king of Saxony had left his capital Feb. 7, 1813. March 7, a division of French and Saxons, consisting of only 3500 men, pursued on their retreat from Poland by the Russian light troops, entered Dresden. The 12th, marshal Davoust, with 12,000 men and 20 cannon, marched from Meissen, where he had burnt the bridge, to Dresden. The Cossacks kept up a continual skirmishing before the Neustadt. The 19th, marshal Davoust left Dresden with his corps, with the exception of a garrison of 3000 men, under general Durutte. The Neustadt was surrendered the 22d, to a division of Cossacks. A few days after, several hundred Cossacks swam across the Elbe, and Durutte left Dresden to the Russians, under Winzingerode, who was followed by the army of Blücher, which passed the Elbe April 16th, at Dresden. The second Russian army, under Miloradowitsch, followed, and, after the entry of the emperor Alexander and the king of Prussia, another division of 16,000 men. May 2d was fought the bloody battle of Lützen (q. v.), after which the two sovereigns returned to Dresden, and their troops crossed, without interruption, to the right bank of the Elbe,

by Meissen and Dresden. May 8th, the Russians occupied only the Neustadt, and the French army, under Napoleon, entered Dresden. On this and the following day, a violent firing was begun from the walls and houses. On the morning of the 10th, the allies retreated to Bautzen, closely followed by the French. The country was devastated, and many villages burnt down. The king of Saxony returned May 12. The French were actively employed in fortifying the Neustadt. After the battles of Bautzen, Wurschen and Hochkirch (19th, 20th, and 21st of May), there were more than 20,000 wounded men to be provided for in Dresden: the slightly wounded, and many of the sick, were distributed in the houses of the citizens. The distress of the city was increased during the armistice of ten weeks, during which nearly 30,000 soldiers had to be provided for. A fortified camp, connected, by two bridges, with the fortress of Königstein, and capable of containing 60,000 men, was laid out at the foot of the Lilienstein. On the right bank, the works round the Neustadt covered the roads to Berlin, Warsaw and Bautzen; another extensive line of retrenchments surrounded the suburbs of the old city, round which large bodies of troops encamped on both banks. At this time, Metternich and Bubna came to Dresden, but the negotiations were broken off, and the war was renewed the 17th of August. Dresden was the centre of operations of the French army. August 15th, Napoleon passed through Bautzen to Silesia; and Vandamme, with 40,000 men from the Lower Elbe, passed to the right bank of the Elbe, between the 17th and 19th, and moved, with Poniatowski, towards Rumburg and Gabel on the frontiers of Bohemia. But the grand army of the allies, under prince Schwarzenberg, unexpectedly advanced, in four divisions, from the passes of the Bohemian mountains, on the left bank of the Elbe. The Russians, under Wittgenstein, drove marshal St. Cyr, with his 20,000 men, from the strong positions of Giesshubel and Pirna. Whilst Blücher occupied Napoleon on the frontiers of Silesia, the principal force of the allies advanced to the great line of communication of the French in Saxony; and it was resolved to take Dresden. The Russians and Prussians, under Wittgenstein and Kleist, now advanced from Pirna; but the Austrians were obliged to take a longer route, upon the road of Commotau. Couriers were despatched with the information to Napoleon, who immediately returned to Dres-

den. The 25th, the allies surrounded the city. On this day, the allied army was wholly united before Dresden, and, including the reserve, consisted of 120,000 men. Napoleon advanced, with the flower of his army, by forced marches, and entered the city on the 26th, with part of his guards, after having despatched Vandamme in the direction of Pirna. Between noon and evening, more than 60,000 men had marched from the Bautzen road, through the city, to the field of battle. About 4 o'clock in the afternoon, after the whole body of the guard, and the cavalry under Latour-Maubourg, had passed the Elbe, the allies advanced to the city in six columns. The Prussians drove the young guard to the walls of Anton's garden, where the latter were driven back by the balls of their own comrades, and obliged to renew the combat. At the same time, the city was bombarded. In the evening, the French undertook a general attack. The guards, supported by 16 cannon, drove the Prussians out of the suburbs, and the allies perceived the impossibility of taking a city defended by 100,000 men, and strongly fortified. At night, they withdrew their forces into their former position upon the heights. August 27, the French were reinforced by the corps of Marmont and Victor. Napoleon made several ineffectual attacks on the centre of the allies; and here Moreau (q. v.) was mortally wounded by a cannon ball, at no great distance from the emperor Alexander. About noon, the king of Naples (Murat), with the columns under Victor, and the French and Saxon cavalry under Latour-Maubourg, succeeded in surrounding and overpowering the Austrians. More than 10,000 men, with general Mesko, were made prisoners. Meanwhile the commander of the allies, hearing that Vandamme had passed the Elbe, near Königstein, on the 25th, and was advancing towards Pirna, decided on a retreat, which was accomplished in the night. The king of Naples pursued only to Marienburg. The allies lost, in killed, wounded and prisoners, 30,000 men. The French, in these two bloody days, had more than 10,000 men wounded: the number of killed was considerable, but cannot be given exactly. There were now 24 hospitals in the city. After the 27th August, the star of Napoleon declined. The news of Oudinot's defeat near Grossbeeren (q. v.), of the defeat of Macdonald on the Katzbach (q. v.), and of the defeat of Vandamme, near Culm (q. v.), rapidly followed each other. The

marches and countermarches of the French army now caused great injury in the vicinity of Dresden. Three new retrenchments were thrown up before the Altstadt, Meissen was to form an outwork of Dresden, and the French army seemed to be able to bid defiance to the allies from this strong position. The allied army advanced anew from Bohemia. The defeat of Ney at Dennewitz (q. v.), September 6th, and the advance of Blücher, on the 10th, towards Herrnhut, compelled the French emperor to retire from the frontiers of Bohemia to Dresden, and to turn upon the right bank of the Elbe. These marches devastated the country, and turned it into a desert. The 14th, Napoleon advanced again towards the frontiers of Bohemia, and penetrated, on the 15th, to Culm; but his guards were driven back at Nollendorf, with considerable loss, by Colloredo, on the 16th: on the 21st, he returned to Dresden. The Austrians occupied Freyberg on the 17th: detachments from the army of the crown prince of Sweden advanced to Leipsic, and Blücher formed a junction with Bubna. Napoleon drove back the Prussians to Bautzen, but was, on the 24th, again in Dresden. He now entirely abandoned the right bank of the Elbe, and concentrated his forces on the left. The 28th and 29th, the allies attacked the bridge at Meissen without success. The forces of Napoleon marched through Freyburg towards Chemnitz, and through Rossen towards Leipsic. The unexpected passage of Blücher over the Elbe, at Wartenburg (3d of October), decided the march of Napoleon from Dresden (October 7). The king of Saxony followed him. (See *Leipsic, Battle of*.) About 30,000 men, under St. Cyr and the count von der Lobau, remained in the vicinity of Dresden. Bubna stormed, on the 8th, the bridge of Pirna, and the allies attacked the outworks of the Neustadt. At the same time, 16,000 Russians under Tolstoi, Iwanoff and Markoff, approached Dresden, to cover the march of Benningsen towards Leipsic. On the 17th, St. Cyr drove Tolstoi back to Dohna, with a loss of six cannons and some hundred men on the side of the Russians; but, on the 20th, the Russians obliged the marshal to retreat towards Dresden, which was now entirely surrounded, as the Austrian generals Chasteler and Klenau had joined Tolstoi on the 20th. The city, which was cut off from all supplies, suffered more and more from want of provisions. St. Cyr, however, prepared for the most obstinate resistance: he barricaded the suburbs,

converted a number of dwelling-houses into block-houses, and destroyed most of the gardens round the city. November 6, 10,000 infantry and 1000 cavalry, under the count von der Lobau, with 200 wagons, marched out from the Neustadt, on their way towards Torgau; but they were driven back, near Reichenberg, by the prince of Wied-Runkel, and returned to the city in the evening. Famine and disease raged among the soldiers and inhabitants. More than 200 corpses were daily carried from the hospitals, and from 200 to 300 deaths occurred every week in the city. November 11, articles of capitulation were agreed to by Klenau, but not ratified by prince Schwarzenberg. The garrison were made prisoners of war. 6000 sick remained in the hospitals. Dresden received a strong Russian garrison, and became the seat of the Russian administration, under the prince Reppin. The excellence of Napoleon's tactics was never, perhaps, displayed to greater advantage than in the battle of Dresden, a masterpiece of military skill.

DRESS. (See *Clothing*.)

DRINKER, Edward, a man remarkable for longevity, was born Dec. 24, 1680, in a small cabin, near the present corner of Walnut and Second streets, in the city of Philadelphia, and died Nov. 17, 1782, in the 103d year of his age. The banks of the Delaware, on which the city of Philadelphia now stands, were inhabited, at the time of his birth, by Indians, and a few Swedes and Hollanders. He often talked to his companions of picking whortleberries and catching rabbits on spots now the most improved and populous in the city. He recollected the second time William Penn came to Pennsylvania, and used to point out the place where he had been told the cabin stood, in which Penn and his friends that accompanied him were accommodated upon their first arrival. At twelve years of age, he went to Boston, where he served his apprenticeship to a cabinet-maker. In the year 1745, he returned to Philadelphia with his family, where he lived until the time of his death. He was four times married, and had eighteen children, all of whom were by his first wife. Not long before his death, he heard of the birth of a grand-child to one of his grandchildren, the fifth in succession to himself.—He retained his mental faculties till the last year of his life. Even his memory was but little impaired. He not only remembered the incidents of his childhood and youth, but the events of latter years;

and so faithful was his memory, that the members of his family never heard him tell the same story twice, but to different persons and in different companies. His eye-sight failed him many years before his death, but his hearing was perfect. His appetite was good till within a few days before his death; but he had lost all his teeth thirty years previous to that event, in consequence, it was said, of drawing excessively hot smoke of tobacco into his mouth. He had been the subject of seven successive sovereigns, and saw Penn conclude his treaty with the Indians.

DROIT D'AUBAINE. (See *Aubaine*, *Droit d'*.) A work has lately been published under the title of *Droit d'Aubaine de la Grande-Bretagne*, par C. H. Okey, *Avocat Anglais*, which explains, in a concise form, the rights of foreigners in England.

DROITS RÉUNIS (*French*); united imposts; the name given, in France, to an indirect tax imposed on wine, cider, beer, spirits, salt, tobacco, playing-cards, stage-coaches, &c. The name originated from the circumstance, that these and similar taxes were united into one *administration générale des droits réunis* (general administration of the united imposts). It affords annually from 120 to 150 millions of francs, and, of course, forms a very important branch of the French administration, with which, however, the inconveniences are connected, which always attend indirect taxes, if they are high, and it becomes an object to evade them; because not only many officers are required to watch the persons from whom the taxes are to be obtained; but a strict observation must also be kept over the officers themselves, that they may not connive at frauds upon government. In 1812 and 1813, all the laws respecting the *droits réunis* were collected by order of the director-general, since their number had increased so much, that neither the officers nor the people could know them all. The general direction of the whole is, in Paris, under a counsellor of state: he and five administrators form the general council, which decides all doubtful cases. In each department is a director, under whom are the inspectors and other inferior officers. The director sends every fortnight the amount which he has collected to Paris. The directors make a journey every three months through their district, close their accounts, and make three copies of a statement of their reports and expenditures, of which one copy remains in the hands of the inspector, one

goes to Paris, and one to the director of the department. This system tends to prevent the enormous abuses which prevailed in the whole tax department before the revolution.

DROME; a river of France, in the eastern part of the kingdom. It rises near Val drome, and falls into the Rhone about eleven miles south of Valence. The river gives its name to a department. (See *Department*.)

DROMEDARY. (See *Camel*.)

DROPSY; a preternatural collection of serous or watery fluid in the cellular substance, or different cavities of the body. It receives different appellations, according to the particular situation of the fluid.—When it is diffused through the cellular membrane, either generally or partially, it is called *anasarca*; when it is deposited in the cavity of the cranium, it is called *hydrocephalus*; when in the chest, *hydrothorax*, or *hydrops pectoris*; when in the abdomen, *ascites*; in the uterus, *hydrometra*; and within the scrotum, *hydrocele*.—The causes of these diseases are a family disposition thereto, frequent salivations, excessive and long-continued evacuations, a free use of spirituous liquors (which never fail to destroy the digestive powers,) scirrhusities of the liver, spleen, pancreas, mesentery, and other abdominal viscera; preceding diseases, as the jaundice, diarrhoea, dysentery, phthisis, asthma, gout, intermittents of long duration, scarlet fever, and some of the *exanthemata*; a suppression of accustomed evacuations, the sudden striking in of eruptive humors, ossification of the valves of the heart, polypi in the right ventricle, aneurism in the arteries, tumors making a considerable pressure on the neighboring parts, permanent obstruction in the lungs, rupture of the thoracic duct, exposure for a length of time to a moist atmosphere, laxity of the exhalants, defect in the absorbents, topical weakness, and general debility.—The first of these species which we shall describe is *ascites* (from *ἀσцитς*, a sack or bottle; so called from its bottle-like protuberancy), or dropsy of the belly, a tense, but scarcely elastic, swelling of the abdomen from accumulation of water. *Ascites* is often preceded by loss of appetite, sluggishness, dryness of the skin, oppression at the chest, cough, diminution of the natural discharge of urine, and costiveness. After the swelling has commenced, it increases until the whole belly becomes uniformly swelled and tense. The distension and sense of weight vary somewhat with the

position of the body, being greatest on the side on which the patient lies. As the collection of water becomes more considerable, the difficulty of breathing is much increased, the countenance exhibits a pale and bloated appearance, an immoderate thirst comes on, the skin is dry and parched, and the urine is very scanty, thick, and high-colored, and deposits a laceritious sediment. The pulse is variable, being sometimes considerably quicker, sometimes slower than is natural. The operation of tapping should be performed only where the distension is very great, and the respiration or other important functions impeded; and it will often be best not to draw off the whole fluid at once. Great care must be taken, also, to keep up a sufficient pressure, by a broad bandage over the abdomen, as even fatal syncope has arisen from the neglect of this. The contraction of the muscles will be promoted by friction. The remedies for this disease are cathartics, diuretics, gentle friction of the abdomen with oil, &c. Tonic medicines, a nutritious diet, and, if the complaint appears giving way, such exercise as the patient can take without fatigue, with other means of improving the general health, ought not to be neglected.—Another species of dropsy is called *anasarca* (from *ἀνα*, through, and *σάρξ*, flesh). It is occasioned by a serous humor, spread between the skin and flesh, or rather by a general accumulation of lymph in the cellular system.—This species of dropsy shows itself at first by a swelling of the feet and ankles towards the evening, which, for a time, disappears again in the morning. The tumefaction is soft and inelastic, and, when pressed upon by the finger, retains its mark for some time, the skin becoming much paler than usual. By degrees, the swelling ascends, and occupies the trunk of the body; and, at last, even the face and eyelids appear full and bloated: the breathing then becomes difficult, the urine is small in quantity, high-colored, and deposits a reddish sediment; the belly is costive, the perspiration much obstructed, the countenance yellow, and a considerable degree of thirst, with emaciation of the whole body, prevails. To these symptoms succeed torpor, heaviness, a troublesome cough, and a slow fever. In some cases, the water oozes out through the pores of the cuticle; in others, being too gross to pass through them, it raises the cuticle in small blisters; and sometimes the skin, not allowing the water to escape through it, is compressed and hardened,

and is, at the same time, so much distended as to give the tumor a considerable degree of firmness. In some few cases, the disease goes off by a spontaneous crisis, by vomiting, purging, &c. Where the quantity of fluid collected is such as to disturb the more important functions, the best mode of relieving the patient is to make a few small incisions with a lancet, not too near each other, through the integuments on the fore and upper part of each thigh; the discharge may be assisted by pressure. In the use of issues or blisters, there is some risk of inducing gangrene, especially if applied to the legs; and the same has happened from scarifications with the cupping instrument. Absorption may be promoted by friction, and bandaging the parts, which will, at the same time, obviate further effusion; but most powerfully by the use of different evacuating remedies, especially those which occasion a sudden considerable discharge of fluids. Emetics have been often employed with advantage; but it is necessary to guard against weakening the stomach by the frequent repetition of those which produce much nausea.—Cathartics are of much greater and more general utility. Diuretics are universally proper. Digitalis is often a very powerful remedy. Opium, and some other narcotics, have been occasionally useful. In the use of diuretics, the patient should not be restricted from drinking freely. It is very desirable to promote evacuation by the skin. Sometimes much relief is obtained by promoting perspiration, locally, by means of the vapor bath. Mercury has been much employed. Regular exercise, such as the patient can bear (the limbs being properly supported, especially by a well-contrived laced stocking), ought to be enjoined, or diligent friction of the skin, particularly of the affected parts, employed when the tumefaction is usually least, namely, in the morning. The cold bath, duly regulated, may also, when the patient is convalescent, materially contribute to obviate a relapse.—The next species of dropsy which we shall consider is *hydrocephalus* (from *ὕδωρ*, water, and *κεφαλή*, the head); *hydrocephalum*, *hydrencephalus*; dropsy of the brain, dropsy of the head. It is sometimes of a chronic nature, when the water has been known to increase to an enormous quantity, effecting a separation of the bones of the head, and an absorption of the brain. Pain in the head, particularly across the brow, stupor, dilatation of the pupils, nausea, vomiting, preternatural slowness of

the pulse, and convulsions, are symptoms of this disease. Hydrocephalus is almost peculiar to children, being rarely known to extend beyond the age of twelve or fourteen; and it seems more frequently to arise in those of a scrofulous and rickety habit than in others. It is an affection which has been observed to pervade families, affecting all or the greater part of the children at a certain period of their life; which seems to show that, in many cases, it depends more on the general habit, than on any local affection, or accidental cause. The disease has generally been supposed to arise in consequence either of injuries done to the brain itself, by blows, falls, &c., from scirrhus tumors or excrescences within the skull, from original laxity or weakness in the brain, or from general debility and an impoverished state of the blood. With respect to its proximate cause, very opposite opinions are still entertained by medical writers, which, in conjunction with the equivocal nature of its symptoms, prove a source of considerable embarrassment to the young practitioner. When recoveries have taken place in hydrocephalus, we ought, probably, to attribute more to the efforts of nature than to the interference of art. It is always to be regarded as of difficult cure. The treatment should be prompt and active. The inflammatory action should be lessened, and then absorption promoted. After taking some blood by bleeding or by leeches, the torpid bowels are to be evacuated by some active cathartic, and their activity kept up, in the progress of the complaint, by calomel or some other mercurial preparation. Mercury also contributes powerfully to rouse the absorbents. After the bowels are cleared, some evaporating lotion is to be applied to the shaved scalp, and the antiphlogistic regimen observed. Sudorific medicines will generally be proper, assisted by the warm bath. Blisters may be applied to the temples, behind the ears, or to the nape of the neck. If the progress of the disease is arrested, the strength is to be established by a nutritious diet and tonic medicines.

DROSKY; a kind of light, four-wheeled carriage, used by the Russians. It is not covered, and its side seats contain a greater or less number of persons. The lower wheels are covered with wings, which keep off the mud.

DROSOMETER; an instrument for ascertaining the quantity of dew which falls. It consists of a balance, one end of which is furnished with a plate fitted to receive the

dew, the other containing a weight protected from it.

DROUAIS, John Germain, born at Paris, 1763, the most distinguished painter of the school of David. His desire of going to Rome to study the great works of art, induced him to enter the lists for the great prize, which consisted of a pension for four years; but, being dissatisfied with his work, he destroyed it, and left the prize to another. When reproached for this by his master, who saw with surprise the remains of his picture, he said, "Are you satisfied with me?" "Perfectly," answered David. "Well, then, I have gained the prize," returned Drouais; "this was my aim; the prize of the academy belongs to another, to whom it may be more useful than it would have been to me; the next year I hope to deserve it by a better work." In 1784, Drouais again entered the lists. The Canaanitish woman at the feet of Jesus was the fruit of his study. He was publicly crowned, and led in triumph, by his fellow students, to their master. He accompanied him as a pensioner to Rome, where he studied and copied the greatest masters. His *Dying Gladiator*, and, particularly, his *Marius at Minturnæ*, on being exhibited in Paris, gained him and David's school a new triumph. He now sketched his *Philoctetes at Lemnos*; but his career was suddenly checked by an inflammatory fever, which put an end to his life before he had completed his 25th year, and while he was engaged on a picture of *Caius Gracchus*. His rivals and his friends united in erecting a monument to him in St. Mary's church (in the Via Lata).

DROUET, Jean Baptiste; post-master at St. Ménéhould; born 1763. It was he who recognised Louis XVI, in his flight through St. Ménéhould, and caused him to be arrested at Varennes. In September, 1792, he was chosen member of the convention from the department of the Marne, and voted for the death of Louis. In September, 1793, he was sent to the northern army. In October of this year, he was taken prisoner, and carried to Moravia. Having attempted to make his escape by springing from a window, he broke his leg, and was retaken. In Nov., 1795, he was exchanged at Basle, with Camus, Beurnonville, and others, for the daughter of Louis XVI, and entered the council of the five hundred, as an old member of the convention. Dissatisfied with the moderate system which at that time prevailed in France, he became, with Babeuf, one of the leaders of the Jacobin

conspiracy; and, on this account, was arrested (May 11, 1796), but made his escape, and fled to Switzerland. He was finally acquitted, and returned to France. In 1799, he was sub-prefect at St. Ménéhould. During the hundred days (see *Cent Jours*), he was a member of the chamber of deputies. In 1816, he was banished from France as a regicide.

DROWNING is a sort of death caused by immersing the exterior opening of the respiratory tube in a liquid. Actual death is often preceded by apparent death (*asphyxia*, q. v.); and it is possible, if this state has not continued too long, to resuscitate a person apparently drowned. This circumstance has led to careful investigations of the nature of drowning, and also, in the neighborhood of seas and large rivers, to the erection of public institutions for the resuscitation of persons apparently drowned. This kind of death furnishes, likewise, a difficult subject for medical jurisprudence, and gives occasion to the inquiry, whether a body found in the water was actually drowned, or whether life was lost in some other way; and great attention has been paid to the marks of this sort of death, which are to be found upon the body. But, notwithstanding all this pains, much uncertainty still hangs over the subject. This remark is true, as well of the manner in which death is the consequence of immersion, as of the signs of having been drowned, and the means of resuscitating from apparent death. If a person voluntarily immerses his head in water, he perceives a roaring in his ears, a tickling in his nose, a pressure upon his breast, and a kind of stupid feeling. If a man, unable to swim, falls into the water, he instinctively makes every exertion to escape from it; he holds his breath, moves his head up and backwards, lays hold of every solid body which presents itself, and even grapples at the bottom of the water. These struggles continue a longer or shorter time, according to the strength and presence of mind of the unhappy subject: at last, he sinks, exhausted, becomes unconscious, strives to breathe, draws in water, and life is gone. If the body is taken from the water, it is commonly found to be very cold; the limbs are stiff, the countenance distorted, livid, and often pale, the eyes half open, the pupils enlarged, the mouth filled with foam, the breast and region of the upper stomach expanded. Sometimes the body is still warm, though it cannot be reanimated, the countenance blue and distorted, the veins

of the neck much swollen. This takes place when one is drowned in alcohol, or in marshy or warm water, or when a person, in a state of intoxication, or with a full stomach, or a heated body, falls overboard. On opening the body of a person who has been drowned, the epiglottis is found to be raised, bloody foam appears in the wind-pipe and bronchial passages, the lungs are soft and distended, a large quantity of black fluid blood is collected in the right, and less in the left cavity of the heart, a little water is in the stomach, and the vessels of the brain are swelled with blood. Death is sometimes caused by suffocation and want of air, and sometimes as in apoplexy: in the latter case, it happens very speedily, and a little water is sufficient to produce it, if the person falls upon his face. In this case, when the body is opened, the foam in the wind-pipe is wanting, and the vessels of the head are fuller. The various constituents of the water, such as irrespirable gases, contribute also to modify and complicate the mode of death.

The following are the methods of treatment recommended by the London Humane Society for the Recovery of Persons in a State of Suspended Animation. As drowning is, probably, the most frequent accident by which animation is suspended, we give all the rules of the society here, and shall refer from *Freezing, Hanging, &c.*, to this article.

Cautions. Lose no time. Avoid all rough usage. Never hold the body up by the feet; nor roll the body on casks; nor rub the body with salts or spirits; nor inject tobacco smoke or infusion of tobacco.

Restorative Means. If apparently drowned, send quickly for medical assistance; but do not delay the following means:—Convey the body carefully, with the head and shoulders supported in a raised position, to the nearest house. Strip the body, and rub it dry; then wrap it in hot blankets, and place it in a warm bed, in a warm chamber. Wipe and cleanse the mouth and nostrils. In order to restore the natural warmth of the body, move a heated covered warming pan over the back and spine; put bladders or bottles of hot water, or heated bricks, to the pit of the stomach, the arm-pits, between the thighs, and to the soles of the feet; foment the body with hot flannels; but, if possible, immerse the body in a warm bath, as hot as the hand can bear without pain, as this is preferable to the other means for restoring warmth; rub the body briskly with the hand; do not, how-

ever, suspend the use of the other means at the same time. In order to restore breathing, introduce the pipe of a common bellows (where the apparatus of the society is not at hand) into one nostril, carefully closing the other and the mouth; at the same time drawing downwards, and pushing gently backwards, the upper part of the windpipe, to allow a more free admission of air; blow the bellows gently, in order to inflate the lungs, till the breast be a little raised; the mouth and nostrils should then be set free, and a moderate pressure made with the hand upon the chest. Repeat this process till life appears. Electricity to be employed early by a medical assistant. Inject into the stomach, by means of an elastic tube or syringe, half a pint of warm brandy and water, or wine and water. Apply sal volatile or hartshorn to the nostrils.—If apparently dead from intense cold, rub the body over with snow, ice or cold water. Restore warmth by slow degrees; and after some time, if necessary, employ the means recommended for the drowned. In these accidents, it is highly dangerous to apply heat too early.—If apparently dead from hanging, in addition to the means recommended for the drowned, bleeding should early be employed by a medical assistant.—If apparently dead from noxious vapors, &c., remove the body into a cool, fresh air. Dash cold water on the neck, face and breast, frequently. If the body be cold, apply warmth, as recommended for the drowned. Use the means as above recommended for inflating the lungs. Let electricity (particularly in accidents from lightning) be early employed by a medical assistant.—If apparently dead from intoxication, lay the body on a bed with the head raised; remove the neckcloth, and loosen the clothes. Obtain instantly medical assistance, as the treatment must be regulated by the state of the patient; but, in the mean time, apply cloths soaked in cold water to the head, and bottles of hot water, or hot bricks, to the calves of the legs and to the feet.—If apparently dead from apoplexy, the patient should be placed in a cool air, and the clothes loosened, particularly about the neck and breast. Bleeding must be early employed by a medical assistant; the quantity regulated by the state of the pulse. Cloths soaked in water, spirits, or vinegar and water, should be applied to the head, which should be instantly shaved. All stimulants should be avoided.—In cases of *coup de soleil*, or strokes of the sun, the same means are to be used as in apoplexy.

General Observations. On restoration to life, a tea-spoonful of warm water should be given; and then, if the power of swallowing be returned, small quantities of warm wine, or weak brandy and water, warm; the patient should be kept in bed, and a disposition to sleep encouraged, except in cases of intoxication, apoplexy and *coup de soleil*. Great care is requisite to maintain the restored vital actions, and, at the same time, to prevent undue excitement. The treatment recommended by the society is to be persevered in for three or four hours. It is an erroneous opinion that persons are irrecoverable because life does not soon make its appearance; and it is absurd to suppose that a body must not be meddled with or removed without the permission of a coroner.

Droz; the name of three celebrated mechanicians: 1. Pierre-Jacquet, born at Chaux-de-Fond. Aspiring to be something more than a mere workman, he endeavored to perfect the different parts of clock-work, and succeeded in attaching to common time-pieces, at a small expense, machinery which produced music resembling the chime of bells, and the music of a flute. His attempts to discover the means of effecting a perpetual motion, led him to important discoveries. He contrived, among other things, a pendulum, which, being composed of two metals of unequal dilatability, remained unaffected by heat or cold. He afterwards made his celebrated writing automaton, which, by means of machinery contained within the figure, was made to move its fingers and hands, and to form handsome letters. His last work was an astronomical clock. He was surprised by death before this was finished.—2. Henri-Louis-Jacquet, son of the preceding, born 1752, at Chaux-de-Fond. From his earliest youth, he was employed in mechanical works. At the age of 22, he went to Paris with some of the products of his labor; among which was an automaton, representing a young female, which played different tunes on the harpsichord, followed the notes in the music book with her eyes and head, and, having finished playing, rose and saluted the company. In Paris, he caused one of the workmen, taught by his father, to make a pair of artificial hands for a young man who was mutilated, by means of which he was enabled to perform most of the necessary offices for himself. "Young man," said the famous Vaucanson to Droz, when he saw this work, "you begin where I should be willing to end."

He died 1791, at Naples, where he had gone for the recovery of his health.—Jean-Pierre united himself, in 1783, with Boulton, in Birmingham, for the purpose of striking all the English copper coin. He made for the French mint a stamping machine, which, with one stroke, and less expenditure of power than is required in the usual process, stamps both sides and the rim of coins.

Droz, Joseph, formerly member of the parliament of Besançon, born 1773, became a member of the French academy at Paris, in 1824, made himself known, in 1806, by his *Essai sur l'Art d'être heureux* (4th ed., 1825); by his *Eloge de Montaigne* (3d ed., 1815); by his *Etudes sur le beau dans les Arts* (1815), and his *Mémoires de Jacques Fauvel*. In his *Philosophie morale*, he showed himself a deep thinker, a scholar, and a good writer. At the time of his election to the French academy, the poet Lamartine was his competitor. His inaugural address (July 7, 1825) contains some excellent remarks on the moral influence of literature. "*Il faut écrire*," said Droz, "*avec sa conscience, en présence de Dieu, dans l'intérêt de l'humanité.*"

DRUIDS. These priests of the Celts, or Gauls, resembled, in many respects, the Bramins of India: they formed a distinct caste, possessing the greatest authority, being the learned men and philosophers of these people, and having also very great authority in the government of the state. Julius Cæsar has left more information concerning them than any other writer. According to him, they performed all public and private sacrifices, explained the doctrines of their religion, distributed all kinds of rewards, administered justice at stated times, and determined the punishment which should be inflicted on offenders. Whoever opposed their decisions, was excommunicated by them, and thereby deprived of all share in religious worship. They could even pronounce this curse against a whole people; and, in fact, their power had hardly any limits. They appointed the highest officers in all the cities, and these dared not undertake any thing without their advice and direction. They were free from taxes and all public burdens. Instruction in religious and all other kinds of knowledge, the art of war alone excepted, was intrusted entirely to them. They gave oral instruction in the form of verses, which often had a hidden meaning, and which were committed to memory. According to Cæsar, they believed in the immortality of the soul, and its transmigration through different bodies. They taught, moreover,

the nature and motions of the heavenly bodies, the magnitude of the universe and the earth, the nature of things, and the power of the gods. They also practised astrology, magic and soothsaying. According to Pliny, they were not ignorant of natural philosophy and physic. They had a wonderful reverence for the holy mistletoe (a parasitical plant, which grows, not from the earth, but on other plants, particularly on the oak, and which, even at the present time, is celebrated as a remedy for epilepsy). This they looked upon as the holiest object in nature, and as a panacea: they likewise esteemed the oak sacred, from which circumstance they have derived their name. The Druids had a common superior, who was elected by a majority of votes from their own number, and who enjoyed his dignity for life. Their principal seat was in Britain. The temples of the Druids bear a strong resemblance to those of India.

DRUM. Instruments which produce a sound by means of a tightly extended skin, are common in almost every part of the world. The tambourine is found among most nations; the ancients called it *tympanum*. All these instruments are used both for profane and sacred purposes. But the peculiar use of the drum for military purposes seems to have been introduced among the Europeans in the time of the crusades. There are very many different kinds of drums in the East, described by Niebuhr, the father, in his *Reisebeschreibung*, i. 180, with his well known accuracy. The kettle drum, the base drum, tambourine, and other kinds, are all common in the East. The drum, as a military instrument, is used both to beat the march and to give signals. No man, who has not experienced it, can imagine the exciting power of the drum. The fatigued and exhausted soldier is at once animated by its sound; and in battle it preserves order, and inspires courage in a body attacking *en colonne*. The French drummers perform admirably, and, under Napoleon, a great number were attached to each battalion. A drum which has acquired historical celebrity, is that which, by the order of Zisca, was covered with his own skin, that he might still aid in battle, where he had so often commanded, even after he had become blind.

DRUMMOND, William, a Scottish poet, born in 1585, was educated at the university of Edinburgh, after which he spent four years in foreign travels, residing, for a part of the time, at Bourges, to study the civil law. On his return to Scotland, he

resigned all idea of the law, and, retiring to his romantic seat of Hawthornden, gave himself up to the cultivation of poetry and polite literature. A dangerous illness fostered a serious and devout turn of mind, which was evinced by his first productions, *The Cypress Grove*, in prose, containing reflections upon death, and *Flowers of Sion*, or *Spiritual Poems*. The death of a young lady, to whom he was about to be married, rendered home insupportable, and drove him again abroad. He remained on the continent eight years. In his forty-fifth year, he was married, and again took up his residence at Hawthornden. He died in December, 1649, in his sixty-fourth year. As a historian, Drummond claims little notice. His *History of the Jameses*, published after his death, shows a total deficiency of historic talent. He is now remembered only as a poet. There is much sweetness and melody in his verse, and although tinged with the conceits of the Italian school, there is much genuine imagery and truth of feeling in all his poetry, but particularly in his sonnets, which are replete with tenderness and delicacy. An edition of Drummond's poems was published in 1791.

DRUNKENNESS is made a crime by some codes of laws. A statute of Connecticut provides that if a man is "found drunk so as to be bereaved and disabled in his reason and understanding, appearing either in his speech, gesture or behavior," he shall be subject to a fine, for the use of the town, of one dollar and thirty-four cents. The fine for the same offence, in New Jersey, is one dollar, and the party is liable to be put in the stocks, if it be not paid. In Delaware, it is five shillings. But this vice does not appear among the crimes and misdemeanors of the statute-book, in the codes of all the United States. The English statutes of 4 James I, chapter 5, and 21 James I, chapter 7, provide, that if any person shall be convicted of drunkenness, he shall forfeit five shillings, to be levied by distress, and, for want of a distress, shall be set in the stocks. (See *Intoxication*.)

DRUPE; in botany, a simple succulent fruit, containing a hard kernel or stone. Peaches, cherries, &c., are drupes.

DRURY LANE THEATRE, one of the principal theatres in London, was established in the reign of James I, under the name of the *Phoenix*. After the restoration, patents for stage performances were issued, and 10 of the actors were called *king's servants*, which usage still exists.

In 1671, it was burnt down, and was rebuilt by sir C. Wren, but again consumed, Feb. 24, 1809, and rebuilt by B. Wyatt, 1811. It was opened with an address composed by lord Byron. The interior was entirely rebuilt in 1822, and is estimated to be capable of containing 3611 persons. The price of admittance into the pit is 3s. 6d.; into the boxes, 7s.

DRUSES; a people of Syria, inhabiting a tract of country about 1165 miles square, in the mountains Libanus and Anti-Libanus. They are about 160,000 in number, 40,000 of whom are able to bear arms. Their pretended descent from the Franks, who came to this region in the time of the crusades, is a fable. Their name is derived from one of their religious teachers. At the end of the 16th century, this people began to excite attention in Europe, particularly on account of their religion, concerning which they maintain the utmost secrecy. The sacred books of the Druses, which were concealed in the earth, contain doctrines which prove the selfish policy of their authors, and are a disgrace to humanity. The layman who should accidentally become acquainted with the contents of these books, was punished with death. The doctrines of the Druses are a mixture of those of the Sadducees, the Samaritans and the Mohammedans. The Druses were formerly governed by many sheiks or lords, but one by the name of Ibrahim contrived to make himself master of the whole nation, and thereby became formidable to the Turks. In the beginning of the 17th century, the Druses, under the renowned emir Fakreddin (usually called *Fakardin*), reached the summit of their power; but this leader was, in 1631, strangled at Constantinople; and, although other princes were placed over them, they never recovered their former reputation. They endeavored, indeed, by the assistance of the Russians, in 1773, to regain their freedom; but they were soon obliged to become again dependent on the Turks. They are now governed by emirs (princes), who, in their turn, are subject to a grand emir: they are tributaries of the Porte, but are almost entirely independent, cultivating the soil, and producing wine and silk. Their religion divides the people into wise men (*akales*, learned or initiated) and secular persons (*djabel*, or laymen, ignorant, uninitiated). They have no public worship, but they frequent Christian and Mohammedan churches: they have, nevertheless, some symbols and persons devoted to religious worship.

DRUSUS. There were several distinguished Romans of this name:—1. Marcus Livius (B. C. 123) was tribune of the people with Caius Gracchus. He was also the father of Livia, the wife of M. Cato and the mother of Cato of Utica. He opposed the projects of the popular favorite, Caius Gracchus, so strenuously, that the patricians called him the *patronus senatus*. By his victories in Thrace, he made the Danube the boundary of the republic, was honored with a triumph, and died in the office of censor, B. C. 110.—2. His son, Marcus Livius (grandfather of Livia, wife of Augustus), was distinguished for his talents, energy and eloquence; but his zeal often led him to neglect the regular forms of proceeding in the republic, while his extravagant munificence and high opinion of himself sometimes caused him to commit imprudent actions. Rome was then divided by the disputes of the senate and the equestrian order. The power of the latter, which, since the time of the Gracchi, had risen to its utmost height, excited the jealousy of the senate, who struggled zealously for their old but now almost lost authority. Drusus endeavored to gain over the people to the party of the senate, by the division of lands, to which the senate agreed with the utmost reluctance, and to gain the Roman allies by the promise of citizenship. He came forward, relying on this assistance, as a mediator between the hostile parties. He proposed to supply the vacant seats of the senators with knights, and to allow the new magistrates the judicial authority, which, from the time of the Gracchi, had belonged to the knights alone, but before that time, to the senators. He succeeded in this plan, notwithstanding the most violent opposition from both parties. But the jealousy with which each party guarded its rights, and the rash and violent manner in which Drusus had effected the union, rendered him unpopular with both parties. When, therefore, he proposed to grant the right of citizenship to the allies, for their services to the senate, that body rejected the proposition decidedly, so that Drusus could effect nothing. On his return to his house from an assembly of the people, accompanied by a number of the Latins, he was stabbed at his door, by an unknown hand. He died a few hours after, with these words—"When will the republic again possess such a citizen as I have been." His death (B. C. 93) was the signal for the beginning of the social war, which had been so long threatening.—3. Claudius Nero, son of Tiberius Nero

and of Livia (afterwards wife of the emperor Augustus), and brother of Tiberius, who was afterwards emperor, was sent as questor, with his brother, against the Rhætians, whom he subdued. He then suppressed an insurrection in Gaul, defeated the Germans who dwelt beyond the Rhine, passed the river, and vanquished the Sicambri and Bructeri, and made the Frisians tributary to the Romans. He was the first Roman general who ventured upon the Northern ocean. After these campaigns, he became pretor (11 B. C.), but returned in the next spring to Germany, subdued many tribes as far as the Weser, and commenced the erection of fortresses. On this account, he was honored with an ovation at Rome, and was appointed proconsul; the army saluted him with the title of *imperator*, which was not, however, sanctioned by Augustus. B. C. 9, he was made consul, but returned soon after to Germany, and penetrated as far as the Elbe, but was unable to pass the river. He, however, ordered trophies to be erected there, to testify his progress. He died in the same year, while on his return, in the 30th year of his age. The canal, uniting the Rhine with the Yssel, was his work; and the place called *Drusenheim*, in Alsace, where he encamped for some time, received its name from him. By his wife Antonia, he had a daughter, Livia, and two sons, Germanicus and Claudius, who afterwards became emperors. Rome lost, in Drusus, a man equally distinguished in the field and the council, and one of her most virtuous and noble citizens. (See A. Benedict Wilhelm's work, *Die Feldzüge des Nero Claudius Drusus in dem nördl. Deutschl.* (Halle, 1826).

DRYADS; wood-nymphs, in the mythology of the Arcadian Greeks; supposed to be the tutelar deities of trees in groves, particularly of the oak; hence their name.

DRYDEN, John, one of the most eminent English poets, was born, according to the most probable accounts, on the 9th of August, 1631, in the parish of Aldwinkle-All-Saints, in Northamptonshire. His father possessed a small estate, and acted as a justice of the peace during the protectorate. The subject of this article, his eldest son, received his early education in the country, and was then removed to Westminster school, whence he was elected to a scholarship in Trinity college, Cambridge, and took his degree of bachelor of arts. His father dying in 1654, he succeeded to the possession of his estate, subject, however, to considerable deduc-

tions for the widow and younger children. He immediately removed to London, under the auspices of his relation, sir Gilbert Pickering, one of Cromwell's council and house of lords. On the death of Oliver, he wrote his celebrated Heroic Stanzas on that event—one of the first of his poems, that evinced the loftiness of expression and imagery which characterize his maturer efforts. At the restoration, he greeted the king's return in a poem, entitled *Astræa Redux*, which was quickly followed by a Panegyric on the Coronation. In 1661, he produced his first play, the Duke of Guise, and, in the next year, the Wild Gallant. In 1662, also, appeared his poem addressed to the chancellor Hyde, and his Satire on the Dutch. Setting aside the drama, to which his attention was unremitting, his next publication of consequence was the *Annus mirabilis*, published in 1667. His reputation, both as a poet and a royalist, was by this time so well established, that, on the death of sir William Davenant, he was appointed poet laureate and historiographer, with a salary of £200 per annum. He soon after published his Essay on Dramatic Poesy, which he had written in 1665, in his retirement, during the plague; previously to which he had married lady Elizabeth Howard, daughter of the earl of Berkshire. He now became professionally a writer for the stage, by entering into a contract with the patentees of the king's theatre, to supply three plays a year. The earlier dramatic productions of Dryden were written in rhyme—a circumstance which favored the rant that disfigured them in common with most of the tragedies of the day. To correct this fault, Villiers, duke of Buckingham, in conjunction with other wits, composed the Rehearsal, in which celebrated burlesque Dryden was openly ridiculed, in the character of Bayes. In 1679, he joined lord Mulgrave, in an Essay on Satire; and, in 1681, at the express desire of Charles II, he composed his famous political poem, entitled Absalom and Achitophel, in which the incidents of the rebellion of Absalom against David are admirably applied to Charles II, the duke of Monmouth and the intriguing earl of Shaftesbury. The severity of this production raised him innumerable enemies, whom he still further enraged by his Medal, a Satire on Sedition, written on the occasion of a medal struck by the whig party, when an indictment against Shaftesbury for high treason was declared *ignoramus*. The rancor of the last production is not easily to be

paralleled. Having succeeded so well in political, he next essayed literary satire, attacking Shadwell in his *Mac Flecknoe*. Soon after appeared his *Religio Laici*, a compendious view of the arguments in favor of revelation. With all his ability and industry, Dryden suffered the anxiety attendant on straitened circumstances. He next published some classical translations, and two volumes of *Miscellany Poems*; and, on the death of the king, composed his *Threnodia Augustalis*, a Funeral Poem. On the accession of James II, he conformed to the religion of the new sovereign. One of the fruits of this conversion, was his controversial poem of the *Hind and the Panther*, the very absurdity of the plan of which, overcome as it is by the force and beauty of the versification and execution, is highly honorable to the poetic talents of Dryden. By the loss of his places and pensions, in consequence of the revolution, he had nothing to trust to but his literary industry; and, during the ten concluding years of his life, when he wrote actually for bread, and at so much per line, he produced some of the pieces which have most contributed to his well established fame. Passing over his translations of Juvenal and Persius, and various minor works, it may be observed that he commenced his celebrated translation of Virgil in 1694, and it was sent to the press in 1697. He is supposed to have received £1300 for this hasty but able translation. Soon after the appearance of Virgil, he was solicited to write a second ode for St. Cecilia's day, which request produced his admirable *Alexander's Feast*, the finest lyric poem in the English language. He then undertook to modernize Chaucer's *Tales*, contracting with a bookseller to furnish 10,000 lines for £300. This bargain produced the collection called his *Fables*, some of the most poetical pieces he ever composed. He soon after declined in health. The immediate cause of his death was an inflammation in one of his toes, which, terminating in a mortification, put an end to his life May 1, 1700. The body of this great poet was interred in Westminster abbey, next to that of Chaucer. The place was, for some time, undistinguished by a monument, until a plain one, with his bust, was erected by Sheffield, duke of Buckingham.—Although reserved and saturnine, Dryden was friendly and humane, domestic in his habits, and affectionate towards his family. That the pen of such a man should be so freely prostituted to party rancor and venal panegyric,

appears surprising; and it is equally so, that, although regular in his own manners, few went beyond him in the dramatic licentiousness of the age. His narrow circumstances may have occasioned, but are not a sufficient apology for these blemishes. As a dramatic poet, he has wit, force and majesty, but very little of nature or propriety. His comedy, with the exception of the *Spanish Friar*, is altogether inferior; and, of all his tragedies, *Don Sebastian* and *All for Love* alone are spoken of at present. He stands unrivalled in point of versification, and, in fulness and variety of harmony, and a fine flowing and resistless current of numbers, he has never been surpassed. His style in prose, chiefly exhibited in the critical essays prefixed to his works, forms an excellent specimen of genuine English composition. Of recent editions of his works, we may refer to the prose works, by Malone (1800, 4 vols., 8vo.); his poetical works, edited by Todd, with notes by Warton (1812, 4 vols., 8vo.); and the whole of his works, by sir Walter Scott (1818, 18 vols., 8vo.).

DRY-ROT; a term or name applied to a rapid decay of any vegetable matter, when it has the appearance of being tolerably dry, but, in general, is applied only to timber when in that state, and is so named in contradistinction to the common mode of decay, by being exposed to the alternate states of wet and dry. There are a great number of causes for this species of decay: some are quite simple, others are very complicated; yet, whatever may be the original cause, simple or compound, the effects are the same, namely, to render the timber useless, by destroying its elasticity and toughness, rendering it insufficient to resist any considerable pressure, and, indeed, for any of the useful purposes to which timber is applied. When timber is in a tolerably dry state, any means which will absorb or extract its oxygen from the other component parts will leave it in the state commonly called *dry rotten*. Moist, warm situations, with little or no current of air, are the most likely to generate this evil. The effluvia from timber in such a state of decay will rapidly carry its effects to the circumjacent timber, however dry it may appear; and any sort of timber will be, in a very little time, rendered quite useless. When timber is exposed to any considerable degree of moisture and heat, fungi of various shapes and texture, according to the species of timber, and other causes, will appear upon it; and although

this fungous matter be really an effect of the dry-rot, yet it is as truly a cause of the same evil. There are no means of restoring rotten timber to a sound state, and the dry-rot can only be *cured*, as it is called, by removing the decayed and affected parts, clearing away all the fungi, and destroying its vegetating principle, with which the hard materials, such as bricks or stone, may have been impregnated. For this purpose, a strong solution of iron, copper, or zinc, is used with advantage. This, with the admission of a large quantity of air, is very advantageous. Many persons have written on the subject; and the nostrums proposed are as numerous as their authors. But no means of checking the evil can be depended upon, except that of removing the corrupted and contagious matter, and admitting a free circulation of air. Much also may be done by cutting timber in winter, and properly seasoning it, by steeping it in water for some time, and then thoroughly drying it before it is used in building.

DSHAMY; a Persian poet. (See *Jami*.)

DSHINGIS KHAN. (See *Gengis Khan*.)

DUAL, in grammar; that number which is used, in some languages, to designate two things, whilst another number (the plural) exists to express many. The dual, in some languages, is a firmly established grammatical form, as in the Attic dialect; in other languages, it is used only in certain cases, with certain words, or only faint traces of it are to be recognised. The Sanscrit has a dual number. Of modern languages which have a literature, Arabic is the only idiom which has retained it. That copious language has a dual, to designate two things; a particular plural form, to express from three to nine objects; the plural, for several of any number whatever; and the plural-plural, formed from the plural (though only in some words), to designate ten or any larger or indefinite number. Even for substantives which express a number of things, as a species of animals or plants, the Arabians have a characteristic singular, of which also a plural may be made. (See Silvestre de Sacy's *Grammaire Arabe*, tom. i., pp. 702, 704, 710.) In the American languages, traces of the dual are very often met with, from Greenland to Araucania. (See William von Humboldt's *Discourse Ueber den Dualis*, read in the academy of sciences at Berlin, April 26, 1827, printed at Berlin, 1828; a treatise which does not pretend to exhaust the

subject, but will assist a scholar in making further investigations.)

DUALISM; DUALIST. 1. Dualism is the philosophical exposition of the nature of things by the adoption of two dissimilar primitive principles, not derived from each other: such, for instance, are the ideal and the real, or the material and the thinking substance. Dualism may be either dogmatical, or critical, or sceptical. In a stricter sense, dualism is confined to (a) the adoption of two fundamental beings, a good and an evil one, as is done in the Oriental religions; (b), to the adoption of two different principles in man, viz., a spiritual and a corporeal principle: this is called the *psychological dualism*. He who embraces this view is called a *dualist*. Opposed to the system of dualism is *monism*, which is either idealism or realism, spiritualism or materialism. 2. In theology, *dualism* is the doctrine of those who maintain that only certain elected persons are capable of admission to eternal happiness, and that all the rest will be subjected to eternal condemnation.

DUBLIN, the metropolis of Ireland, is situated in the province of Leinster and county of Dublin, within a mile of the bay of that name, which is of a circular form, and about six miles in diameter, and into which the river Liffey runs, after dividing the city, through which its course is nearly west to east, into equal parts. Though spacious, this bay is neither commodious nor safe, particularly in winter. Its defects are, in part, remedied by a magnificent wall of stone, which runs out into the bay the distance of 8564 yards, and is terminated by a light-house. On the opposite side of the harbor is another light-house, together with a pier and harbor; and, lately, a pier has been begun at Dunleary, a village on the south side of the bay, and two and a half miles within its mouth. From the point of Ringsend, where the Liffey enters the bay, it is embanked on either side with a noble wall of freestone, forming a range of beautiful and spacious quays through the whole city. The river is crossed in its course through the city by seven stone bridges. Dublin is, besides, nearly insulated by two canals, which give great advantages for inland communication. The houses, with the exception of the principal public structures, are generally brick, and from three to five stories high. In the old part of the city, the streets are irregular, although those which range parallel to, and at right angles with, the Liffey, are uniform and

capacious. Few cities of its size can boast of a greater number of magnificent and useful buildings. The castle, which was completed and flanked with towers in 1213, is situated about the centre of the city, and is the seat of government. The castle chapel, recently rebuilt, is an exquisite specimen of Gothic architecture. The other public buildings are, the royal exchange, the commercial buildings, the corn exchange or burgh-quay, the linen hall, the custom-house (in front 375 by 209 feet), the stamp-office, the post-office, and the parliament house (now converted into the national bank). Opposite to the east front of the custom-house are the government wet docks; and adjacent to the post-office is Nelson's pillar, raised to the height of 130 feet. In the centre of college-green is an equestrian statue of William III, erected in 1701. In the Phoenix park, an obelisk, 210 feet high, has been erected in honor of the duke of Wellington. On the east side of college-green is the grand front of Trinity college, which is of Portland stone, of the Corinthian order. This building extends in depth 600 feet. The park is in the rear of the college, and contains 25½ acres, adorned with fine trees. Dublin university (viz., its provost, fellows, and scholars arrived at 21 years of age) returned two members to the parliament of Ireland, and still returns one to that of the United Kingdom. Dublin contains 19 parishes, 2 cathedrals, 19 parish churches, besides several chapels of the established religion; 2 meeting-houses of the church of Scotland, 7 of other dissenters, 4 of Methodists, 2 of Quakers, 1 Lutheran Danish, 1 French Calvinist, and about 26 Roman Catholic chapels. St. Patrick's cathedral is an antique building, in a low and ruinous part of the town, erected in 1190, decorated with a steeple in 1370, and a very lofty spire in 1750. Christ church, built in 1038, the ancient cathedral of Dublin, is another venerable pile, containing some curious monuments. St. George's church is a superb edifice, lately built, with a magnificent front and lofty spire. No city, for its size, abounds more in charitable institutions. These are, in general, well endowed, and some of them are splendid buildings. The royal barracks are in the west end of the town, near the river. At the west of the city, opposite to the Phoenix park, is the royal hospital of Kilmainham, for the reception of disabled and superannuated soldiers, on the plan of the Chelsea hospital. Dublin is a corporate body, with a chief magistrate, who

has the title of lord mayor, elected annually from the aldermen, who are 25 in number, elected for life from citizens who have served as sheriffs: two sheriffs are chosen annually from the common council, who are 96 in number, and are triennially elected from their respective guilds by the freemen, a very numerous body, amounting to perhaps 2000. The freemen of Dublin, in conjunction with its freeholders, also return two members to the united parliament. Population, 185,881; 60 miles W. of Holyhead in Wales, and 330 N. W. London; lon. 6° 15' W.; lat. 53° 21' N.

DUBOIS, William, cardinal, prime minister of the duke of Orleans, regent of France, was the son of an apothecary, and was born in 1656, in a small town in the province of Limousin. At the age of 12 years, he was sent to Paris; and, after having studied in the college of St. Michael, he obtained the place of private tutor. He afterwards became acquainted with the sub-tutor of the duke of Chartres, M. de St. Laurent, who, having become infirm, was assisted in his duties by Dubois. Dubois ingratiated himself into the favor of his pupil, and, after the death of St. Laurent, was chosen to succeed him. From this time he played two parts—that of a tutor and that of a pimp to his young master. Louis XIV wished to marry his nephew to his natural daughter, Mlle. de Blois. Monsieur, the king's brother, was not averse to the match, but the king was too well acquainted with the haughty spirit of the duchess to expect her consent. Dubois was therefore employed to gain her and the young prince. His address was successful, and he was rewarded with the abbey of St. Just, in Picardy. Louis, who had become sensible of his talents, allowed him to join the French ambassador at London. Here the chevalier Dubois made some important acquaintances, through the influence of St. Evremont. He was particularly connected with lord Stanhope, whose friendship was the source of his future fortune. Dubois returned to France, and, under the modest title of a secretary, soon became the privy counselor of the duke of Orleans, and overseer of his household. He encountered, with success, the numerous obstacles and enemies opposed to his advancement. In 1715, the duke was declared regent; and Dubois, not less ambitious than artful, now ventured to indulge extravagant hopes. In spite of the opposition of the most influential persons, he was appointed by the duke counselor of state. The intrigues of the Spanish court, at that time under the direction of

the cardinal Alberoni, gave the duke much trouble, and made him desirous of a powerful ally. Dubois directed his attention towards England, and offered to conduct a secret negotiation with the court of that country. His acquaintance with lord Stanhope was now very useful to him. He succeeded in overcoming the dislike of George I to the person of the regent, and, in 1718, concluded the triple alliance between England, France and Holland. It has been asserted that Dubois sold himself to England; but this is not true; on the contrary, it was necessary for him to buy others, to succeed in his negotiations. He was rewarded by the place of minister of foreign affairs, and now began to aspire to the highest dignities of the church. The archbishopric of Cambray having become vacant, Dubois ventured to request it of the regent, although he was not even a priest. The regent was astonished at his boldness; but, as the king of England united with Dubois in his request, he obtained it, and, in one morning, received all the orders, and, a few days after, the archbishopric. By his consummate address, he obtained a cardinal's hat, and, in 1722, was appointed prime minister. His power had now no bounds; but his excesses had rendered him infirm. He was scarcely able to get in and out of his carriage, and yet he appeared on horseback for the sake of receiving military honors at a review. The exertion caused an internal injury, of which he died Aug. 10, 1723. The duke of St. Simon has given an accurate picture of him: "Dubois was a little, thin, meager man, with a polecat visage. All the vices, falsehood, avarice, licentiousness, ambition, and the meanest flattery, contended in him for the mastery. He lied to such a degree as to deny his own actions, when taken in the fact. Notwithstanding an affected stammering, which he had adopted for the purpose of gaining time to penetrate the motives of others, his rich, instructive and insinuating conversation would have rendered him agreeable, had it not been for the mist of falsehood which issued from every pore, and rendered even his gayety unpleasant. In spite of his debauchery, he was very industrious. His wealth was immense, and his revenue amounted to millions. His memory was hated and ridiculed. Even the inscription on his tomb is a satire; for, after enumerating all his offices and dignities, it concludes, *solidiora et stabiliora bona, viator, mortuo precare.*"

DUBOS, Jean Baptiste; one of the ear-

liest French writers who endeavored to found a theory of the arts on general principles. He enriched the theory of the arts by his comparison of poetry, painting and music (*Reflexions sur la Poésie, la Peinture et la Musique*, Paris, 1719; 6th ed., 1755, in 3 vols.). The foundation on which he rested his theory was, the necessity which every one feels of exercising the powers of his mind, and of setting his invention at work. He was born at Beauvais, in 1670, studied there and at Paris, and was placed, in 1695, in the office of foreign affairs, under the minister De Torcy, who gave him important commissions in Germany, Italy, England and Holland. In these journeys, he collected the information concerning the arts which his book contains. After his return to France, he obtained a benefice, a pension, and, in 1722, was elected perpetual secretary of the French academy. He distinguished himself as a historian by his *Histoire de la Ligue de Cambray* (Paris, 1721, 2 vols., 12mo.), and by his *Histoire critique de l'Etablissement de la Monarchie Française dans les Gaules* (Amsterdam, 1743, 2 vols., 4to. and 12mo.). Voltaire ranks him among the writers who were an honor to the age of Louis XIV. He died at Paris, 1742.

DUCANGE. (See *Dufresne*.)

DUCAT is a gold or silver coin. For its value, see *Coins*.—In Switzerland, ducats are called *Schildfranken*. The Dutch ducats, which are coined in great numbers, are the most used in commerce, and are to be found in all quarters of the world. In the northern countries of Europe, and particularly in Russia, the dealings in money and goods are carried on mostly by means of this coin. The exportation of ducats is, therefore, an important branch of Dutch commerce. This coin and the name are derived from Longinus, a duke of Ravenna, in the 6th century: the first issue of them has also been ascribed to St. Roger II, of Apulia, who, in 1140, coined ducats bearing the figure of Christ, and the inscription, *Sit tibi, Christe, datus, quem tu regis, iste ducatus*. The Venetians took his ducats for their pattern in 1280: they were found to constitute a convenient medium of exchange, were adopted by Genoa, and thus came into general use. This standard of coin was also adopted in Hungary; and, for a long time, all foreign coins bore the name of *Ongri* or *Hungarians*, in Italy, where the trade of the world was, at this period, concentrated. They were, in many kinds of business, the favorite standard of reck-

oning. They did not become so common in Germany till a much later date. The golden bull of Charles IV gave to all the members of the empire the privilege of issuing gold coins, with any stamp they chose; but these were only gold guilders, equivalent to the favorite florin. The ducats most generally met with are the old Dutch ducats, bearing the impression of an armed figure, which gave way, for a short time only, to the figure of Louis, king of Holland. They circulated almost as merchandise, but had been frequently counterfeited in the Grisons. The counterfeits were very good to appearance, both in weight and sound. (See *Coins*.)

DUCATOON; a Dutch gold coin (also called *Ruyder*) worth about 20 florins (see *Coins*); also an Italian silver coin current for about \$1.09. The Dutch gold ducatoon is a national coin, only circulating in the country. There is also a silver ducatoon, used particularly in the East India trade. There is likewise a French silver coin of this name, of nearly the same value as the Italian ducatoon.

DUCHESNE, or DU CHESNE, André (Lat., *Chesnius*, *Duchenius*, *Quercetanus*), from his historical researches, has been called the father of French history. He was born 1584, at Isle Bouchard, in Touraine; he studied at Loudon and Paris, was appointed royal geographer and historiographer, and died in 1640. His most important works are, his collection of French historians (*Historiæ Francorum Scriptores*, 3 vols., to which his son François Duchesne added a 4th and 5th from the papers left by his father), which the French government have since several times expressed a wish to have completed; his *Historiæ Normanorum Scriptores ab Anno 838—1220*; and his genealogical works, which throw much light on the history of France. The number of his writings is very great; some were published by his son after his death. He left more than a hundred folios in manuscript.

DUCIS, Jean François, a French dramatic poet, known by his adaptation of many pieces of Shakspeare to the French theatre, was born at Versailles, and, late in life, became a writer for the stage. His first piece, called *Amélie*, was unsuccessful, and those which followed it shared the same fate. His *Hamlet* attracted much attention, as it was the first of Shakspeare's plays which appeared on the French stage. This play and his next, *Romeo and Juliet*, and likewise those which appeared later, were so much

changed, to adapt them to the French taste, that the title, in some instances, is almost the only thing which reminds us of the original. These changes, however, only added to the applause with which they were received in France. He afterwards endeavored, in his *Edipe chez Admète*, to imitate the Greeks; but he soon returned to Shakspeare, and translated successively *Lear*, *Macbeth*, *Othello* and other plays. *Abufar* or the *Arabian Family* is one of the best of his original pieces. His style is, perhaps, harsh, but sometimes noble, and full of tragic dignity. He succeeded Voltaire, in the academy, in 1778. He was subsequently secretary to Louis XVIII. He remained true to this monarch under all circumstances, and, while on the point of starving, refused the place of a senator, with 40,000 francs a year, and the cross of the legion of honor, offered him by Bonaparte. The return of Louis XVIII made his old age happy. He was gratified when the king recited some of his verses to him at his first audience. "I am more happy," said he, "than Boileau and Racine; they recited their verses to Louis XIV; the king recites mine to me." He died March 31, 1817, at Versailles. His *Œuvres* appeared, in 1819, at Paris, in 3 vols. Campenon published, at Paris, in 1824, *Lettres sur la Vie, le Caract. et les Écrits de J. F. Ducis*.

DUCK (*anas*, Lin.); a very extensive and natural genus of water birds, which are found in all parts of the world. It has been divided by naturalists into an infinity of different genera; to such a degree, indeed, that, according to some of the distinctions which have been made, it would be impossible to leave the females of several species in the same genus with the males. The prince of Musignano is of opinion, that they might be advantageously separated into four sub-genera, in which we shall follow him. These are *anser*, or goose, *cygnus*, or swan, *anas*, or duck, and *fuligula*. We have thirty-one species of this interesting genus, inhabiting North America, being within one of the number found in Europe: of these, twenty-one are common to the two continents, leaving ten peculiar to America, and eleven to Europe. The mallard, or common wild duck (*A. boschas*), is found both in Europe and America. This is the original stock of the domesticated duck, which appears to have been reclaimed at a very early period. It is found in every fresh water lake and river of the U. States, in winter, but seldom frequents the sea shores or salt marshes. During the summer, it re-

sides in the north, along with the immense flocks of other water-fowl that retire thither for the purpose of breeding. A few pairs, however, occasionally met, remain in the Middle States during the whole year. The nest is usually placed in the most solitary recesses of a marsh or bog, among coarse grass, reeds and rushes, and generally contains from twelve to sixteen eggs, of a dull greenish-white. The flesh of the wild duck is held in general estimation, and various methods are resorted to, in order to obtain these birds in quantities. In Picardy, in France, vast numbers are taken in decoys, and sold in the Paris market, where, in one season, thirty thousand francs have been paid for the produce of the small lake of St. Lambert. They also abound in Lincolnshire, in England, and are there taken in great quantities, by nearly the same means as in Picardy. Pennant had an account sent him of the produce of ten decoys, which, in one winter, amounted to thirty-two thousand two hundred. We are indebted to Wilson (American Ornithology) for an enumeration of several simple and effective contrivances made use of, in this country, for the capture of these wary birds. In some ponds, frequented by them, five or six wooden figures, cut and painted to represent ducks, and sunk, by pieces of lead nailed to the bottom, so as to float at the usual depth on the surface, are anchored in a favorable position to be raked from a concealment of brush, &c. These attract the passing flocks, which alight, and thus expose themselves to certain destruction. In winter, when detached pieces of ice are occasionally floating in the river, some of the gunners on the Delaware paint their boats white, and, laying themselves flat in the bottom, direct them almost imperceptibly near a flock, before the ducks have distinguished them from a floating piece of ice. On land, another stratagem is sometimes practised with great success. A tight hogshead is sunk in the marsh, or mud, near the place where ducks are accustomed to feed at low water, and where, otherwise, there is no shelter; the edges and top are artfully concealed with tufts of long, coarse grass and reeds or sedge. From within this, the gunner watches his collecting prey, and usually commits great havoc. In China, the sportsman covers his head with a calabash, pierced with eye-holes, and, thus equipped, wades into the water, keeping only his head above the surface, and, on arriving amidst a flock, seizes them by the legs, fastens them to his girdle, and

thus takes as many as he wishes, without disturbing the rest. (See Wilson's *Am. Ornithol.*; Pennant's *Brit. Zoology*, vol. 2.) —*Muscovy duck* (*A. moschata*). This well known bird is the largest of the duck kind, and approaches nearly to the size of a goose. It has obtained its name from a strong smell of musk, which exhales from its body, and not because it comes from Russia, as has been supposed. The Muscovy ducks are tamed in great quantities in the West Indies, and are found wild in Guiana, where they nestle on the trunks of trees, close upon the water's edge. They feed in the morning upon a plant called *wild rice*, and seldom permit the sportsman to approach within gunshot.* —*Canvass-back duck* (*A. vallisneria*). This delicious bird is peculiar to this country, and was known to the epicure long before it was described by the naturalist. We are indebted to Wilson for the first account of it. He gave it the name of the plant on which it feeds, and which had been called after the celebrated Vallisneri. The canvass-back ducks arrive in the U. States, from the north, about the middle of October, and, principally, assemble in the numerous rivers in the neighborhood of the Chesapeake bay. On the Susquehannah, they are called *canvass-backs*, on the Potomac, *white-backs*, and on James' river, *sheldrakes*. When they first arrive, they are very lean; but, from the abundance of their favorite food, they become fat about November. They are sometimes found in such multitudes as to cover several acres. From the great demand for these ducks, and the high price they always command, various methods are employed to decoy them within gun-shot. The most successful is that termed *tolling*, in which they are enticed to approach the shore, by means of a dog properly trained. The article in Wilson's work is extremely interesting, and Mr. Ord has made a long and valuable addition to it. The canvass-back is constantly attended by another species, the widgeon (*A. Americana*), which manages to make a good subsistence from his labors. This bird is extremely fond of the tender roots of that particular species of plant on which the canvass-back feeds. The widgeon, which never dives, watches the moment the canvass-back rises, and, before he has his eyes well opened, snatches the morsel from his mouth, and makes off.—The other American species of ducks are, *A. clypeata*, or shoveller, re-

* Several pairs of wild Muscovy ducks have been killed, at different periods, in our rivers.

markable for the strange form of its bill. *A. strepera*, or gadwall, which is more rare in America than in Europe. *A. acuta*, pintail, or sprigtail, remarkable for the form of its tail; it is abundant in both hemispheres. *A. obscura*, black or dusky duck, peculiar to this continent, and very abundant; this is perhaps the most sagacious and timid of all the American ducks. *A. sponsa*, summer or wood duck; not more remarkable for its great beauty, in which it stands preëminent, than for its habits, its migrations being directly opposed to those of the other species. *A. discors*, blue-winged teal. *A. crecca*, green-winged teal. (See *Teal*.) *A. mollissima*, eider duck (q. v.). *A. perspicillata*, black or surf duck. This is common to both hemispheres, but is very rare in Europe. *A. fusca*, velvet duck, also found in both hemispheres; its flavor is rank and fishy, and it is therefore seldom sought after. *A. nigra*, scoter; found both in Europe and America; these birds, and a few others of the same fishy flavor, are exempted from the interdict which forbids Roman Catholics the use of animal food on certain days, on the supposition of their being cold-blooded, and partaking of the nature of fish. *A. rubida*, ruddy duck; this species was very rare in Wilson's time, but has since become more plenty. *A. ferina*, red-head; common to both continents; it approaches very near to the canvass-back in delicacy; its usual weight is about one pound and three quarters. *A. marilla*, scaup duck or blue-bill, a well known and common species in both continents. *A. rufitorques*, tufted duck; a species confounded with the *A. fuligula* of Europe, until the differences were pointed out by the prince of Musignano. (See *Journ. Acad. Nat. Sci.*, vol. 3.) *A. clangula*, golden-eye; common to both hemispheres. *A. albeola*, buffet-head, or butter-ball; peculiar to this country, where it is common. *A. glacialis*, long-tailed duck, south southerly, oldwife; common to both continents, remarkable for the long and slender middle feathers of its tail. *A. labradoria*, pied duck; a beautiful and rare species, peculiar to America. *A. histrionica*, harlequin duck; a magnificent species, found on both continents; it derives its name from the singularity of its markings; along the coast of New England it is called the *lord*.

DUCK; a sort of strong, brown, linen cloth, used chiefly by sail-makers.

DUCKING-STOOL. (See *Cucking-Stool*.)

DUCLOS, Charles Pineau, known as a

novelist, a describer of character and manners, a writer of memoirs, and a grammarian, born 1705, at Dinant, received a good education at Paris, early turned his knowledge to profit, in 1739 was chosen member of the academy of inscriptions, in 1748 member, and soon after secretary of the French academy. Though he resided at Paris, he was elected mayor of his native town in 1744. When the states of Bretagne, in reward of their zeal for the welfare of the kingdom, were permitted to nominate such of their number as they thought most worthy of the royal favor, Duclos was unanimously elected one of the number, and received letters of nobility. Not long before his death, he was appointed historiographer of France, in Voltaire's place. He died at Paris, 1772. Among the best of his novels, are *Confessions du Comte de B**** (1741, 12mo.); and of his memoirs, his *Mémoires sur les Mœurs du XVIII^{me} Siècle* (1751, 12mo.); both full of acute and striking remarks, especially on women and love. His *Considérations sur les Mœurs de ce Siècle* are full of striking sketches of character, and deep knowledge of human nature. His History of Louis XI is esteemed, but shows the hand of the novelist. Of more value are his *Mémoires secrets sur les Règnes de Louis XIV et XV*. This work was composed in his character of historiographer. He also distinguished himself in his *Remarques sur la Grammaire générale de Port-Royal* (1764, 12mo.), as a grammarian. Desessarts published the *Œuvres complètes de Duclos* (Paris, 1809, 10 vols.). The last volume contains a fragment of his autobiography. In the entertaining *Mémoires de Madame d'Epinay*, the character of Duclos is represented in no very favorable light.

DUCTILITY; the extensibility and cohesion of particles, which enables metal to be drawn into wire without breaking. The ductility of some bodies, especially of gold, is very surprising. A single grain of gold may be stretched under the hammer into a leaf that will cover a house, and yet the leaf remain so compact as not to transmit the rays of light, nor even admit spirit of wine to transude. But M. Réaumur has shown the ductility of gold to be still greater. What is called *gold-wire*, every body knows, is only silver gilt. The cylinder of silver, covered with leaf gold, is drawn through the hole of an iron, and the gilding is extended with the wire, to whatever length it may be stretched. Now, M. Réaumur shows, that, in the common way of

drawing gold wire, a cylinder of silver, twenty-two inches long, and fifteen lines in diameter, is stretched to 1,163,520 feet, or is 634,692 lines longer than before, which amounts to about ninety-seven leagues. To wind this thread on silk, for use, it is first flattened, in doing which it stretches at least one seventh further, so that the twenty-two inches are now 111 leagues; but in the flattening, instead of one seventh, it could be stretched one fourth, which would bring it to 120 leagues. This appears a prodigious extension, and yet it is nothing to what this gentleman has proved gold to be capable of.

Ductility of Glass. When glass is penetrated with the heat of fire, it can be managed like soft wax, and may be drawn out into threads exceedingly long and fine. Ordinary spinners do not form their threads of silk, flax, or the like, with half the ease and expedition the glass-spinners do threads of this brittle matter. Some of them are made into plumes, and used in other works; they are made much finer than hair, and bend and wave, like hair, with every wind. Two workmen are employed in making them: the first holds one end of a piece of glass over the flame of a lamp, and, when the heat has softened it, the second operator applies a glass hook, and draws out a thread of glass, which still adheres to the mass; then, fitting his hook on the circumference of a wheel about two feet and a half in diameter, he turns the wheel as fast as he pleases, till it is covered with a skein of glass thread. The parts, as they recede from the flame, by gradually cooling, become more cohesive: the parts nearest the fire are always the least cohesive, and, consequently, must give way to the effort made to draw them towards the wheel. These threads are commonly of a flat oval shape, being three or four times as broad as thick: some of them seem scarcely bigger than the thread of a silk-worm, and are surprisingly flexible. If the two ends of such threads are knotted together, they may be drawn and bent till the aperture, or space in the middle of the knot, does not exceed one fourth of a line, or one forty-eighth of an inch, in diameter. The flexibility of glass increases in proportion to the fineness of the threads; and, probably, had we the art of drawing threads as fine as a spider's web, we might weave stuffs and cloths of them, but could never make them long enough to be serviceable. (For further information, see *Divisibility*.)

DU-DEFFAND, Madame. (See *Deffand*.)

DUDLEY, Edmund; noted in English history as an instrument of Henry VII, in the arbitrary acts of extortion practised during the latter years of his reign. He was born in 1462, of an ancient and respectable family; and was educated at the university of Oxford. Becoming a student of the law at Gray's Inn, he arrived at such eminence in his profession as recommended him to the favor of the king, who made much use of his services, and conferred on him various offices and emoluments. In 1505, he was made speaker of the house of commons, and, through his influence, several enactments took place, oppressive to the people and profitable to the monarch. On the accession of Henry VIII, he perished on the scaffold, August 18, 1510, with his associate, sir Richard Emson (who was the son of a sieve-maker at Towcester).

DUDLEY, John, duke of Northumberland; son of the preceding. He was born in 1502, and, after his father's execution, was restored in blood by act of parliament. In 1542, he was raised to the peerage as viscount Lisle, in right of his mother, who inherited that title. Soon after, he was made KG.; and, at length, the post of lord-high-admiral was conferred on him for life. He served with reputation in Scotland and France, and was left, by Henry VIII, one of the executors named in his will, as a kind of joint-regent during the minority of Edward VI. Under that prince, he manifested the most insatiable ambition, and obtained vast accessions of honors, power, and emoluments. At first, he joined his interest with that of the duke of Somerset, the king's uncle, whom, however, at length he undermined and destroyed. He had been advanced to the titles of earl of Warwick and duke of Northumberland; and, after the fall of his rival, his authority was almost unbounded. The illness of the king, over whom he had gained complete ascendancy, alarmed his fears, and he endeavored to strengthen his interest by marrying his son, lord Guilford Dudley, to lady Jane Grey, descended from the younger sister of Henry VIII, and persuaded Edward to settle the crown on his kinswoman by will, to the exclusion of his two sisters, the princesses Mary and Elizabeth. The death of the king, the abortive attempts to place lady Jane Grey on the throne, and the ruin of all those concerned in the scheme, are among the most familiar events in the annals of England. Northumberland himself was be-

headed on Tower-hill, August 22, 1553. He professed himself a Catholic a short time before his execution, and died in that faith, though the avowed object of the plot was to secure the establishment of Protestantism in England.

DUDLEY, sir Henry Bate, baronet, was born at Fenny Compton, August 25, 1745. His father, the reverend Henry Bate, was rector of North Farmbridge, in Essex, in which benefice his son Henry succeeded him at his death; but the emoluments of the living being but trifling, he established the *Morning Post* newspaper, and, in 1780, the *Morning Herald*, commencing also, about the same time, the *Courier de l'Europe*—a journal printed in the French language—and the *English Chronicle*. At this period, he was a contributor to the *Probationary Odes*, the *Rolliad*, and other works of a similar class. In 1781, the advowson of the rectory of Bradwell-juxta-Mare was purchased in trust for him, subject to the life of the reverend George Pawson. In 1784, he assumed the name of *Dudley*, in compliance with the will of a relation. Mr. Pawson dying in 1797, Mr. Dudley presented himself to the vacant benefice; but the bishop of London refused institution, and a compromise was at length effected. In 1812, he received the living of Willingham, in Cambridgeshire. Shortly after, he obtained a baronetcy, and, in 1816, the dignity of a prebend in Ely cathedral, which he retained till the day of his death, February 1, 1824. Sir Henry distinguished himself as a useful magistrate; while his literary abilities were manifested in the composition of a variety of dramatic pieces. Among these are the *Flich of Bacon*, written for the purpose of introducing his friend Shield to the public; the *Woodman*; the *Rival Candidates*; the *Blackamoor Washed White* (at the representation of which, party spirit ran so high as to produce a serious conflict, in which swords were drawn, &c., among the audience); the *Travellers in Switzerland*; and the popular piece *At Home*. In his earlier years, the warmth of his temperament betrayed him, notwithstanding his cloth, into several quarrels. The cause of two of these rencontres was Mrs. Hartley, an actress celebrated for her beauty. A third, of more equivocal character, fought with Mr. Stoney Bowes, made a great noise at the time. Sir Henry, at the time of his decease, was a magistrate for seven English counties, and four in Ireland.

DUDLEY, Robert, earl of Leicester, was

the fifth son of the duke of Northumberland, and was born about 1532. He was knighted when young, and was made gentleman of the bed-chamber to Edward VI. Though involved in the criminal designs of his father, and included in the sentence of attainder passed against him on the accession of Mary, he was pardoned, and employed by that queen. After Elizabeth ascended the throne, Dudley soon acquired the distinction of being her favorite. Offices, honors and wealth were showered on him with an unsparing hand. He was appointed master of the horse, knight of the garter, and privy counsellor; and he received grants of the princely domains of Kenilworth, Denbigh, and Chirk castle. In 1560, the death of his wife took place, at Cumnor-hall, in Berkshire. This event, according to popular opinion, as appears from Aubrey, involved Dudley in the guilt of murder. If he sacrificed the life of his consort, in the hope of marrying the queen, his ambitious views were disappointed. Elizabeth, however, encouraged him to aspire to the hand of Mary of Scotland, who rejected him with disdain. In 1564, he was created baron Denbigh and earl of Leicester, and was the same year elected chancellor of Oxford university, having previously been chosen to the same office at Cambridge. About 1572, he appears to have married the baroness-dowager Sheffield, lady Douglas Howard, by whom he had children, but whom he disowned as his wife, and even compelled her to marry another person. In 1575, he gave a princely entertainment to the queen, at Kenilworth castle; the festivities of which are described in a picturesque manner, in the celebrated romance of Kenilworth, and, in defiance of chronology, connected with the death of Leicester's first wife. Leicester, in 1578, offended the queen by his marriage with the widow of Walter Devereux, earl of Essex. He, however, recovered her favor, and, in 1585, was appointed, through her influence, governor of the Netherlands, then recently emancipated from the Spanish yoke. His conduct in this station did not give satisfaction to the queen, or to the states over which he presided, and he was recalled the following year. He returned to his command in June, 1587; but he was finally displaced a few months after, and returned to England. He was accused of misconduct by lord Buckhurst and others; but Elizabeth still retained so much partiality for him, that she supported him against all his enemies; and, on the prospect of the Spanish invasion, in

1588, she appointed him commander of the forces assembled at Tilbury, for the defence of the kingdom. Leicester died September 4, the same year, at Cornbury park, in Oxfordshire, and was interred in a chapel of the collegiate church of Warwick, where a splendid monument was raised to his memory.

DUEL (from *duellum*, derived from *duo*) is a combat between two, at a time and place appointed, in consequence of a challenge, and so is distinguished from an encounter, taking place without any previous arrangement. The custom of duelling was derived from the northern nations; the judicial combat and the private duel, upon the principle of the point of honor, having both been unknown to the ancients. The Germans, Danes and Franks carried the practice of the judicial combat so far, that none were excused, except women, sick people, cripples, and such as were over 60 years of age. Even ecclesiastics and monks were obliged to maintain their controversies by a champion in arms; and this singular species of jurisprudence was not confined to criminal accusations, but the titles to estates were decided in the same manner. At length, however, this mode of trial was limited to those accusations of capital offences, in which there was no other testimony, and in which common fame pronounced the accused party to be guilty. The party vanquished was punished by hanging, beheading, or mutilation of members. A judicial combat was authorized by Gundebald, king of the Burgundians, as early as A.D. 501. Fleta (l. i. c. 32) says it is a combat between two, to prove the truth in respect to their controversy, and the party who conquers shall prevail in the suit. The practice of trying rights to land, as well as the guilt or innocence of an accused party, by combat under judicial authority, very naturally suggested the decision of personal quarrels in the same way (particularly those in which the point of honor was concerned), and all cases in which there was no adequate redress provided in the ordinary tribunals. The example of Francis I of France, and Charles V of Spain, gave a sanction to this mode of arbitration. On the breaking up of the treaty between these sovereigns, and the declaration of war by the French and English heralds, at the court of Charles, Jan. 2, 1528, the emperor, in replying to the declaration of the French monarch, desired the herald to acquaint his sovereign, that he would henceforth consider him, not only as a base violator

of public faith, but as a stranger to the honor and integrity becoming a gentleman. On receiving this message, Francis immediately sent back the herald with a cartel of defiance, gave the emperor the lie in form, challenged him to single combat, and required him to appoint the time, place and weapons. Charles accepted the challenge; but, after many messages concerning the arrangements for the combat, accompanied with mutual reproaches, bordering on the most indecent scurrility, all thoughts of the duel were given up. But this affair, though it thus terminated without any rencounter, is supposed to have had a great influence in producing an important change in manners all over Europe. Upon every insult or injury, which seemed to touch his honor, a gentleman thought himself entitled to draw his sword, and to call on his adversary to give him satisfaction. Such an opinion becoming prevalent among men of fierce courage, of high spirit, and rude manners, where offence was often given, and revenge always prompt, led to the sacrifice of many lives. This "detestable practice of duelling, introduced," as the council of Trent say, "at the instigation of the devil," raged with the greatest violence in France, where it is calculated that 6000 persons fell in duels, during 10 years of the reign of Henry IV. His celebrated minister, Sully, remonstrated against the practice; but the king connived at it, supposing that it tended to maintain a military spirit among his people. But afterwards, in 1602, near the close of his reign, he issued a very severe decree against it, and declared it to be punishable with death. This decree was opposed by Sully, as being so far beyond the sentiments of the people on the subject, that it could not be carried into execution; and experience proved the correctness of Sully's opinion. Under Henry's successor, the cardinal Richelieu introduced a law, that every person who should fight a duel should lose his offices and pensions, a third of his property, and be exiled for three years from the kingdom. Duels soon decreased. Two noblemen were executed for this offence in 1627. In 1632, two noblemen killed each other in a duel; their corpses were hung upon the gallows, with the legs uppermost. (*Mercurius*, XIII, 450.) Duels are not severely punished by the present French code. "It must be admitted," says Mr. Robertson, in connexion with his account of the challenge between Charles and Francis, "that to this absurd custom we must ascribe, in some degree,

the extraordinary gentleness and complaisance of modern manners, and that respectful attention of one man to another, which, at present, render the social intercourse of life far more agreeable and decent than among the most civilized nations of antiquity." Duelling sprung up as a branch of the chivalrous spirit of the middle ages; and the remnant of that spirit, which has survived to our own times, and which makes an insult, or an injury to honor, insupportable, has preserved this custom, in opposition to the exhortations and denunciations of the teachers of religion, and the prohibitions and penalties of the laws, which have been levelled against it in all civilized countries. A duel, provoked from a spirit of revenge and thirst of blood, shocks the moral sense, and excites the horror of mankind, little less than a cold-blooded assassination. But, where a man burns with a sense of atrocious insult, which no laws can redress, and resorts to the duel, not from a spirit of revenge, but as the only means supplied which he considers to be left him for vindicating his honor, although this remedy is ever so inadequate, and even absurd, and although it is liable to so great abuse, still, in such a case, the general sentiment, in spite of all laws to the contrary, regards a challenge with tolerance; and it is these instances that sustain the practice of duelling, and defeat, in a great degree, the execution of the laws against duels. As far as men are impelled to combat by these motives, as Sully remarked to Henry IV, the threat of the punishment of death, by the law, has feeble influence with them; since they expose their lives in the combat itself, in order to avoid what they consider a greater evil than death. This evil is one inflicted, in many instances, by the public opinion, and depends on the customs of particular societies. Thus, in France, Spain and Italy, a blow with the hand is a mortal injury; and that it is so is matter merely of public opinion, for in England and the U. States, this is by no means so burning a disgrace. But, in both of the latter countries, a stroke with a whip is, by the public opinion, rendered exceedingly galling. After all, however, parties in the heat of resentment, and the high excitement of their sensibilities, are apt greatly to overrate the importance of the supposed disparagement of their reputation; and the frivolity of the occasion would frequently make duels subjects of ridicule, if they were not cases of life and death. And, though the

public are disposed to palliate them, in extreme cases, still the laws very properly prohibit the practice of duelling, *in toto*. Accordingly, the laws of England make killing in a duel, after time for reflection and deliberation, murder. "A party," says Mr. Russell, in his treatise on crimes, "killing another in a deliberate duel, is guilty of murder, and cannot help himself by alleging that he was first struck by the deceased; or that he had often declined to meet him, and was prevailed upon to do so by his importunity; or that it was his intent only to vindicate his reputation; or that he meant not to kill, but only to disarm his adversary. He has deliberately engaged in an act highly unlawful, and he must abide the consequences." Such is the law of England, but it does not prevent duels; and the parties concerned in them often come off with impunity. In the U. States, there is a very considerable diversity in the laws of the different states on this subject, at the time of writing this article, in 1830. In Maine, the punishment for challenging, fighting a duel, or acting as second, is solitary imprisonment not over a year, confinement to hard labor not more than 20 years, and disqualification for office for 20 years; for accepting a challenge, imprisonment not exceeding a year, and disqualification for office 5 years: in Vermont, for killing in a duel, death; for sending or accepting a challenge, a fine of from \$50 to \$1000, and absolute disqualification for office: in Massachusetts, for fighting, in case death does not ensue, or challenging, accepting a challenge, or being second, the same as in Maine: in Rhode Island, for fighting, though death does not ensue, carting to the gallows, with a rope about the neck, sitting on the gallows an hour, and imprisonment not exceeding a year, either or both: in Connecticut, for sending or accepting a challenge, a fine of \$3000, bonds for good behavior during life, and disqualification for office; for delivering a challenge, the same, excepting the bonds: in New Jersey, for challenging, or bearing a challenge, or aiding, a fine not over \$500, or imprisonment not more than 2 years, or both; for fighting, or being second, or aiding, a fine not over \$1000, and imprisonment to hard labor not more than 2 years: in Pennsylvania, for challenging, or bearing a challenge, a fine not over \$500, and imprisonment of 1 year: in Delaware, for fighting a duel, or sending, bearing or accepting a challenge, or aiding therein, a fine of \$1000, imprisonment for three

months, and absolute disqualification for office: in Maryland, for sending or accepting a challenge, disqualification for office; for killing an antagonist in a duel, or wounding him so that he shall die within a year and a day, confinement in the penitentiary not less than 5, nor more than 18 years: in Virginia, for killing in a duel, death; for challenging, or accepting a challenge, disqualification for office: in Louisiana, for an insult, with intent to provoke a challenge, a fine of \$50 to \$300, and close imprisonment from 5 to 30 days; for giving or accepting a challenge, imprisonment from 2 to 6 months, and suspension of political rights for 4 years; for fighting, without wounding, imprisonment from 6 to 12 months, and suspension from political rights 6 years; for wounding, but not mortally, or so as to occasion a permanent bodily disability, imprisonment from 12 to 18 months, and suspension from political rights 8 years; for killing in a duel, imprisonment from 2 to 4 years, and absolute forfeiture of certain political rights. In many of the states, of which the statutes make no special provision for the case of killing in a duel, it is either murder or manslaughter, by the general law. The laws of Illinois, and some other states, require certain officers of the state to make oath, either that they have not, within a certain time, been, or will not be, concerned in a duel.

"Some advocates for duelling," says Coke, "allege the combat of David and Goliath, in vindication of the practice;" and there are some other instances on record, of single combats proposed, which Coke looks upon in a more favorable light. He mentions that Edward III, in the 16th year of his reign, proposed a speedy trial of all right in controversy between him and the French king, by a personal combat with his rival. And Richard II, of England, having a controversy with the king of France, concerning the title to the French crown, "it was," says Coke, "an honorable offer that Richard made to Charles, the French king, for saving of guiltless Christian blood, and to put an end to that bloody and lingering war, through his uncle, the duke of Lancaster," that the war should be concluded, 1, by a personal combat between themselves; or, 2, between themselves, with three of their uncles on each side; or, 3, by a general battle, at an appointed time and place, between all the forces that they could respectively muster. The duke of Lancaster, according to his commission, made these offers to Charles, the king of

France, "but king Charles liked none of their offers." In 1196, in the eighth year of the reign of Richard I, Philip, king of France, sent this challenge to Richard I of England,—“that king Richard would choose five for his part, and the king of France would choose five for his part, which might fight in lists for trial of all matters in controversy between them, for the avoiding of shedding of more guiltless blood. Richard accepted the offer, with the condition that either king might be of the number, but this condition would not be granted.” Upon which Coke remarks, that “these and the like offers, as they proceeded from high courage and greatness of mind, so had they been lawful if they had been warranted by public authority. To take away all motive and excuse for the duel, Henry IV of France erected a *court of honor*, to try, and administer redress in, those cases which are the usual subjects of martial arbitrament. But this did not supplant the mode of decision by combat; and no court of this sort seems to be now in existence, or, at least, in the course of practical administration, in any country; and whether it be at all practicable, remains yet to be determined.

DUFRESNE, or DU FRESNE, Charles, lord of Cange, hence often called *Ducange*; a man of letters, who did much for the history of the middle ages, especially as regards his own country, as well as for the Byzantine history. He was born in 1610, at a farm near Amiens, of a respectable family, and studied in the Jesuits' college, at that place, afterwards at Orleans and Paris. At this last place he became parliamentary advocate, in 1631, and, in 1645, royal treasurer at Amiens, from which place he was driven by a pestilence, in 1668, to Paris. Here he devoted himself entirely to literature, and published his great works, viz., his *Glossary of the Greek and Latin peculiar to the Middle Ages and the Moderns*; his *Historia Byzantina* (Paris, 1680, fol.); the *Annals of Zonaras*; the *Numismatics of the Middle Ages*, and other important works. He died in 1688.

DUGUAY-TROUIN, René, one of the most distinguished seamen of his time, born, 1673, at St. Malo, was the son of a rich merchant and skilful navigator. He made his first voyage in 1689, in a vessel of 18 guns, which his family fitted out, in the war against England and Holland. His courage induced his family to trust him with a ship of 14 guns. Being driven on the coast of Ireland, he burnt two ships, and took a fort, in spite of the opposition of a numerous garrison. He was once

taken prisoner, and carried into Plymouth. He there gained the love of an English female, who procured him his liberty. He once more made a cruise on the coast of England, and took two ships of war. Duguay-Trouin, now in his 21st year, attracted the attention of the government. Louis XIV. sent him a sword. He captured great numbers of English and Dutch ships on the coast of Spain and Ireland; in 1696, he took a great part of the outward bound Dutch fleet, under Wasse-naer; in 1697, he entered the royal marine, as a captain. He signalized himself so much in the Spanish war, that the king granted him letters of nobility, in which it was stated, that he had captured more than 300 merchant ships, and 20 ships of war. By the capture of Rio de Janeiro, 1611, he brought the crown more than 25 millions. Under Louis XV, he rendered important services in the Levant and the Mediterranean. He died at Paris, 1736. His memoirs appeared there, in 1740, in 4 vols. His *Eloge* was written by Thomas.

DUJARDIN, Charles, a painter, born 1640, at Amsterdam, a scholar of Berghem, excelled in painting landscapes, animals, and scenes in low life. He went to Italy when young, and was a member of the society of painters at Rome, among whom he was called *Barba di Becco*. His works met with general approbation. On his return to his native country, he contracted considerable debts at Lyons, to free himself from which he married his old and rich landlady. He went with her to Amsterdam, where his pictures were valued very highly. He soon secretly left his home in that city, probably from dislike to his wife, and went to Rome, where he was welcomed by his old friends and admirers, and lived at great expense. Thence he went to Venice, where he died, in 1678, in the prime of life. His landscapes have spirit and harmony, his figures expression, and his coloring the brilliancy which distinguishes his school. His paintings are rare, and command a high price. He also published 52 landscapes, etched with much spirit and ease.

DUKE (from the Latin *dux*, leader, commander). Among the ancient German tribes, the military leaders were chosen by the people (*reges ex nobilitate, duces ex virtute sumunt*, says Tacitus), with whom, however, the whole legislative power remained: this is the natural and probably the common origin of the princes of all nations. By degrees, as appears from Marculphus, and Gregory of Tours, the oath of allegiance was introduced

among the Franks, which was taken, not only by the followers of the prince (*comites*), but also by the people at large, who still continued, however, to hold the legislative power. The counts and dukes, after this time, were no longer chosen by the people, but by the prince. Dukes were set over provinces or districts, to regulate the military affairs, and counts to administer justice, and to collect the taxes. (See *Count*.) Charlemagne suffered the dignity of the dukes to cease, because their power seemed to him too dangerous. But the incursions of foreign tribes into Germany made the reestablishment of dukes necessary under his successors. In 847, the emperor Louis appointed a duke of Thuringia, to protect the frontiers against the Wendes, or Vandals, a Sclavonic tribe. The power of the dukes now gradually increased, their dignity, like that of counts, became hereditary, and they soon became powerful members of the German empire. An archbishop of Cologne, Bruno, was the first who bore (in 959) the title of archduke, which, since the time of the emperor Frederic III (1453), has been given exclusively to the princes of the house of Austria. All the Austrian princes are archdukes. The kings of Poland styled themselves grand-dukes of Lithuania; and Maximilian II, emperor of Germany, gave this title of grand-duke to the dukes of Florence. Napoleon conferred the arch-ducal dignity on several German princes, which the congress of Vienna confirmed to them. In other countries, *duke* is only a title of nobility, as *duca* in Italy, *duc* in France, and *duke* in England. In the two first countries, dukes are the second in rank among the nobles; in the latter, the highest. Napoleon created *ducs*, after he had assumed the title of emperor, and gave them titles generally taken from places or countries in which they had distinguished themselves; as, for instance, Duroc was created duke of Friuli. In England, the first hereditary duke was the black prince, created by his father, Edward III, in 1336. The duchy of Cornwall was bestowed upon him, and was thenceforward attached to the eldest son of the king, who is considered *dux natus*. The duchy of Lancaster was soon after conferred on his third son, John of Gaunt, and hence arose the special privileges which these two duchies still in part retain. In the reign of Elizabeth, in 1572, the ducal order was extinct, and not revived till the creation of Villars duke of Buckingham, by James I. There are now, besides the brothers of

the king of England, who are all dukes, 19 English dukes. The coronet of an English duke consists of eight strawberry leaves, on a rim of gold. His style is, *most high, potent and noble prince—your grace*. In the distribution of the empire, under Constantine, *dux* was the title borne by a military provincial governor. On the division of the empire, 13 *duces* were nominated in the East. In the Bible, the word *dukes* is used, Gen. xxxvi. 15, for the *duces* of the Vulgate.

DULWICH; a village in Surry, England, noted for the *College of God's Gift*, five miles S. E. London. The gallery of paintings at Dulwich college is one of the finest collections in the world. Dulwich is charmingly situated, and the delightful walk to the village, after leaving the long and noisy streets of the metropolis, adds to the enjoyment of the gallery, where the pieces of Cuyp and other masters seem to reflect the beautiful scenery on which you have just been gazing. In that collection you find paintings of all characters and schools, from the comic, and, sometimes, almost too natural Teniers and Wouvermann, up to Cuyp, Claude, Paul Potter, and the grave Ruysdael. The gallery contains, likewise, many works of Murillo, Vandyke, Rubens, Rembrandt, Poussin, Salvator Rosa, Caravaggio, Guercino, Paul Veronese, Guido, Andrea del Sarto, and Titian. Of the last there is a nymph, a picture in which this glorious artist expressed, perhaps more than in any of his other productions, that luxuriant beauty and glowing voluptuousness, which so often inspired him. The gallery at Dulwich is also advantageously distinguished from many others in England, by the facility of admittance. Not a few of the greatest works of art are immured in the retired seats of the nobility, and only seen, if at all, after tedious applications, which contrast very disagreeably with the facility of reception in Italy.

DUMARSAIS, César Chesneau, a philologist, born in 1676, at Marseilles, early lost his father, his fortune was dissipated by the extravagance of his mother, and a library, which he inherited, was sold. The idea of losing the latter so disturbed the boy, then but seven years old, that he concealed all the books of which he could possess himself. He became an advocate, married unhappily, kept a school, and died in misery, 1756. His merits were overlooked by his own age, and his best works remained for a long time unknown. D'Alembert aptly calls him the *La Fontaine of philosophers*. De Gerando, in a

prize dissertation, presented to the French institute in 1805, has justly appreciated the merit of this profound inquirer. His works were published at Paris, 1797, in seven vols. The principal are, *A New Method of teaching the Latin Language*; a *Treatise on Tropes*; the *Principles of (general) Grammar*; and his contributions to the *Encyclopædia*.

DUMAS, Matthieu (count), a distinguished French general, born 1758, at Montpellier, served as a colonel in the war of the American revolution. In 1789, he entered the national guard, under La Fayette. In 1792, he exerted all his influence to prevent the declaration of war against Austria. In the reign of terror, he concealed himself. In September, 1795, he was chosen member of the council of elders. In 1797, he spoke energetically against bringing up the troops, whom the directory had sent for to occupy the capital, and was condemned to deportation. He fled to Germany. In 1799, he published, at Hamburg, a well written journal, entitled *Précis des Événements militaires*, which showed his profound knowledge of the military art. After the 18th Brumaire, he returned to France. In 1800, he was at the head of the staff of the second army of reserve, and served in the campaign of 1801, in Switzerland. In August, 1802, he formed the plan of a legion of honor. He was afterwards general of division, and chief of the staff. In 1805, he served in the grand army in Germany, in this latter capacity. In 1812, he accompanied Napoleon in the Russian campaign, as intendent-general of the army, and was at last taken prisoner at the surrender of Dresden. He has since continued his *Précis des Événements*, 19 vols. of which had appeared in 1825, with 8 vols. of *Atlas*, folio. The 19th volume extended to the end of the war of 1807.

DUMB AND DEAF, OR DEAF MUTES.

Deafness. The sensation which we call *hearing* is produced by the vibrations of the air, striking on the tympanum or drum of the ear, and communicated to the auditory nerve, by means of a series of small bones connected in a very remarkable manner. When the tympanum becomes insensible to these impulses, a person is termed *deaf*; although the vibrations may still be communicated, in some cases, through the bones of the head, by means of a stick placed between the teeth, or, as the Code of Justinian states to have been practised in the case of dying persons, by speaking with the

mouth close to the top of the head. The Eustachian tube extends from the tympanum into the mouth; and sometimes sounds are better distinguished by opening the mouth, when the external opening, only, is obstructed. Hence the habit of "listening with the mouth open." Deafness occurs in every degree, from that which merely impairs the accuracy of the ear in distinguishing faint or similar sounds, to that state in which there is no more sensation in this organ than in any other; and sound is felt in almost every part of the body, as a mere vibration.

Articulation and Dumbness. Articulation is acquired by imitating the sounds which we hear uttered by others, and correcting the voice, by means of the ear, until the imitation is precise. Deafness, therefore, in every degree, affects the distinctness of articulation, and, if it is so great that the subject can no longer distinguish between articulate sounds, he is incapable of acquiring speech, in the ordinary manner, and becomes dumb in consequence of his deafness. A case has occurred within the knowledge of the writer, in which entire deafness, taking place at the age of 18, so affected the articulation, that the individual was no longer intelligible, even to his friends. This result will not be prevented by any degree of hearing less than we have mentioned; for most deaf and dumb persons can hear some sounds; and some can distinguish the high from the low, who perceive no difference in articulations. Only a few mutes are found, who owe this defect to feebleness of mind, or to any imperfections in the organs of speech. These remarks show the fallacy of the idea, that the want of speech is owing to the want of mental capacity—a prejudice which has been cherished by the usual name of *deaf and dumb*, which we hope, for this reason, as well as for euphony, will be changed for that of *deaf mute*, which may be employed both as a noun and an adjective.

Number. The number of deaf mutes varies materially in different countries, and situations, and classes of men. In the U. States, partial examination leads to the belief that there is one deaf mute for every 2000 inhabitants. In some countries of Europe, there is one for every 1500 or 1700; in others, one for every 1000; and, in some locations, the proportion is three or four times as great as this. The proportion has been found greatest in some districts or portions of cities remarkable for the dampness and impurity

of the air. The greater number of these unfortunate persons is found among the poorer classes; and hence it has been supposed, that the defect is frequently caused by the want of the necessary supplies and attentions during infancy or disease.

Origin. A large number of deaf mutes are born deaf; but it appears from the reports of the American asylum, that more than half the pupils of that institution lost their hearing by accidents or diseases, chiefly fevers and diseases of children.

Causes and Cure. The immediate causes of ordinary dumbness are known to be various. In some few cases, it is owing to an imperfection or injury of some part of the organs of speech, and, of course, is irremediable. In other cases, it seems to arise from obstructions in the external or internal passage of the ear. Cures have sometimes been effected by removing these obstructions by means of instruments or injections, especially, of late, by doctors Itard and Deleau, of Paris, who throw injections into the Eustachian passage, by means of a flexible tube passed through the nostrils. Doctor Deleau is reported, by a committee of the French institute, to have relieved or cured several deaf persons, by injections of *air*, long continued; but he does not estimate the probable number of cures in deaf mutes at more than one in ten. Perforation of the tympanum is sometimes useful in rendering it more easy to remove obstructions which may be discovered; and for this purpose, it is deemed important to perform it by means of circular discs, closing with a spring, which remove a portion of the membrane, and leave a permanent opening. In other cases, and in the usual mode, this operation often produces great suffering, and has not been generally useful. In 81 cases of perforation at Groningen, in Holland, only three were permanently relieved, and these in a very partial degree. In the greater proportion of deaf mutes, no defect is visible, and no applications appear to be useful. In a number of anatomical examinations of deceased deaf mutes, at Paris, the ear was found perfect in all its parts. The inference has therefore been made, that the disease consists in a paralysis of the auditory nerve—a conclusion which seems to be sustained by the fact, that, in some cases, a cure has been effected by actual cautery on the back of the head, and that galvanism has sometimes given temporary relief. According to the estimates we have mentioned, the number of

deaf mutes in the U. States is about 6000, and in Europe not less than 140,000; all of whom, by their deafness (which we see is usually beyond the reach of remedies), are shut out from the intercourse of society, and the ordinary means of acquiring knowledge. The situation and character of such a large class of unfortunate persons are subjects of deep interest.

Communication.—Natural Language. The necessity of communication, and the want of words, oblige the deaf mute to observe and imitate the actions and expressions which accompany various states of mind and of feeling, to indicate objects by their appearance and use, and persons by some peculiar mark, and to describe their actions by direct imitation. In this way, he and his friends are led to form a dialect of that universal language of attitude, gesture and expression, by which the painter and the sculptor convey to us every event of history, and every feeling of the soul—which becomes a substitute for words in the hands of the pantomimic actor, and which adds force and clearness to the finest effusions of the orator—in other words, the natural *sign language*.

Description of the Language. The terms of this language are of two kinds—the descriptive and the characteristic or indicative signs. Descriptive signs involve an account (more or less complete) of the appearance, qualities and uses of an object, or the circumstances of an event, for the purpose of description or explanation, and must, from their nature, be varied, like a painting, only by the point of view from which the objects are described, or the capacity and accuracy of the person that describes. The indicative signs, on the contrary, which are employed in common conversation, are usually mere abbreviations of these, involving a single striking feature of the person, or object, or event; as an elephant is indicated by its trunk, a flower by its fragrance, or a town by a collection of roofs. The signs of persons are usually conventional, and derived from some feature, or mark, or habit, but often from an accidental circumstance in dress, &c., which struck the deaf mute on first seeing the person, and is still referred to when it no longer exists. It is obvious that, in this class of signs, there is great room for dialects, according to the situation, capacity and habits of observation of the individual, and that much may be done for its improvement, by a proper selection.

Extent of the Sign Language. The

sign language, like every other, varies in its extent with the intelligence, the wants, and the circle of ideas of those who use it. When employed by an insulated deaf mute, it will usually exhibit only the objects of the first necessity, and the most common impulses, like the language of a savage tribe. When his ideas expand, from age or observation, he will find new modes of expressing them; and, when his education is begun, an intelligent deaf mute will often express ideas in this language, for which it is difficult to find expressions in words. When a number of deaf mutes are brought together in a single institution, selections and combinations of their various dialects are formed; the best are gradually adopted by all; and a new and more complete form of the language is the result—as in nations collected by civilization. This process, carried on for half a century in the institution of Paris, and some others in Europe, under the observation and direction of intelligent men possessed of hearing, has produced a language capable of expressing all the ideas we convey by articulate sounds, with clearness, though not always with equal brevity, and which those who value it least admit to surpass speech in the force with which it communicates the feelings and states of mind. Like painting (as Condillac observes), it has the immense advantage of presenting a group of ideas at once, which lose much of their force and beauty, by being detailed in the successive words and artificial arrangements of written language. The eye, the hand, the whole body, speak simultaneously on one subject; the representation changes every moment, and these peculiarities, with the elliptical form of expression which is adopted in conversation, give a rapidity to communication by the sign language, which, on common subjects, among those familiar with it, surpasses that of speech. If we remark the new shades of meaning given to the same words, by the varying attitude and general expression of the speaker, and the accuracy with which a nice observer will discover, in these signs, the thoughts, and feelings and intentions, even of one who wishes to conceal them, we shall find reason to believe that they are capable of conveying the most delicate shades of thought. Generic and abstract terms, as their objects do not exist in nature, have no corresponding terms of equal clearness in the sign language; and the abbreviated manner in which we express relations by conjunctions, prepositions, relatives and

inflections, can only be imitated by adopting similar conventional signs, which do not easily fall in with the idiom of the language. In these respects, therefore, the sign language wants the algebraic brevity and accuracy which are found in artificial languages, and which render these so invaluable as mediums of thought, and instruments of philosophical investigation; at the same time, it is capable of describing what is conveyed by these forms, with an accuracy at least as great as that of words, by circumlocution and example. It is worthy of remark, that the order of expression, in the sign language, is that which we term *inverted*—the subject before the quality, the object before the action, and, generally, the thing modified before the modifier. This language, in its elements, is to be found among all nations, and has ever been the medium of communication between voyagers and the natives of newly discovered countries. It is employed by many savage tribes to supply the paucity of expression in their language, or to communicate with other tribes, as in the Sandwich islands, and in North America. Among the Indians of the western territory of the United States, major Long found it an organized language, employed between tribes who spoke different articulate languages. The accounts received from himself, as well as his work, show that it corresponds, almost precisely, with that in use in the school of Paris; and a Sandwich islander, who visited the American asylum for deaf mutes, gave a narrative of his life in the sign language, which was perfectly understood by the pupils. If testimony be wanting that it still retains its universal character, in its cultivated form, the writer of this article, who acquired it in this form, can state, that he has employed it, or seen it employed, with success, in communicating with an American Indian, a Sandwich islander, a Chinese, and the deaf and dumb in various parts of the U. States, in England, Scotland, France, Germany, Switzerland and Italy. The more lively nations of Europe, belonging to the Celtic race, the French and Italians, &c. make great use of this language, in connexion with words, and, sometimes, even without them. The more phlegmatic people of the Teutonic race, in England and Germany, are so little disposed to it, and so much less able to acquire or understand it, that they regard it as a species of affectation or buffoonery in their southern neighbors; and to this circumstance it is probably owing,

that it has been so extensively rejected, among these nations, as an auxiliary in the education of the deaf mute.

Natural State of the deaf Mute. The natural condition of the deaf mute may be inferred from the account we have given of his language. It is obvious that the mere loss of hearing cannot, in itself, diminish the natural vigor of any other faculty, either of body or mind. He must, however, be destitute of all ideas of sounds; but these form so small a part of the circle of our ideas, in comparison with those derived from sight, that they cannot seriously affect him. His conceptions, derived through the medium of sight, are usually more accurate than ours, his recollections more vivid, and his powers of description more striking, because his attention is more undivided. His discrimination of feelings and character is often intuitive, and he frequently divines the subject of conversation from the appearance of the speaker. The tremendous part of his misfortune is the interruption of communication with his fellow men, on all subjects except the primary wants and impulses, which arises from the imperfect character of his sign language, in an uneducated state. His ideas are very much limited to the objects and events he witnesses, and the exterior relations of things; and he is shut out from all the knowledge derived from history and tradition. Past ages, distant countries, a future world, a Deity, are all beyond his reach. In regard to the combination and application of the ideas which he acquires, he is still in the state of nations in the infancy of society, and cannot be aided or directed by others, in his efforts to reason. After extensive observation and inquiry, we cannot hear of or find a single instance in which a person, born deaf, has conceived of a First Cause, from a view of the works of nature, without education. They describe themselves as looking at these objects like the brutes. Even those whose friends have made great efforts to communicate religious truths seldom have an idea of the Deity, as a Creator or Benefactor; and a deaf mute at Chartres, in France, who had been taught to perform all the rites of the Catholic church, and was deemed very devout, on receiving his hearing, stated that he had no conceptions of any thing but the external forms of religion. Conscience, in them, derives all its light from the observation of the conduct of others, and the instinctive impulses; but recognises no invariable law, and often leaves

these unfortunate persons to commit gross crimes, without any sense of guilt. In short, they are enveloped in intellectual and moral darkness, in the midst of the clearest light.

History of the Art of Instruction. Mention is made of deaf mutes in the writings of Pliny; and they were declared, by the Code of Justinian, incapable of civil acts. No attempts appear to have been made to give them instruction, until the latter part of the 15th century, when we are merely told by Agricola, professor of philosophy at Heidelberg, in Germany, of a deaf mute who had been instructed. In the middle of the 16th century, Pascha, a clergyman of Brandenburg, instructed a daughter, who was a deaf mute, by means of pictures. But the first effort for this interesting object, of which we have a distinct account, was made by Pedro de Ponce, a Benedictine monk, of the Spanish kingdom of Leon, who instructed four deaf mutes, of noble families, to write and speak, in 1570. In 1620, John Bonet, another Spaniard, published the first book known on this subject, containing an account of the method which he adopted in a similar course of instruction, and accompanied by a manual alphabet, from which that now in use at Paris was derived. In 1659, the instruction of deaf mutes was attempted, with apparent success, by doctors Holder and Wallis, both of whom published accounts of their methods. At about the same time, Van Helmont, in Holland, published an ingenious treatise on the manner of forming articulate sounds, the principles of which, he says, he had applied with success to the instruction of a deaf mute. In 1691, John Conrad Amman, a Swiss physician in Leyden, published a similar work; but he and his predecessors appear to have devised and executed their plans without any knowledge of those who had previously attempted the same thing. In 1704, the methods published in Spain, England and Holland, were first applied, in Germany, by Kerger, apparently with much ingenuity and success, and some improvements. He was soon followed by a number of laborers in the same field, of whom Arnoldi appears to have been the most distinguished. In 1743, the practicability of instructing deaf mutes was first publicly demonstrated in France, by Pereira, a Spaniard, before the academy of sciences, who gave their testimony to its success. About the same time, this branch of instruction was attempted in France, by several others, among

whom Deschamps, Ernaud, and Vanin were best known. In 1755, Heinicke in Germany, De l'Epée in France, both of whom were led to feel an interest in deaf mutes thrown accidentally in their way, formed each an independent system of instruction, established the first institutions for the education of deaf mutes, at Paris and Leipsic, and may be justly regarded as the founders of the two great schools, into which the instructors of the deaf mutes have since been divided. In 1764, Thomas Braidwood, of Edinburgh, devised a system of instruction, in which, as in that of Heinicke, articulation was the chief object. Both these persons, for a long time, refused to communicate their inventions, except for a compensation, and under seal of secrecy; and their principles have scarcely extended beyond the countries in which they originated. De l'Epée devoted his fortune and his life to the instruction of his pupils, and the gratuitous communication of the art to all who would learn it; and, in consequence of his efforts and instructions, schools were founded by Silvestri at Rome, Stork at Vienna, Guyot at Groningen, and Ulrich in Switzerland, which still exist in the hands of their disciples. The system of De l'Epée was materially improved by Sicard, his pupil and successor in the institution of Paris, who is admitted to have surpassed his master, and to rank with him as one of the greatest benefactors of the deaf mute. Towards the close of the last century, Assarotti, of Genoa, established, by his own benevolent efforts, an institution which ranks among the first in Europe, and formed a system of instruction, based, indeed, upon that in Sicard's works, but involving important improvements, which entitle him to be considered the founder of the Italian school.

European Institutions. From the last report of the Paris institution, with some additional accounts, it appears, that there are now 81 establishments for deaf mutes in Europe; of which Spain has 1, Portugal 1, Italy 6, Switzerland 4, Baden 4, Wurtemberg 3, Bavaria 1, Prussia 8, the rest of Germany 10, Denmark 2, Sweden 1, Russia 1, Holland 4, Great Britain 10, and France 26. Sixty-two of these have been established within the last 30 years. A few in Great Britain, and in Germany and Switzerland, are conducted on the system of Heinicke and Braidwood. The rest, including several in Great Britain, adopt the fundamental principles of De l'Epée and Sicard.

American Institutions. The first instruction of deaf mutes in America was given in Virginia, by a descendant of Braidwood, who adopted the system of concealment, like his ancestor. A small school was formed; but we have not learned the results, and believe it has ceased to exist. The first institution for this purpose, and which now ranks among the most distinguished of the kind, was the American Asylum, projected in 1815, and established in 1817, in Hartford, Connecticut, by the efforts of the Reverend T. H. Gallaudet, aided by Mr. Laurent Clerc, a distinguished pupil of Sicard, and sustained by the contributions of gentlemen in that town. The course of instruction is based on the system of Sicard, but with important improvements by Mr. Gallaudet. Asylums for the deaf mute were subsequently founded in Philadelphia, at Canajoharie, in the state of New York, in Ohio, and in Kentucky, all of which obtained their system of instruction from the American Asylum; and this institution is thus entitled to the praise of having given birth to an American school of instructors, and to an American system of education for the deaf mute, whose results have excited surprise in Europe, and have even been declared to be utterly improbable, from their superiority to those usually produced. An asylum was established in the city of New York, at about the same time with the American Asylum, which has not derived its system from any existing institution. The legislatures of Maryland and most of the states north of this have granted annual supplies for the education of their indigent deaf mutes, at some one of these institutions; other states have proposed to establish asylums, and, by a bill now before the congress of the U. States, a tract of land is granted to every such institution. If the deaf mutes in the U. States be estimated at 1 for every 2000, or 1000 for every 2,000,000 of inhabitants, the annual increase for one generation, supposing it to be 30 years, will be 33 for every 2,000,000; and, if the course of instruction occupy 4 or 5 years, 150 deaf mutes, for every 2,000,000, ought to be continually under instruction. According to this calculation, the five existing institutions are sufficient for the existing 8,000,000 of inhabitants north of Tennessee and Virginia; and it only remains to establish two or three others, at central points, for the Southern States.

Systems of Instruction. The objects to be accomplished in the education of a deaf

mute, are to teach him an entire language, and to give him all that mass of moral, religious and ordinary knowledge that is necessary for him, as a social and immortal being, for which, in other children, 12 or 15 years of constant intercourse with society, and much study, are deemed necessary; all this is to be done in six, and often even in three years. It is obvious that, to accomplish this, some method, more rapid in its results than the ordinary one, must be adopted. The earlier instructors of the deaf mute usually had only one, or a very few pupils, and have given us *hints* for instruction, rather than a system. The first account which we have of the reduction of this art to a regular and permanent form, is in the works of Heinicke and De l'Épée. Heinicke, like many of his predecessors, considered the want of speech as the great misfortune of the deaf mute, and made it the great object of instruction to teach him to articulate, in order to aid the progress of his own mind, as well as to enable him to communicate with others in this manner. We are told by the successor of Heinicke in the Leipsic school, that the following "are and were the views and principles of Heinicke and his disciples:"—that "we think in articulate words, and cannot think in written words;" "that written words can never lead to the development of ideas, in children born deaf;" and that "no freedom in thought, or in the use of language, can be produced without articulation, either by signs or by written language." If it were credible that sounds were more allied to abstract ideas than objects of sight are; if we could forget that we often have ideas for which we cannot easily find words, the facts we have stated concerning the language of signs, and the capacity of several hundred pupils, educated merely by signs, in the French and American institutions, to read and write, and converse and reason, prove the entire fallacy of these views; and the argument *ab ignorantia* cannot be adduced, at this day, on that subject, without disgrace. Those who follow this system admit the use of the sign language in the early stages of instruction, but seek to banish it as early as possible, considering it as a rude language, incapable of improvement, and which retards the expansion of the pupil's mind, and renders it less necessary for him to attend to written language. They adopt the methods of the early instructors, in waiting for occasions to teach words and explain phrases. They rely upon repeating the word or

phrase in the appropriate circumstances, and in questions and answers, as the means of making it understood, rather than on direct explanation, or examples presented by the sign language. Too many of this school forget one of the fundamental maxims of Heinicke—"first ideas, then words"—and occupy the pupil for a long time with mere mechanical articulation. In one school, months are passed in the mere study of names attached to pictures, without the least attempt to excite or enlighten the mind by means of signs; and usually a year is passed, at a period of life when most of the mental faculties are ripe for developement, in the mere exercise of memory (in learning names of objects, and qualities, and actions), which only requires the powers of an infant, and would be aided, instead of retarded, by the expansion of the mind, as the experience of the other schools fully proves. Religious instruction is rarely attempted, in this school before the second year, or until it can be given in words, from the belief that it cannot be given correctly by signs; and in the school of Leipsic, it is even deferred to the third year. The attention of De l'Epée, and other instructors of the same views, was called especially to the intellectual and moral wants of the deaf mute; and they deemed it most important first to develop his powers, and cultivate his feelings; and, next, to give him such a knowledge of written language as is indispensable to the acquisition of knowledge, and the communication of his wants. They found the only medium of conveying truth, or explaining terms, in the sign language which we have described. They employed it in its natural state, to explain the first simple terms. They discovered that it was capable of extension, and they preserved and cultivated it, as we have mentioned, as a language intelligible to the pupil, by which they could always refer to any objects of thought or feeling, physical, intellectual or moral, and thus form original explanations of new words, and avoid the error which might arise from the imperfection of previous explanations. Words they considered as arbitrary signs, and De l'Epée maintained, that the instruction of the deaf mute, like that of a foreigner, ought to consist in a course of translation and retranslation from the known to the unknown language. To aid in this process, he added a series of methodical and conventional signs, founded on analogy, for the particles and inflections of language. These

were used chiefly in instruction, in order to render the translation complete, as well as to indicate the character and meaning of the connectives. He does not appear to have practised fully upon his own principles, but occupied himself too exclusively with the intellectual improvement of his pupils, and with single words, and seems to have despaired of enabling them to use language, in its connexion, except in a mechanical manner. Sicard endeavored to complete the plan of his master, by the improvement of the signs employed; and to him and his pupils we owe, more than to any others, the perfection which this language has attained. He also endeavored to avoid the error of De l'Epée, by explaining the theory of grammar, and the formulas of the various species of propositions, and, in this way, was led into a course of metaphysical and philosophical lessons, which later instructors have found too extensive and too little practical. According to the system adopted under his direction, the first year was occupied with a vocabulary of names, of adjectives, and of verbs in three simple tenses, with simple religious and other narratives in the sign language. It was only in the second year, that words were shown, in their connexion, in short phrases; the pronouns, prepositions, and the full inflection of the verbs, were taught, and religious instruction given, in written language. In the third and fourth years, the organs, senses, and operations of the mind, and the theory of sentences, were explained, original description and definitions required, and in the fourth year, books were put into the hands of the pupils. Throughout the course, public lectures were given, in which written accounts of Bible history and religious truth were explained in the sign language; but no devotional exercises in this language were ever connected with them, or practised by the pupils.

American System. This system has been materially modified in the school of Paris itself, and in several others on the continent of Europe, which adopt the same principles. As the American system of instruction, devised by Mr. Gallaudet, without any knowledge of others, except that of Paris, on which it is founded, comprises most of these improvements, with some others of great importance, peculiar to itself, we cannot do better, within the limits allowed us, than to describe this as we have found it, in his own statement, and in the American Asylum. Mr. Gallaudet has combined

the fundamental principle of Heinicke—"first ideas, then words"—with that of De l'Épée—that "the natural language of signs must be elevated to as high a degree of excellence as possible, in order to serve as the medium for giving the ideas clearly, and explaining them accurately." He has added another of no small importance—that, as words describe rather the impression, or states of mind produced by external objects, than those essential qualities which are beyond our reach, the process of learning them would be facilitated by leading the pupils to reflect on their own sensations and ideas; and he states, as the result of his experience, that, among deaf mutes of equal capacities, "those who can be led to mark or describe, with the greatest precision, the operations of their own mind, uniformly make the most rapid progress in the acquisition of written language, and of religious truth." A leading object, therefore, in connexion with the first lessons, in which sensible ideas are presented and named, is to establish a free communication with the pupil, in the sign language, in reference to his feelings and thoughts, as excited by the objects which he sees, or the events of his own life. He easily comprehends those of others, and is thus led to learn the names of the simple emotions and acts of the mind. Hence he is brought to think of an invisible agent, which we term the *soul*, as the feeling and percipient being; and, by a natural transition, is led, by the use of signs alone, to the Great Spirit, as the First Cause; to his character, as our Creator and Benefactor; and to a knowledge of his law and our future destiny. In this manner, the deaf mutes in the American Asylum (and, we presume, in others derived from it) are made acquainted with the simple truths of religion and morality in one year; a period in which, in most European institutions, they are scarcely advanced beyond the knowledge of sounds, and the names of sensible objects, qualities and actions, or the most common phrases. By communicating this instruction in the natural sign language, pupils, whose inferior capacity or advanced age would not allow them to acquire enough of written language to receive religious truth through this medium, have been early prepared to enjoy its blessings and hopes, and feel its sanctions as a restraint upon their conduct, which renders their government more easy, while it aids them in the formation of correct habits. Another plan, which is not known to have

been ever employed before its introduction by Mr. Gallaudet, in 1817, was to conduct the daily and weekly devotional exercises by signs; and the deaf mutes have been thus taught to address the Father of their spirits in their own natural language, and have been admitted to the new privilege of social worship. In applying the first principles to the course of instruction in language, an important improvement has been made, by combining words into phrases as early as possible, and thus teaching the pupil how to use them. The idea of each phrase is first explained by the sign language, and then translated into words, and then retranslated by the pupil into his own language. The process is carried on for more difficult words, and the phrases are lengthened until they become narratives. The acquisition and use of the connectives are aided by the methodical signs of De l'Épée and Sicard. The pupil is called upon, at intervals, to express his own ideas in writing, and to explain by signs what is written by others. An important additional improvement is "to employ the pupil, as early as possible, in the study of books written in an easy style, explained by signs when necessary," so as to lead him, by his own, and often by his unaided efforts, to become acquainted with the arrangement of words, and the idioms of written language. He is led gradually to infer the rules of grammar from a series of examples, instead of committing them to memory; and the theory of language is reserved for the later years of instruction, when the pupil is familiar with its practical use. The methods of instruction in the elements of arithmetic, geography and history, do not differ materially from those usually employed, except that much aid is derived from explanatory signs; and experiments, made in some of the schools of Europe prove, that these may be usefully employed to illustrate various subjects to persons possessed of hearing.

Articulation. While the instructors of the school of De l'Épée and Sicard unite in denying that articulation is necessary to the deaf mute, as a means of mental development, they admit its great value as a supplement to intellectual education, if it be attainable. But they differ as to the practicability and expediency of attempting to teach it generally. Of its great practical value in darkness, or in cases of sudden danger, there can be but one opinion; and it is certainly important that every deaf mute should be taught

some cry of distress, or perhaps a few words for such occasions; for some do not know how to use their voice even to this extent. The power of articulating, even imperfectly, may also be of great importance to the deaf mute, where ignorance in writing is combined with a phlegmatic inattention to signs, in those among whom he is situated. But that it is not indispensable, as an ordinary means of communication, is proved by the fact, that the pupils of the French and American schools find no difficulty in making themselves intelligible to those around them, either by writing or signs, on all necessary subjects. Articulation is learned and recollected by the deaf mute, as a set of movements and sensations in the organs of speech. It is taught by pointing out to the pupil the powers of the vowels and consonants, and the position of the lips, teeth and tongue, and by making him feel with his hand, or a silver instrument, all the perceptible movements and vibrations of the throat and interior organs, which are requisite for their pronunciation. He is then required to imitate this position, and to force a quantity of air from the lungs, sufficient to produce the sound, and is taught to read the articulations of others, by observing the position of the organs and the countenance. The facility of doing this will depend much upon the pliability of the organ of speech, and the nature of the language to be learned. We observed, as would naturally be supposed, that the soft and regular language of Italy, in a climate where we have other evidence of a superior pliancy in the vocal powers, was acquired, with tolerable success, by a short period of daily practice. But the harsh and guttural sounds of the northern languages, and the irregularity which is found in the pronunciation of some of them, present several additional difficulties, which are perhaps increased by the frequent diseases of the vocal organs produced by a cold climate. Those instructors who attempt to teach all their pupils these languages, are usually compelled to make it a constant and individual exercise, and to make and to demand efforts painful to the teacher, and pupil, and spectator, with only a partial success. Of a number of speakers, whom we have seen and heard of, in various countries, thus taught, few would have been intelligible to a stranger so readily as by signs; and their tones were extremely disagreeable. On the other hand, we have seen a few deaf mutes who are capable of speaking in a manner perfectly intelligi-

ble, and of reading, from the lips and countenance, what was said by others. They were such, however, as either retained some remnant of hearing, or had been the subjects of individual instructions for a series of years. We presume the truth lies in that middle course, now adopted by the school of Paris, and by some advocates of articulation, who have had an opportunity of observing it in all its forms. They believe that, by that portion of the pupils of every institution, whose organs are pliable, and who have some remnant of sensibility, either in the external or internal ear (those termed *demi sourds* in the Paris school), the acquisition may be made with a degree of ease and perfection, which renders it a desirable and important branch of instruction for such portion of the pupils in every institution. They are equally convinced, that to attempt to teach articulation to those entirely destitute of sensibility in the ear, or who cannot exercise the organ of speech without difficulty or pain, is a useless labor, and may produce disease in the pupil; as more than one instance proves. On the last point, some have maintained that the exercise of the lungs is important to the pupil, while others have declared the contrary. We believe here, also, much will depend on individual organization, and that the general question will be modified much by the climate, and nature of the language to be taught. Most of the schools for deaf mutes employ a manual alphabet, for the more rapid communication in words;—in England, usually made with both hands, and elsewhere with one. This alphabet, with writing, on paper and in the air, and the use of natural and conventional signs, are found adequate means of communication for those who cannot acquire articulate language. (See the *Geschichte des Taubstummen-Unterrichtes in Spanien und Frankreich von Newman*; the *Blicke auf der Taubstummenbildung von Reich* (of Leipsic); the *Supplement to the Encyclopedia Britannica*, article *Deaf and Dumb*; *Sullo Stato dei Sordi muti, &c.*, del Abbate Bagutti, Milan; *Journal des Sourds-muets du Bebian*; *Del Education des Sourds-muets, par M. de Gerando*, Paris.) For an account of the different American institutions, see *Hartford, New York, Philadelphia, &c.*

DUMMER, Jeremy, an eminent American scholar and political writer, was born in Boston, and was graduated at Harvard college in 1699. At the university of Utrecht, he passed several years, and obtained a

doctor's degree. He afterwards went to England, with the intention of pursuing the career of a minister of the gospel. Here he formed political connexions of a high order. The celebrity which he acquired as a writer and man of business caused him to be chosen, in 1710, agent for the province of Massachusetts. In this capacity, he exerted his great abilities and influence with constant zeal for the benefit of his constituents; but, in the course of some years, his political attachments and general deportment rendered him so unpopular at home, that, in 1721, he was dismissed. Dummer contracted irreligious opinions and licentious habits, owing, said his enemies, to his personal intercourse with lord Bolingbroke, who employed him in secret negotiations, and promised him a high office, which was never given. He wrote an admirable pamphlet in defence of the New England charters, when they were threatened, in 1721. This work constitutes the best specimen of his English style, which is uncommonly elegant and forcible. His Latin dissertations in theology and philosophy have, also, much merit. He died in 1739, having spent the last few years of his life in literary retirement.

DUMONT, Stephen, was born at Geneva, in 1759, of a family which had suffered great reverses of fortune. From his infancy, he had to contend with adversity. He early displayed superior talents, spirit and intelligence, was destined to the ecclesiastical career, and was ordained a minister of the Protestant church in 1781. He attached himself to the democratic party in Geneva, and, when the opposite party gained the ascendancy, he went to Petersburg, where he was appointed pastor of the French reformed church. His talents for the pulpit caused his acquaintance to be sought by the eminent men, Russians or strangers, who were at the court of Catharine II. He had remained there but eighteen months, when lord Lansdowne invited him to England, with the intention of employing him to finish the education of his son. It was in the house of this statesman that he formed intimate connexions with some of the men who have done most honor to Great Britain, particularly sir Samuel Romilly. The French revolution brought him to Paris in the year 1789. He was soon called to associate himself with the men who were selected, for their strength and intelligence, to direct the destinies of France. It is asserted that the famous address of the king, proposed by Mira-

beau, July 9, 1789, to obtain the sending back of the troops, was composed by Dumont. They undertook together a journal, the *Courier of the Provinces*, designed to develope and render popular the new doctrines; and, as was likely to happen in such a partnership, the most assiduous as well as the most important labor fell upon Dumont.—As soon as scenes of violence and cruelty began to sully the cause of liberty, Dumont quitted Paris, and returned to England, before the sickness of Mirabeau, who died April 2, 1791. When the details of the reign of terror reached Dumont in England, he was overcome with grief, and remained for some years plunged in sadness. What contributed the most to draw him from this state of depression, was his increased intimacy with Jeremy Bentham, whom he had known since 1788. The enthusiasm of Dumont for Bentham was kept up, without deviation or division, to the end of his life. The English lawyer was for him *written reason*. He sometimes said of what he most admired in other philosophers, "It is convincing; it is truth itself; it is almost *Benthamic*."—It is well known that Mr. Dumont has edited many of the works of this distinguished lawyer, after divesting the ideas of the uncouth garb in which the author had clothed them. Dumont has spoken of the manuscripts which his friend put into his hands as "a first draft," "unfinished manuscripts," "not corrected," "fragments or simple notes." (*Preface to the Treatise on Punishments*.) This was pointing out but a small part of their imperfections. But it is from this source that he drew out all the philosophy of Bentham. The public had afterwards an occasion to judge of Mr. Bentham's style (when he published himself), of his obscurity, his neologism, his pleasantries, at the same time grotesque and learned. Mr. Dumont, judging that the manuscripts of Mr. Bentham would never be published, or, if they were, in the original form, would produce no impression, succeeded in having them given up to him to do what he wished with them. Bentham "refused at the same time any participation in the work, and declared that he should in no way hold himself responsible for it." (*Theory of Punishments*, *pref.* 10.) Dumont, then, penetrating to the original ideas, remodelled, and made them over again, so far as not only to change entirely the style of the work, but also the argumentation, distribution, sometimes even the results. Suppressing much, sometimes adding, always making more

perfect, he finally produced a system which has powerfully excited thought and reflection all over Europe. The works produced by this singular fusion of two minds into a single one, were published in the following order:—1. *Treatise on Civil and Penal Legislation* (Paris, 1802, 3 vols.; 2d edit., Paris, 1820); 2. *Theory of Rewards and Punishments* (London, 1811, 2 vols.); 3. *Tactics of Legislative Assemblies*, followed by a *Treatise on Political Sophisms* (Geneva, 1816, 2 vols.); 4. *Treatise on Judicial Proofs* (Paris, 1823, 2 vols.); 5. *Of the Organization of the Judiciary and Codification* (Paris, 1828, 1 vol.). Numerous manuscripts of Bentham, which had already received the first labor from Dumont, still remained in his hands, and he disposed of them in favor of one of his nephews.—When Geneva recovered her independence, in 1814, M. Dumont hastened back to his country, where his attempts to introduce liberal principles into the constitution of this little state, exposed him to much political persecution; but he succeeded, eventually, in effecting some important improvements. He afterwards labored assiduously to introduce an improved penal code, and was a member of a committee, appointed in May, 1817, for this purpose. A great deal of time was spent by Dumont, and the other members of the committee, in digesting a plan, which, however, was not laid before the legislature at the time of his death, in September, 1829. He was also active in getting up a penitentiary, for which he drew up a plan in 1824, and which is in very successful operation. He died at Milan, while on a party of pleasure, in September, 1829.

DUMOURIEZ, Charles François, born at Cambray, 1739, of a noble family of Provence, joined the army in Germany, under marshal Estrées, in 1757, and was appointed a commissary. He then served as a cornet in the regiment of Escars. The day before the battle of Clostercamp, he was wounded and taken prisoner; in 1761, was made a captain; dismissed in 1763, and presented with the cross of St. Louis. Too active to remain unemployed, he offered his services to the Genoese, and then to Paoli; and, both parties declining his proffers, he went on his own account to Corsica, then returned to France, and proposed a plan for reducing the island, but was not listened to. Hereupon he went to Spain, visited the Portuguese frontiers, and, in 1766, wrote his well known *Essay on Portugal* (1768). The conquest of Corsica being determined

upon, Dumouriez went as quarter-master-general of the small army which was sent thither, and was afterwards made colonel. He had frequent quarrels with all the generals, especially with Marbœuf. In 1770, the government gave him the commission to oppose the measures of the Russian court, at the confederation of Bar. He took part in the campaign of 1771, against the Russians. In 1773, he was sent by the king on a mission to Sweden, but was arrested at Hamburg, by D'Aiguillon, to whom the mission was not agreeable, and put in the Bastille. In 1776, he was appointed one of the commissioners to examine whether a naval dock should be constructed on the coast of the English channel, and, in 1778, made an unsuccessful application for the command of Cherbourg. In 1788, he was appointed brigadier. In 1789, he came out, in a pamphlet, in favor of the principles then in vogue, but failed in obtaining, as he wished, the rank of general. He therefore returned to Cherbourg, where he was made commander of the national guard in that city, and governor of Lower Normandy. At the end of the year, he again returned to the capital, where he became a member of the Jacobin club. He afterwards sought to effect a union with Mirabeau, with whom he had formerly been at variance. About this time, he was made field-marshal of the twelfth division of the army; but, being dissatisfied with a post where he had little opportunity to distinguish himself, he staid in the capital, and courted more than ever the Jacobin party. After leaving the ministry, in which he had been placed for some time, he was made lieutenant-general in the army of Luckner, on the northern frontiers, and was invested with the command of this army after the departure of Lafayette (19th of August). The Prussians, Austrians, and united emigrants, had then made themselves masters of Longwy and Verdun, and were advancing upon Champagne. He took his position at Grandpré, and occupied the five passes of the woody heights of Argonne; but, when the pass of Croix aux Bois was forced by the Austrians, he retired to St. Ménéhould, while Kellerman maintained his position at Valmy (Sept. 20, 1792), and then opened a negotiation with the king of Prussia. In October, he returned to Paris, and formed a plan with the executive council for the winter campaign. On his return to the army, he issued a proclamation, calling upon the Belgians to rise against their sovereign,

and, November 6, assaulted the Austrian camp at Jemappe. Notwithstanding their small numbers, the imperial troops did not yield till after a long and bloody battle; after which he took up his winter quarters on the Meuse and the Roer. At this time, his hostility to the minister Pache, with whom he had been at open variance during the whole campaign, for neglecting the supplies of his army, broke out into an open quarrel. He then repaired to the capital, with the view, as he tells us in his Memoirs, of delivering the king, whose trial was then beginning. On a second journey thither, he saw many more deputies on the side of the Girondists; but he had little influence, and was himself accused in the convention. February 15, he opened the campaign with the bombardment of Maestricht, and, from Breda and Clundert, both which places he had captured, he made his attack on Holland. The greatest part of his troops, however, whom he had scattered in winter-quarters, were in no condition to meet the prince of Coburg. This general, March 1, assaulted the French outposts on the Roer, overcame them, and threatened Maestricht. Dumouriez now drew together his troops to the plains of Tirlemont, gave battle to the Austrians at Neerwinden, and was defeated, owing, according to his own account, to the mismanagement of Miranda, who commanded the left wing. He met with another loss at Louvain, and found himself obliged to retreat. These disasters were the signal for his downfall. All who wished his ruin now rose against him. On his arrival at the French frontiers, four commissioners, and the minister Beurnonville, who were sent to arrest him, were delivered by him into the hands of the Austrians. He then issued a proclamation, in which he promised the restoration of the constitutional monarchy, in the person of the heir to the crown, but was attacked by the Versailles volunteers, compelled to cross the Scheldt, and to fly to the prince of Coburg (April 4, 1793). The convention set a price of 300,000 livres upon his head. At first, he retired to Brussels, afterwards to Cologne. The elector refusing him a residence in Mergentheim, he went to Switzerland, and, in July, passed over to England, which, however, he was compelled to quit, by command of lord Grenville, roved about, for some time, in Switzerland and Germany, and, at last, settled near Hamburg. Here he published his Memoirs. There was no party, except that of the Mountain,

for which this political Proteus did not declare himself, in some of the various pamphlets that he published during his exile. In 1805, at the time of the battle of Austerlitz, he was in Teschen. It is certain, that, in 1803, he was made counsellor of war to the duke of York; but he did not keep the office long. Shortly after the battle of Eylau, he wrote his *Jugement sur Bonaparte, adressé à la Nation Française et à l'Europe*. During the Spanish and Portuguese war, he was very active in communicating plans to the English government, and to the Spanish and Portuguese authorities. In the Neapolitan revolution, in 1821, he also communicated plans of defence to the parliament. The British ministry granted him an annual pension of £1200. He died March 14, 1823, at Turville park, near Henley-upon-Thames, England, at the age of 84. Of his Memoirs (Hamburg, by Hoffmann) there has appeared an enlarged edition of 4 vols., in the Paris Collection of Memoirs, by Baudouin. There is a very complete article on Dumouriez in the *Biographie des Contemporains*.

DUN (hill); a Celtic or ancient Teutonic word, from which comes the French word *dune*, and the final syllable *dunum* in Latin, as *Augustodunum* (Autun). The same word is found in *Dunkirk* (church of the hills). In Low-German, the word *Düne* is still used for sandy hills on the sea-shore. It is, perhaps, from the same root with the German *Dehnen*, *Dunst*. In several English names, the syllable *dun* is used in a sense corresponding to *down*. *Denmark* (Icelandish, *Daunmark*) is in part composed of a word of similar sound and signification. It means *low country*.

DUNCAN, Adam, viscount, a naval officer of distinguished skill and courage, was born in Scotland, in 1731, went to sea when young, obtained a lieutenancy in 1755, was made master and commander in 1759, and was a post captain in 1761. In that station he served, in the following year, at the taking of Havanna; and, in 1779, he shared in the victory of admiral Rodney over the Spaniards. In 1789, he was promoted to the rank of rear-admiral of the blue; and, by regular gradation, in 1794, he became vice-admiral of the white squadron. The following year, he was appointed commander of the North Sea fleet; when, after a tedious and harassing service of two years, occupied in watching the motions of the Dutch, in the harbor of the Texel, admiral Duncan found himself obliged to leave

his station, and sail to Yarmouth roads, in consequence of the mutinous disposition of his sailors. The Dutch fleet put to sea, which was no sooner made known to admiral Duncan's men, than they returned to their duty, and he immediately sailed in pursuit of the enemy, came up with them, defeated them, and captured the commander, admiral De Winter, and eight of his ships. The conqueror was rewarded with the title of viscount Duncan, and a pension of £2000 a year. He died August 4, 1804.

DUNDAS, Henry, viscount Melville, was born in 1740, studied at the university of Edinburgh, and, in 1763, was admitted a member of the faculty of advocates. He obtained the post of solicitor-general in 1773, that of lord-advocate in 1775, and was made joint keeper of the signet for Scotland in 1777. In 1782, he was appointed treasurer of the navy, and member of the privy council; but he continued only a short time in office, the coalition between lord North and Mr. Fox having displaced his party. The triumph of his opponents was but temporary; and, on their retreat from power, he resumed his office under Mr. Pitt, whose firm partisan he approved himself during their joint lives. On the passing of the act of parliament for regulating the affairs of the East India company, Mr. Dundas was appointed president of the board of control; in 1791, he was made secretary of state for the home department; and, in 1794, he became secretary at war. On the resignation of Mr. Pitt, he also retired from public life; and, when the former resumed the helm of state, he was appointed first lord of the admiralty. In 1805, he was impeached, before the house of lords, of high crimes and misdemeanors in his former office of treasurer of the navy. As the evidence adduced against him did not directly implicate him in the malversation proved against his deputy, he was acquitted. He did not, however, hold any situation afterwards, except that of privy counsellor. His death took place in May, 1811. He was created viscount Melville in 1801, and was succeeded in that title by his son.

DUNKER. (See *Ephrata*, also *Baptists*.)

DUNKIRK (French, *Dunkerque*, signifying the *church on the downs*), about 27 miles from Calais, a strong commercial city, containing 24,200 inhabitants, in French Flanders (Départ. du Nord), was formerly a constant cause of jealousy be-

tween England and France. It was captured from the Spanish, in 1658, by the French and English in conjunction, Cromwell having formed an alliance with the French. It was now put into the hands of the English, and, in 1662, bought of Charles II, by Louis XIV, for £400,000. Louis made every exertion to fortify the place, and to improve the harbor. This is capable of accommodating 200 large vessels at anchor, and is one of the most convenient in Europe. In the wars between England and France, the freebooters of Dunkirk did great injury to the English and Dutch trade. This, together with the increasing prosperity of the place, induced England to make it a principal condition of the peace of Utrecht (1713), that France should demolish the fortifications, and destroy this master-piece of military architecture. The French attempted, by digging a new canal to Moerdyk, a league from Dunkirk, to indemnify themselves for the loss they had sustained by the treaty: the inhabitants of Dunkirk also occupied themselves in quietly restoring the harbor; but the English, from time to time, urged the destruction of these works. The peace of Paris, 1763, which England dictated, repeated the conditions of the peace of Utrecht in relation to Dunkirk. Lord Chatham replied, in answer to the attempts of count Bussi, the French negotiator, to arrange other terms with regard to Dunkirk, that the people of England considered the demolition of Dunkirk as a perpetual memorial of the subjugation of France, and the minister who should dare to change the conditions of this treaty would risk his head. An English commissioner was even established there to superintend the execution of the treaty, who was to be supported by France. But, by the peace of Paris, 1763, this article was annulled. The restoration of the town was afterwards attempted, as far as the condition of France permitted. The importance of the place induced the duke of York, in August, 1793, contrary to the advice of Coburg, to advance with his own division, from the main body of the Austrian army, before Dunkirk, and make vigorous preparations for pushing the siege. The surrender was daily expected, when the approach of general Houchard, with a superior force, and the vigorous sorties of the besieged, compelled the duke to raise the siege, and retire in haste, with field-marshal Freitag, under whom he commanded. Dunkirk is a free port, and, in peace, has an extensive commerce. The

manufacture of tobacco in this place is important.

DUNNING, John, lord Ashburton, an eminent lawyer, was the son of an attorney at Ashburton, in Devonshire, where he was born, October 18, 1731. He was educated at the free-school of his native place, and served his clerkship to his father; but, early determining to study for the bar, he pursued a course of assiduous application, both before and after his admission. The first thing which established his character, was his employment, in 1759, to draw up a defence of the East India company against the claims of the Dutch. This memorial, being esteemed a masterly production, gained him considerable practice; which was prodigiously augmented by his becoming counsel for Wilkes in all the causes produced by the question of the general warrants. He distinguished himself in such a manner, on this popular occasion, as to obtain the character of a sound constitutional lawyer; and his practice soon after became the most lucrative at the English bar. In 1766, he was chosen recorder of Bristol, and, in 1767, solicitor-general, which office he resigned in 1770, in consequence of the resignation of his patron, lord Shelburne, by whose interest he had been chosen member for Calne, in Wiltshire. From the time of his resignation, he remained a firm opponent to the ministry who conducted the American war; and, on the return of lord Shelburne to power in 1782, he was made chancellor of the duchy of Lancaster, and advanced to the peerage by the title of lord Ashburton. He died August 18, 1783, leaving one son, the present possessor of the titles.

DUNOIS, Jean, count of Orleans and of Longueville; born 1402, died 1468; a natural son of Louis, duke of Orleans (who was murdered by the duke of Burgundy), and of the wife of Cany. Dunois made the name "Bastard of Orleans" illustrious by his military exploits. He began his career with the defeat of Warwick and Suffolk, whom he pursued to Paris. Being besieged by the English, he defended Orleans with the greatest courage until relieved by the maid of Orleans. To the count of Orleans belongs, almost entirely, the honor of expelling the enemies of his country from Normandy and Guienne. In 1441, he gave them their death-blow at Chatillon; and it may truly be said, that Charles VII was indebted to him for his crown. Dunois received from him the title of "deliverer of his country," the county of Longueville, and the dignity of

high-chamberlain of France. Louis XI valued him no less. Notwithstanding this, Dunois was the soul of the league which was formed against Louis, under the name of the *league for the public good*.

DUNS, John, commonly called *Duns Scotus*, an eminent scholastic divine of the thirteenth and fourteenth centuries, was born at Dunstance, near Alnwick, in Northumberland, and was admitted, when young, into an institution belonging to the Franciscan friars at Newcastle, whence he was sent to Merton college, Oxford. Becoming celebrated for his skill in scholastic theology, civil law, logic, and mathematics, he was, in 1301, appointed divinity professor at Oxford; and the fame of his learning and talents drew crowds of scholars from all parts. In 1304, he was sent by his superiors to Paris, in the university of which city he was admitted to the highest honors, and appointed professor and regent in the theological schools, in which situation he acquired the title of "the most subtle doctor." Nothing, however, could be more barren and useless than the chimerical abstraction and metaphysical refinements which obtained him this title. Duns opposed Aquinas on the subject of grace; and hence the Scotists are opposed to the *Thomists*. The immaculate conception of the Virgin Mary was another of the tenets which divided these fierce antagonists; and it is believed by many authors, that it was Duns who first propounded it. In the year 1308, he was sent to Cologne, by the head of his order, to teach theology, but was cut off by an apoplexy, and, as a disputed account asserts, buried before he was actually dead, as was discovered by an examination of his grave. His death happened, according to some writers, in his thirty-fourth, and to others, in his forty-third year. He left behind him numerous works, which were collected by Lucas Waddingius, in 12 vols., folio, Lyons, 1639.

DUNSTAN, St., an Anglo-Saxon divine and statesman of the 10th century, alike celebrated in legendary and authentic history, was born at Glastonbury, in 925, and was educated under Irish ecclesiastics, who were inmates of the famous abbey at that place. He acquired a knowledge of the Latin language and of philosophy, and studied the Scriptures and the writings of the fathers; besides which, he became skilled in music, painting, carving, and working in metals. He was introduced, early in life, to the court of king

Athelstan, by his uncle Athelm, archbishop of Canterbury. Some indiscretion, or the jealousy of rivals, compelled him to retire from court; and the disappointment of his prospects, together with a dangerous fit of sickness, seriously impressed his mind, and led him to seek for tranquillity in the monastic life. He took the vows at Glastonbury, and devoted himself with ardor to the duties of his profession. So entirely had he relinquished all views of secular ambition, that he divided between the church and the poor a valuable estate, bequeathed to him by a wealthy Saxon lady, as well as his paternal inheritance, which devolved to him at this period. On the death of Athelstan, Edmund, the brother and successor of that prince, invited him to court; and Edred, the next king, made him his prime minister and principal director in civil and ecclesiastical affairs. On the death of Edred, his nephew Edwy, who was, probably, not more than fourteen years of age, ascended the throne. The enmity of the profligate courtiers was particularly directed against Dunstan, who was obliged to flee from his native country. He took refuge in Flanders, where he remained till he was recalled to England by king Edgar, to whom the imprudent Edwy had been obliged to cede a part of his dominions. Dunstan was made bishop of Worcester, and, when Edgar became possessed of the whole kingdom, was raised to the see of Canterbury. In this station, his influence was exerted in promoting the introduction of the rule of St. Benedict, which inculcated vows of chastity into the monastic institutions in England. The secular priests, who were generally married, were expelled from religious houses, and replaced by Benedictine monks, wherever the power of Dunstan extended. During the reign of Edgar, he was supported in the execution of his plans by the royal authority; but, under Edward the Martyr, he experienced great opposition from the patrons of the secular clergy; and, after Ethelred II became king, his influence still further declined, and he thenceforward interfered but little in public affairs. He died in 988. Few characters in English history have been more variously represented than that of Dunstan. The monks represent him as the most learned and accomplished prelate, and most eminent statesman of his age. Popular tradition paints him as a master of magic arts, subjecting demons to his power. Modern Protestant writers have imputed the imaginary miracles of Dunstan to his

hypocrisy, overlooking their real origin in popular misconception. Osborn, who wrote the life of Dunstan a century after his decease, first appears to have propagated the legendary tales which have been so injurious to his fame, and of which no notice is taken by a contemporary anonymous biographer, whose memoir of the saint has been published by the Bollandists, and has every mark of authenticity.

DUPATY, Jean Baptiste Mercier; born 1746, at Rochelle. In 1767, he became advocate-general to the parliament of Bordeaux, afterwards *président à mortier* of that body, drew upon himself, by his love of strict justice, the persecutions of the ministerial despotism which oppressed France in the last years of Louis XV. Having written, in the name of the parliament of Bordeaux, against the duke of Aiguillon, when this nobleman became minister (1770), he was sent to Pierre-en-Cise (a fortress at Lyons, once a state-prison), and afterwards banished, until the accession of Louis XVI. Being acquainted with the defects of the ancient administration of justice in France, he made every exertion to expose them. The memorial by which he preserved the lives of three innocent citizens of Chaumont, who were condemned to the wheel, deserves particular mention. His other works are, *Reflexions historiques sur les Loix criminelles*, a valuable work; various *Discours académiques*; and *Lettres sur l'Italie* in 1785, which appeared 1788, in 2 vols. These letters, among many prejudiced views, contain some excellent observations on the arts, and interesting descriptions of natural scenery; but his style is often disfigured by labored ornaments. He died 1788, at Paris.—His son (Charles Mercier), born at Bordeaux September 29, 1771, died at Paris November 12, 1825. He was the restorer of sculpture in France, a member of the institute, and professor in the *école des beaux arts*; was at first an advocate, served during the revolution as a dragoon, then as *dessinateur géographe*, and finally went to Rome, where he studied sculpture, under the direction of Lemot, and, during a residence of eight years, made himself known by numerous works. His principal productions are Ajax pursued by Neptune; his equestrian statue of Louis XIII (1816); and Orestes pursued by the Furies. Cortot, his successor in the academy, completed some of his works.

DUPIN, André Marie Jean Jacques, one of the most distinguished Parisian jurists

and advocates of our time, born 1783, at Varzy, lost his father early, by an act of revolutionary violence. The midnight invasion of his paternal mansion, the search for papers, and all the circumstances which accompany the seizure of a father of a family, made a deep impression on his mind, and contributed to excite in him that hatred of arbitrary power, which he has ever since displayed. During the imprisonment of his father, his mother occupied herself with the education of her two oldest sons. The history of Rome afforded her the means of kindling in them a love of freedom and glory. After the liberation of their father, he himself became their instructor. In his 23d year, Dupin commenced the practice of his profession: after the restoration of the law-schools, which had been suspended at the beginning of the revolution, he was the first who defended a thesis: this made him the oldest lawyer of the new schools. He also distinguished himself as a writer, by his *Principia Juris*. In 1815, he became a member of the chamber of deputies, and was distinguished for his boldness. He opposed the proposition to bestow on Napoleon the title of *savior of his country*, voted for the abdication of the emperor, and desired that the chamber of deputies should declare itself a national assembly, and opposed the proclaiming of Napoleon II. After the return of the king, Dupin devoted himself exclusively to jurisprudence, and was, together with Berryer, the defender of Ney. He drew up some powerful memorials on this subject, and that in which he endeavored to save the marshal, on the ground of the convention of July 3, 1815, was very well received, but produced only an addition to his own reputation. His eloquence was more successful in the following year, when he defended the Englishmen, sir Robert Wilson, Mr. Bruce and Mr. Hutchinson, who were accused of having assisted in the escape of Lavalette. He never refused his aid to any of those who were persecuted in these times of party hatred. He defended the freedom of the press by his writings, full of the spirit of liberty, and his able speeches, always ready to unmask the arts and the revengeful spirit of a powerful party. Dupin united distinguished talents with the noblest sentiments; and the disinterestedness which he displayed in his professional duties, is every where known. Besides the work already mentioned, he has published several on the Roman and French law, and a good edition of Burlamaqui's Natural Law, in 5

vols. His *Mémoires, Plaidoyers et Consultations*, are collected in 12 vols., 4to.

DUPIN, Charles, brother of the preceding, distinguished for his knowledge of geometry, engineering and hydraulics, born 1784, became, in 1801, a pupil in the polytechnic school, founded by Napoleon, at Paris, applied himself with zeal to geometry, and devoted his mathematical knowledge to the good of the state. During Napoleon's wars, he served in the fleet, and was employed in constructing the harbor of Antwerp. In 1808, he joined, as a volunteer, the squadron under admiral Gantheaume, and went with him to Corfu. He remained in the Ionian islands, where he became secretary to the newly established Ionian academy. He founded the Olympian prizes for writings in the ancient and modern Greek, for which all the Greeks in Europe and Asia were invited to contend. In Corcyra, he made a translation of the Olynthian orations of Demosthenes, and an essay concerning this orator. In 1811, he left the Ionian islands, and went to Italy. Here he published some profound geometrical inquiries. In 1813, he was at Toulon, and was the means of saving the beautiful decorations for galleys, which Puget had executed for Louis XIV; and these memorials of the naval glory of France became the ornaments of the museum, founded by Dupin, in the arsenal at Toulon. He began here his account of the naval architecture of the 18th and 19th centuries, which he continued to the year 1815. After the second peace of Paris, he made a journey to England; and, during a residence of twenty months in that country, he travelled in different directions. The fruit of this journey was his *Treatise on the Marine, the Bridges and the Roads of France and England*. After his return, in 1818, he became a member of the academy of sciences, and read at their sittings several valuable treatises. When the new conservatory of arts and manufactures was established, he was appointed professor of practical mechanics. Since 1820, has appeared his *Voyages dans la Grande-Bretagne*—a comprehensive account of the excellences and deficiencies of the English administration in regard to the army, navy, artillery, roads, municipal regulations, mines, industry and commerce. Dupin does not always judge the rival of his country with impartiality; there is, however, much justice in his criticisms on many of the institutions of the island, and on the great abuses

of the government. Dupin's *Forces productives et commerciales de la France* appeared at Paris, 1827, 1 vol. 4to. Dupin was a member of the chamber which was dissolved in 1830.

DUPONT DE NEMOURS, Pierre Samuel, born at Paris, December, 1739, distinguished as well for his knowledge and talents as for his mild and benevolent character, his excellent principles and his blameless life, lived almost unknown, at Paris, as a private man of letters, until 1773, when his principles of philosophy and political economy, set forth in his *Les Éphémérides du Citoyen*, excited the displeasure of the minister Choiseul, and obliged him to leave France. Several foreign princes offered him a reception, and conferred honors upon him. He returned, however, to his native country, and accepted of a small place, given him by Turgot, minister of finance. In 1782 and 1783, with doctor Hutton, the English agent, he negotiated the basis of the treaty by which the independence of the United States was acknowledged. As inspector-general of commerce and manufactures, and as a counsellor of state, he afterwards did much to encourage French industry. In 1787 and 1788, he was appointed, by Louis XVI, secretary to the assembly of the notables. In 1789, he became a member of the first national assembly, where he distinguished himself by his principles, his courage, his talents, and his firm opposition to the intrigues of factions. He was twice president of the national assembly, and always supported moderate principles. Under Robespierre, he was imprisoned, and nothing but the fall of the tyrant preserved him. He was afterwards a member of the council of elders. After the directory was abolished, he went to America, in 1798. In 1802, he returned to France, but did not, at that time, take any office, notwithstanding the offers made him by Napoleon. The confidence of his fellow citizens followed him in his retirement, as was shown by his appointment to several important offices. In 1814, Dupont was made secretary of the provisional government which prepared the way for the return of the house of Bourbon to the throne of France. After Napoleon's return from Elba, he went again to America, of which country his two sons had already become citizens. Here he terminated his useful life, August 6, 1817, at the advanced age of 78.

DUPONT DE L'ETANG. (See Baylen.)

DUPUIS, Charles François, a member of the national institute, born at Trie-le-

Chateau, near Gisors, in 1742, was instructed by his father in mathematics and surveying. The duke de la Rochefoucault sent him to the *collège d'Harcourt*, to pursue his studies; and, in his 24th year, he was made professor of rhetoric at Lisieux. His intimacy with Lalande, and his own inclination, led him to devote himself particularly to mathematics; the knowledge and the prejudices of that learned man had a great influence on him. In 1778, he invented the telegraph, which was afterwards improved by the brothers Chappe. His *Mémoire sur l'Origine des Constellations et sur l'Explication de la fable par l'Astronomie* (1781), is full of originality and learning. In 1788, he became a member of the *académie des inscriptions et belles-lettres*, and went to Paris, where he was named one of the four commissioners of public instruction, to ascertain the resources of all the institutions for education and learning in Paris. As a member of the national convention, he was constant in his support of moderate measures. On this account, he was chosen a member of the council of five hundred; and the reputation which he there acquired for activity and information, procured him admission into the national institute. The *tribunat* and the legislative body proposed him as a senator. His work, *Origine de tous les Cultes, ou la Religion universelle* (1794, 3 vols., 4to., with an atlas), was severely criticised in Germany, Holland, France and Italy, but is a remarkable monument of his learning. In this work, he attempted to explain, not only all the mysteries of antiquity, but also the origin of all religious traditions. An abridgment, in one volume, afterwards followed. His two works on the Pelasgi, their origin in Ethiopia, their spreading over Lybia, Cyrenaïca, and the north of Africa, and thence to Spain, Greece and Italy, attracted great attention. His treatises on the zodiac of Denderah (q. v.), and on the Phœnix, succeeded. In his last work, *Mémoire explicatif du Zodiaque chronologique et mythologique* (1806, 4to., engravings), he maintained that the astronomical and religious opinions of the Greeks, Egyptians, Chinese, Persians and Arabians, had a common origin. He died at his estate near Dijon, 1809, 77 years old, and left, in manuscript, a work on cosmogony and theogony, the object of which was to confirm the theory he had laid down in his *Origine de tous les Cultes*. He also endeavored, in this work, to explain hieroglyphics.

DUPUYTREN, Guillaume; the most distinguished French surgeon of our time, professor of medical science in the faculty of medicine in Paris, and chief surgeon in the *Hôtel Dieu*; born 1778, at Pierre-Buffière. He made such rapid progress in his studies that, in his 17th year, he was appointed prosecutor in the *École de Santé*, at Paris, and, soon after, lectured on surgery and anatomy to large audiences. In 1802, he was made second surgeon in the *Hôtel Dieu*, and, in 1815, became the head of this great hospital. As an operative surgeon, he has gained great reputation by his boldness and skill, and the improvements which he has introduced. He has invented some new instruments, and improved others; as, for instance, his speculum, for the removal of the uterine polypus by cauterization, and his instrument for couching; we are also indebted to him for some valuable discoveries in pathological anatomy. He has written several surgical treatises, some of which have been published singly, and some are collected.

DUQUESNE, Abraham, a French admiral, under Louis XIV, was born at Dieppe, in 1610, and acquired his knowledge of naval affairs under his father, who was an experienced captain. In his 17th year, he was in the sea-fight off Rochelle, and distinguished himself, during and after the year 1637, in the war against Spain. In 1644, he entered the service of Sweden. He was recalled, in 1647, to France, and commanded the expedition against Naples. Bordeaux, which had rebelled, he reduced, notwithstanding the assistance afforded it by Spain. In the Sicilian war, he thrice defeated the combined fleets of Holland and Spain, under the renowned De Ruyter. After he had reduced Algiers and Genoa to the necessity of supplicating the mercy of Louis XIV, the king conferred upon him the fine estate of Bouchet, and made it a marquisate, with the title of *Duquesne*. More than this he could not do, because Duquesne was a Protestant. He was, also, the only person exempted from the banishment of his sect, occasioned by the repeal of the edict of Nantes. He died at Paris, in 1688. Mildness and modesty tempered his heroic character; and De Ruyter was his model. He left four sons, of whom the most famous, Henry, marquis of Duquesne, was also distinguished as a naval character.

DURANGO; a town in Mexico, capital of the province of New Biscay, or Durango; 335 miles N. W. Mexico; lon.

103° 35' W.; lat. 24° 25' N.; population, according to Humboldt, 12,000; according to Pike, 40,000. It is a bishop's see. The town is situated on an elevation, 6845 feet above the sea. The air is healthy, the surrounding country fertile, producing an abundance of wheat, maize, fruits, &c., and the trade of the town is considerable.

DURANTE, Francesco, a celebrated composer, born 1693, at Naples, received his first instruction from the famous Alexander Scarlatti. The fame of Pasquini and Pittoni drew him to Rome, whither he went to perfect himself in the knowledge of counterpoint. He then returned to Naples, as *maestro di capella* (director of the musical choir), and composed, almost exclusively, for the church. In vocal church music, he attained a high degree of eminence. He also educated the most celebrated musical masters of the 18th century in Naples—Pergolese, Sacchini, Piccini, Guglielmi, Traetta, Jomelli, &c.—and died at Naples, 1755, at the age of 62.

DÜRER, Albert; born at Nuremberg, 1471. His father was a skilful goldsmith of Hungary, and himself instructed his son Albert. Dürer's talent early developed itself; and, although he had made great progress in his father's profession by the time he was 15, his inclination took a decided turn for painting. Michael Wohlgemuth, then the best painter in Nuremberg, became his instructor in 1486. Having finished his studies, he entered upon his travels, and, in 1490, travelled through Germany and Alsace. In 1492, he passed through Colmar and Basle, and, in 1494, returned home. Here he executed his masterpiece, a drawing of Orpheus. To please his father, he married the daughter of Hans Fritz, a celebrated mechanic; but this connexion imbibed his life, and perhaps brought him to an early grave. In 1505, he went to Venice to accomplish himself in his art. His abilities excited envy and admiration. He painted the Martyrdom of Bartholomew, for St. Mark's church, which painting was purchased by the emperor Rodolph, and removed to Prague. He also travelled to Bologna, to improve his knowledge of perspective. This journey had no effect upon his style. At his return, in 1507, begins the proper era of his greatness. In 1520, he again visited the Netherlands, probably for amusement only. His fame spread far and wide. Maximilian I appointed him his court-painter, and Charles V confirmed him in this office, bestowing upon him, at the same time, the painter's

coat of arms, viz., three escutcheons argent, in a deep azure field. Dürer was in favor with high and low. All the artists and learned men of his time honored and loved him, and his early death, in 1528, was greatly lamented. Profound application, great facility in the mechanical part of his art, and a remarkable talent of imitation, were the characteristics of Dürer, and enabled him to exert a great influence on the character of German art. He was the first in Germany who taught the rules of perspective, and of the proportions of the human body, according to mathematical principles. His treatise on proportions was occasioned, it is said, by his studies on the picture of Adam and Eve. He not only made use of the burin, like his predecessors, but was also the inventor of etching, or, if not the inventor, the first who excelled in the art. He invented the method of printing wood-cuts with two colors. His great mathematical knowledge enabled him to form a regular system of rules for drawing and painting. He wrote the first book on fortification in Germany, and showed how to cast the letters of the alphabet according to fixed proportions, by geometrical calculations. He was particularly eminent as a portrait painter. He had the power of catching the exact expression of the features, and of delineating all the passions. Among his best engravings in copper are his *Fortune*, *Melancholy*, *Adam and Eve in Paradise*, *St. Hubert*, *St. Jerome*, and the *Smaller Passion* (so called), in 16 plates. Among his best wood-cuts are the *Greater Passion* (so called), in 13 plates; the *Smaller Passion*, with the frontispiece, 37 pieces; the *Revelation of St. John*, with the frontispiece, 15 plates; the *Life of Mary*, 2 prints, with the frontispiece. Bartsch, however, has made it more than probable, that Dürer himself did not engrave in wood. He only made the drawings on wooden tablets, which were then cut by form-cutters, of whom there were many skilful ones at that time. Dürer has, also, much merit as a writer. He labored to purify and elevate the German language, in which he was assisted by his friend, W. Pirkheimer. His writings, which were afterwards translated into Latin, French, &c., were published, in a collected form, at Arnheim, by J. Jansen (1603, folio). J. J. Roth has written a life of him (Leipsic, 1791).

DURESS, in law, is restraint or compulsion; and it is a general principle, that a contract made under compulsion is not binding; and many acts will be excused

on this ground, which would otherwise be blamable. There may be very different degrees of constraint, from absolute necessity down to a slight motive of fear; and the motives of fear may be of very different strength; for, if a man's life is endangered by his refusal to do an act, the law considers him to be under the highest compulsion, and contracts made under such motives are not binding. Duress may take place in two different ways: 1. by actual imprisonment, and, 2. by threats, *per minas*. If a man be illegally confined to compel him to sign a deed, he may avoid it; but, if he be legally imprisoned, and, to gain his liberty, signs a deed or agreement, it will bind him. This is not the duress contemplated by the law. Compulsion will excuse acts, which, done voluntarily, and from choice, would be capital crimes; for, by compulsion of an enemy, a man may do acts which, had they been of his free choice, would have been treason, and yet be excused. But the evil committed must be in some proportion to that feared, as a man would not be excused for homicide, to avoid even a serious injury to himself. But in regard to civil transactions, a smaller degree of restraint will be the ground of avoiding an obligation. It has been adjudged that, if one make a deed to avoid the duress done by merely taking his cattle, in other words, to procure their liberation, if they were unlawfully detained, the deed may be avoided. A son may allege the duress of a father, a husband that of his wife, a servant that of his master, and a master that of his servant, in avoidance of a deed. A marriage, as well as any other contract, made by one under duress, may, on this ground, be avoided.

DUROC, Michael, duke of Friuli, grand-marshal of the palace, senator, general of division, grand-cordon of the legion of honor, and of nearly all the orders of Europe, was born at Pont-à-Mousson, in 1772. His father was of an ancient family of Auvergne; having become a captain and knight of St. Louis, he married, and established himself in Lorraine. Young Duroc was early destined for the army, and studied at the military school of Pont-à-Mousson. March 1, 1792, he was made lieutenant of artillery. He then served in the republican armies. Honorable mention is made of his name in the bulletins of the Italian army, particularly at the siege of Mantua, and at the battle of Sismone, in 1796. He served, during the first campaign in Italy, as aid-de-camp of the general of artillery, Lespinasse.

Being subsequently appointed aid-de-camp to general Bonaparte, he soon made himself conspicuous for coolness, courage and ability. He distinguished himself at the battle of Grimolano, where he was wounded, and his horse was killed under him. At the passage of the Isonzo, in Friuli, he was mentioned as one of the bravest and most able officers. The title of duke of Friuli, which he received ten years afterwards, was chosen in allusion to his conduct at Isonzo. Duroc followed general Bonaparte into Egypt, and was promoted to the rank of chief of battalion the 25th of Brumaire, year VI. During this campaign, in which his services were of the greatest value, his name was again mentioned with honor, after the battle of Salahia, the successful result of which was mainly owing to his valor. During the expedition into Syria, at the siege of Jaffa, Duroc, seeing the grenadiers falling at the foot of the breach, and wavering, put himself at their head, and engaged, hand to hand, with several Turks. The army, seeing him disappear in a tower which was defended with great fury, gave him up for lost, but soon received him with shouts on seeing him appear on the top, master of the tower and of the ramparts. After having distinguished himself, on several occasions, before St. Jean d'Acre, he was severely wounded by the bursting of a howitzer, in one of the last assaults made during the siege, the most bloody and obstinate in the military annals of France. He distinguished himself no less at the battle of Aboukir. Being named chief of brigade, he accompanied general Bonaparte on his return to France; he was almost the only aid-de-camp of the commander-in-chief who survived the expedition: four had been killed in the campaign. Duroc took part in the events of the 18th Brumaire, and, a few days after, was sent to the court of Berlin, where he was received with great distinction. This embassy contributed to preserve the peace between these two countries. War continuing between France and Austria, the first consul set out on the campaign, which was terminated at Marengo. Duroc accompanied him as first aid-de-camp. His name is honorably mentioned in the account of the passage of the Ticino, where he was one of the first to leap into a boat, at the head of the grenadiers. After the peace of Amiens, he was sent, on diplomatic missions, to the courts of St. Petersburg, Stockholm and Copenhagen. On his return, he was promoted to the rank of general of brigade and gov-

ernor of the Tuileries; and, on the 9th Fructidor, year X, he was made general of division. When the first consul assumed the title of emperor, he made Duroc grand marshal of the palace. The courtier and favorite never ceased to be a soldier. He accompanied Napoleon in all his campaigns. In 1805, he was charged with a mission to the Prussian court, at the time when Napoleon was marching against Vienna. He rejoined the army previously to the battle of Austerlitz, and took the command of the division of grenadiers, which had been left without a head, in consequence of the wound of Oudinot. At the battle of Austerlitz, he also commanded a division of this chosen corps. During the campaign in Prussia, in 1806, Duroc was commissioned to sign the treaty of peace with the king of Saxony; and, at a later period, he was the principal negotiator of the armistice which preceded the peace of Tilsit. He followed Napoleon to Spain, and during the campaign of Wagram. At the battle of Esslingen, he arranged and directed his batteries in such a way as to arrest the progress of the enemy in a decisive movement. After the battle of Znaym, Napoleon sent him to the archduke Charles, to negotiate an armistice. On the return from the Russian campaign, in 1812, Duroc reorganized the imperial guard, which, at this time, and on several other occasions, he commanded. Before his last departure for the army, he was appointed senator. Duroc finally followed Napoleon to Germany, in 1813, and was killed, May 23, after the battle of Bautzen, in entering the village of Merkersdorf, by a ball, which also killed general Kirschner, with whom he was conversing behind the emperor. This ball was the last which fell on that day; and the piece from which it was discharged was at so great a distance, and surrounded by so many obstacles, that it is inconceivable how it could have reached the place. Napoleon visited Duroc on his death-bed, and mingled tears with his farewell. He lost in him a true counselor, a faithful friend, and one of his bravest officers. The deaths of the duke of Friuli and of the duke of Montebello are the two events on which Napoleon showed the greatest sensibility. Successively charged with the most important duties, military and political, the duke of Friuli was ever remarkable for a moderation rare in a soldier, for ability, disinterestedness, modesty, firmness, and a presence of mind which never deserted him. For

15 years, he was the confidant and friend of that extraordinary man. When Napoleon left France, in 1815, and embarked on board the *Bellerophon*, he wished to live in England, under the name of colonel Duroc. Seven years afterwards, we have another proof of the constant and affectionate remembrance which Napoleon retained of him. He left to his daughter one of the largest legacies bequeathed by his will.

DÜSSELDORF; capital of the government of Düsseldorf, in the Prussian province of Juliers-Cleves-Berg, formerly the capital of the duchy of Berg, situated in a beautiful plain on the Rhine and the Düssel, which unite under its walls. It was bombarded by the French in 1794, and the castle and many of the finest buildings were destroyed. The town is one of the finest on the Rhine; some of the streets are regularly laid out; the houses are of brick. It contains 2200 houses and 26,600 inhabitants, and is divided into the Old Town, New Town and Charles's Town. The New Town was built by the elector John William. The buildings resemble palaces, and the principal street is adorned with lime-trees. Charles's Town owes its existence to the elector Charles Theodore, from whom it derives its name. It has recently been much embellished, and contains several spacious squares. The collegiate church, and principal parochial church, which contains the tombs of the ancient dukes of Juliers and Berg (among which the marble mausoleum of the duke John is distinguished), deserve mention. The Jesuits' church, which is, however, too much ornamented; the bronze statue, by Crepello, of the elector John William (a great patron of the arts, to whom Düsseldorf was indebted for its prosperity), which stands in the market-place, and a marble statue of the same elector, by the same artist, in the yard of the castle (the beautiful castle itself is in ruins); the observatory, in what was formerly the Jesuits' college, and the fine scientific apparatus, are also worthy of attention. The gallery of paintings, containing the richest collection of the works of Rubens, and other great artists of the Dutch and Flemish schools, and formerly the chief ornament of Düsseldorf, has been removed to Munich; only the valuable collection, containing 14,241 original designs, 23,445 copperplates and casts in plaster, is still retained for the use of the academy of arts at Düsseldorf. The town has some important silk and cotton manufactories and sugar refineries, with glass foundries and

vinegar and soap manufactories. Düsseldorf is one of the principal commercial towns on the Rhine.

DUTCH LANGUAGE, LITERATURE, SCHOOLS OF ART, &c. (See *Netherlands*.)

DUTENS, Louis, born at Tours, 1730, of Protestant parents, died in London, 1812. At the time of his death, which happened at an advanced age, he was historiographer to the king of England, and member of the academy of sciences in London, and of the Paris academy of inscriptions. Being convinced, by some unsuccessful attempts in tragedy, that he had no genius for poetry, he obtained, with some difficulty, the place of a tutor. He became the friend of many distinguished men, who enriched him with pensions, benefices and legacies. He was three times British *chargé d'affaires* to Turin, travelled through Europe several times, and formed an acquaintance with many of the learned men in different parts of the continent. His works have been often republished, and show the variety of his learning, refined by intercourse with the polite world. He published the works of Leibnitz, at Geneva, in 6 vols., not quite complete. The preface to the mathematical part is highly esteemed by mathematicians. Dutens made himself known as a poet by the two collections *Le Caprice poétique* and *Poésies*. His *Recherches sur l'Origine des Découvertes attribuées aux Modernes* show the extent of his reading, but rate the knowledge and invention of the ancients somewhat too high. His *Tocsin ou Appel au bon Sens*, of which he printed several successive editions, contains severe remarks upon Voltaire and Rousseau. In general, he was an opponent of the French philosophers, and attacked them on every occasion. In his *Œuvres mêlées* (London, 4 vols.) may be found his *Logique ou l'Art de raisonner*. His *Histoire de ce qui s'est passé pour le Rétablissement d'une Régence en Angleterre* (1789) has historical interest. Dutens also composed a work, rather alien from his common pursuits, *On the Genealogy of the Heroes of Romance*. Three volumes of *Mémoires d'un Voyageur qui se repose* (Paris, 1806) were received with general approbation. The 3d vol., entitled *Dutensiana*, contains anecdotes and observations. An earlier work of a similar kind was interesting as a sort of scandalous chronicle of the distinguished men of his time; but he thought it advisable to destroy the whole edition before it was made public, and, what is rarely the case, he accomplished his object.

DUTIES. (See *Revenue*.)

DUVAL, Valentine Jameray, librarian of the emperor Francis I, born in 1695, was the son of a poor peasant in the village of Artonay, in Champagne. In his 10th year, he lost his parents; in his 14th year, being driven from his native place by the want of employment, half famished, and soon after attacked by the small pox, he wandered about in the open country, in the terrible winter of 1709. Providence conducted him to the cell of the good hermit Palemon, who received him, permitted him to share his labors, and taught him to read. Here Duval became devout without being superstitious. He then exchanged this quiet retreat for another at St. Anne, near Luneville. Here his only company was four ignorant hermits; his employment, tending six cows, and his only means of improvement, some volumes of the *Blaue Bibliothek*; but he finally succeeded in learning to write. An epitome of arithmetic, which fell into his hands, highly interested his youthful mind. In the solitude of a forest, he received his first ideas of astronomy and geography. In order to procure the means of educating himself, he killed game, and, in a few months, the proceeds of his toils furnished him with a little stock of money. Happening to find a gold seal engraved with a coat of arms, he had it advertised by the minister of the place. An Englishman by the name of Forster appeared as the owner, and Duval gave it up to him on condition that he would explain to him the coat of arms. Surprised by this honesty and curiosity, Forster rewarded him so bountifully, that his library, which had been gradually forming out of the hunting fund, was increased to 200 volumes, while he spent nothing on personal or external conveniences. Engaged in his studies, Duval paid little attention to his herd, and thereby displeased the hermits. One of them even threatened to burn his books. This roused the spirit of Duval. He seized a fire-shovel, drove the brother out of his own cell, and shut himself up in it. The other brothers came with the superior, but he refused to open the door till they had agreed to pass over all that had happened, and to allow him, in future, two hours a day for studying, while he, on his part, was to serve them 10 years more for his clothes and victuals. Duval was now secure. He pursued his studies with more zeal than ever in the forest where his cows were grazing. He was found one day by the young princes of Lorraine, while thus busy with his maps and charts.

They made him an offer, on the spot, of placing him with the Jesuits, at Pont-à-Mousson. He accepted it, but only on condition that his liberty should not be sacrificed by it. He soon made such rapid progress, that duke Leopold took him with him to Paris, in 1718, to see what effect this new scene would have upon him. But Duval declared that all the pomp of the city and its works of art were far inferior to the majesty of the rising or setting sun. On his return, Leopold appointed him his librarian, and made him professor of history in the academy at Luneville. These offices, and the lessons which he gave to the young Englishmen studying there (among whom was the famous Chatham), afforded him the means of rebuilding his old hermitage of St. Anne. When Lorraine was ceded to France, he removed, with the library under his care, to Florence, where he staid 10 years. The emperor Francis invited him to Vienna, to form a collection of medals. Here he died in 1775. With all his learning, Duval was exceedingly modest. His *Œuvres, précédées de Mém. sur sa Vie*, were published at Petersburg, Bâle, and Strasburg, in the year 1784, in two volumes quarto.

DUVAL, Alexander, member of the French academy, and one of the most popular writers for the theatre in our time, was born in 1767, at Rennes, entered the navy, and served in the American war under admiral De Grasse. He was then appointed secretary of the deputation of the states of Bretagne to Paris. Circumstances obliged him to leave that city, and he served as geographical engineer in the construction of the canal of Dieppe. His passion for the theatre, in 1791, led him to the *Théâtre Français* as an actor. He was soon induced, by the dangers of his country, to return to the military service, and acted as a volunteer in the first campaign of the revolutionary war. After his return to the French theatre, he was involved in the same fate with the other actors, and escaped the scaffold with his comrades only by the courage of a secretary in the committee of general security, who ventured to conceal the papers relating to the accusation. He was liberated by the events of the 9th Thermidor, and relinquished the theatre to devote himself solely to literature, in which he soon came to be regarded as one of the most successful writers of comedy and the opera. We have about 50 pieces from him, of which many have been admitted into the French *Répertoire*. His little pieces, *Maison à*

vendre, Le Prisonnier, La jeunesse d'Henri V, and several others, are among the most popular pieces on the French and German stages. (See his *Œuvres Complètes*, Paris, 1822, 9 vols.)—His brother, Amaury Duval (q. v.), distinguished for his knowledge of ancient and modern literature, exerted a highly beneficial influence on him by his criticisms.

DUVAL, Amaury; one of the most eminent scholars of France; born 1760, at Rennes. He fitted himself for the practice of law at an early age, and, in his 20th year, distinguished himself as an advocate in the parliament of Bretagne, where, amongst other things, he gained great reputation by his defence of a young man who, in a fit of jealousy, had shot his rival. He soon, however, left his profession for diplomatic pursuits, and, in 1785, was made secretary of legation at Naples. In Italy, he visited all the monuments of antiquity, and collected, during his residence of several years at Naples, rich materials for a work on antiquities, which he had long been contemplating. He remained some time in Italy, after the return of the embassy with which he was connected, in order to prosecute his researches. When he was in Rome, in 1792, he obtained a secretaryship by means of Basseville, then ambassador of the French republic, and in the insurrection of Jan. 1793, in which the ambassador lost his life, he was himself in great danger. He was rescued, by a soldier, from the hands of the populace, and put in prison. Having obtained his liberty in the course of a few days, he was sent, by his own wish, to Naples. He soon abandoned a profession which, at a time when all the European courts were closed against the ambassadors of the French republic, offered no prospects to his ambition. He now devoted himself to literary labors, and, in company with Champfort, Ginguené, Say and others, commenced the *Décade philosophique*, in which he took a very active part, till this periodical was united with the *Mercure de France*, in the year 1808, when it took the name of *Revue*, which Duval continued to publish till 1814. During this period, he thrice won the prize offered by the French institute on questions in political economy, ethics and antiquities. Under the directory, he was placed at the head of the department of arts and sciences, in the ministry of the interior, and held it till 1815, when he shared the fate of most of the other officers, who were superseded by men of the old school of politics. In

1811, he became a member of the institute, in the class for history and literature, to which the old name of *academy of inscriptions and fine arts* has again been given. He belongs to the committee engaged in the continuation of the literary history of France, which was commenced by the Benedictines. Among his other writings are to be noticed his prize essay on ancient and modern burials (*Des Sépultures chez les Anciens et les Modernes*); his work on the monuments of Paris (*Paris et ses Monumens*, 3 vols., folio); and the *Essays and Observations on the Theatre of the Romans*, published by him and his brother, the fruitful dramatic writer, Alexander Duval. (q. v.)

DWARFS. In ages when knowledge depends mostly on tradition, it is natural for the human mind to people the world with a thousand imaginary beings. Such are dragons, giants and dwarfs; all of which have some foundation in reality, and afford amusement to the imagination, even after experience has corrected the belief in the reality of their marvellous character. We need hardly say, that the pygmies of the ancients, and the Quimos, whom Commerson tells us that he discovered, are as fabulous as the renowned Lilliputians. The dwarfs which actually exist are deviations of nature from her general rule; and the term *dwarf* is a vague one, as we cannot say how small a person must be to be so called. There is no instance on record of dwarfs distinguished for talents. Their figures are sometimes perfectly well proportioned. They have generally one trait in common with children—a very high opinion of their own little person, and great vanity. The Romans used dwarfs for several purposes; sometimes in gladiatorial exhibitions, on account of the ridiculous contrast which they afforded to their opponents. Towards the end of the middle ages, and even, in some countries, as late as the beginning of the last century, dwarfs were a fashionable appendage to the courts of European princes, and the families of the nobles. Who does not recollect the numerous pictures of those times, with a Negro or a dwarf in the back-ground? They seem to have been great favorites with the ladies of the family. They were sometimes, also, used as fools. Peter the Great carried this fancy for dwarfs to a great extent. He assembled individuals of this kind from all parts of his empire, and ordered the famous marriage of the dwarfs. At the court of Constantinople, a number of dwarfs are always main-

tained, as pages. Those who happen to be, at the same time, deaf and dumb, and have been mutilated, are particularly valued, and reserved for the sultan.

DWELLING. (See *Domicil*, and *Habitation*.)

DWIGHT, Timothy, an eminent divine, was born of reputable parents, at Northampton, in Massachusetts, May 14, 1752. He was admitted a member of Yale college in September, 1765, when he had just passed his 13th year; and, after leaving college, he took charge of a grammar-school at New Haven, where he taught for two years. While in this situation, his time was regularly divided: six hours a day in school; eight hours in study; and the remaining ten hours in exercise and sleep. In 1771, he became a tutor in Yale college, where he remained for six years. At the age of 19, Mr. Dwight commenced writing the *Conquest of Canaan*, a regular epic poem, founded on a portion of sacred history. It was concluded in 1774, but was not published until 1795. On receiving the degree of master of arts (1772), he delivered a Dissertation on the History, Eloquence, and Poetry of the Bible, which was immediately printed, and afterwards republished, both in this country and in Europe. He was also deeply engaged, during his residence in college as a tutor, in the study of the higher branches of the mathematics. About this period, he attempted, by restricting his diet, to remove the necessity of bodily exercise; but, after pursuing his course of abstinence and study about a year, he became subject to severe attacks of the bilious colic, which so wasted his strength, that it was with the utmost difficulty he could be removed to Northampton. His physician, having administered successfully for his present relief, advised the daily use of strong bodily exercise, as the only means of restoring his constitution. Adopting this system, he walked upwards of 2000, and rode upwards of 3000 miles, in the course of a twelve-month. The result of this was the perfect restoration of his health, which continued good for the ensuing 40 years of his life. The college was broken up in the month of May, 1777, the students leaving New Haven, and pursuing their studies under their respective preceptors, in situations less exposed to the incursions of the enemy. Mr. Dwight, with his class, went to Wethersfield, where he remained with them till September. He was this summer licensed as a preacher, by a committee of the northern associa-

tion, in his native county of Hampshire; and, in addition to teaching his pupils, he preached during the summer of 1777; and, in September of the same year, he was nominated chaplain in the army. In addition to the duties of his station, he contributed not a little to heighten the enthusiasm of the soldiers by writing several patriotic songs, which enjoyed a deserved popularity. The circumstance of his father's death, in October, 1778, obliged him to resign his office, in order to assist his mother in the support and education of her family. He accordingly removed his own family to Northampton, where he resided five years, laboring on the farm through the week, preaching to different congregations in the neighborhood on Sundays. He likewise established a school, in which he received a large number of pupils, and employed two assistants. He was twice elected, about the close of the revolutionary war, a member of the legislature of the state. In 1783, he was ordained minister of Greenfield, a parish in the town of Fairfield, in Connecticut. Immediately upon settling at this place, doctor Dwight opened an academy, which soon acquired a reputation then unequalled in this country. A large number of pupils, from all parts of the Union, as well as from abroad, resorted to this school, where, in the course of his 12 years' residence, he taught more than 1000 scholars; adopting, to a certain extent, the system since called the *monitorial*. In the year 1787, the college of Princeton, New Jersey, conferred upon him the degree of D. D. In 1794, he published a poem, in seven parts, under the title of *Greenfield Hill*, which, as well as the *Conquest of Canaan*, was republished in England. On the death of the reverend doctor Styles, in 1795, doctor Dwight was elected president of Yale college, which was in a depressed state. His reputation soon brought to the college a great accession of students. When he entered the office of president, the professorship of theology was vacant, and, several fruitless attempts having been made to fill it, he engaged to perform the duties. He was annually elected to this chair for 10 successive years, at the end of which period the appointment was made permanent, and he continued to fill it for the remainder of his life. In the year 1797, at the request of the general association of Connecticut, he undertook the revision of doctor Watts's version of the psalms, to supply such as were omitted, and to make a selection of hymns

adapted to public worship. In 1800, he submitted his work to a joint committee of that body and of the general assembly of the Presbyterian church, by whom it was approved and recommended. Besides making many alterations in the version of doctor Watts, he wrote 33 entire psalms. In the year 1796, he commenced travelling, during the college vacations, particularly in May and September, for the sake of exercise, and continued this practice through the remainder of his life. In these excursions, principally through the New England states and New York, he took notes, and afterwards wrote them out, for the gratification of his family. This work was published after his death, in four volumes, octavo. It embraces an account of the natural aspect of the territories over which he travelled, and of the condition of society in those states. It also contains notices of eminent men of that portion of the Union, and anecdotes illustrative of the history and customs of the aborigines. Doctor Dwight died January 11, 1817, after repeated and severe attacks of a disease, the character of which was not well understood. His death was regarded as a severe loss to the cause of learning and religion in his country. Besides the works already mentioned, is his *Theology*, being a collection of his theological lectures, which has been published since his death, and has passed through several editions, in the U. States and England.

DYEING is a chemical art, and consists in fixing upon cloths of various kinds any color which may be desired, in such a manner as that they shall not easily undergo any alteration, by the agents to which the cloth is ordinarily exposed. The chief materials of stuff to be dyed are wool, silk, cotton and linen; of which the former two are more easily dyed than the latter. Wool, in its preparation for dyeing, requires to be cleansed, by scouring, from a fatty substance, called the *yolk*, which is contained in the fleece. This is done by means of a weak alkaline solution, which converts the yolk into soap. Putrid urine is commonly employed, on account of its cheapness; the ammonia it contains being sufficient to remove the grease. Silk, when taken from the cocoon, is covered with a kind of varnish, which, because it does not easily yield, either to water or alcohol, requires also the aid of a slight portion of alkali. Much care is necessary, however, in this operation, since the silk itself is liable to be corroded and discolored. Fine soap is commonly used; but even this is said to be detri-

mental; and the white China silk, which is supposed to be prepared without soap, has a lustre superior to the European. The preliminary process of washing is intended to render the stuff to be dyed as clear as possible, in order that the aqueous fluid, to be afterwards applied, may be imbibed, and its contents adhere to the minute internal surfaces. Another preparation, and one which constitutes, in reality, an important part of the dyeing process, consists in applying to the stuff a material to which it adheres; and afterwards the desired color is obtained by the application of another substance. We might dye a piece of cotton black, by immersing it at once in ink; but the color would be neither good nor durable, because the particles of precipitated matter are not sufficiently comminuted to enter the cotton, or to adhere to it firmly. But, if the cotton be soaked in an infusion of galls, then dried, and afterwards immersed in a solution of sulphate of iron, the acid of galls being every where diffused through the fabric, it will receive the particles of oxide of iron, at the very instant of their transition from the fluid to the solid state; by which means a perfect covering of the black, inky matter will be applied in close contact with the surface of the most minute fibres of the cotton. The name of *mordant* is applied to those substances which unite with the different stuffs, and augment their affinity for the various coloring matters. There exists a great number of mordants; some, however, are very feeble in their activity, while others are attended with too much expense for common stuffs; some alter the colors which they are intended to combine, or modify their shades: hence it results, that there are but a small number which can be employed. These are alum, acetate of alumine, muriate of tin, and nut-galls. The mordant is always dissolved in water, into which the stuffs to be dyed are plunged. If the mordant be universally applied, over the whole piece of goods, and this be afterwards immersed in the dye, it will receive a tinge over all its surface; but if it be applied only in parts, the dye will strike in those parts only. The former process constitutes the art of *dyeing*, properly so called; and the latter the art of printing woollens, cottons, or linens, called *calico-printing*. In the art of printing piece goods, the mordant is usually mixed with gum or starch, and applied by means of blocks or wooden engravings, in relief, or of copper plates, and the colors are brought

out by immersion in vessels filled with suitable compositions. The latter fluids are termed *baths*. The following are the processes adopted, when alum is the mordant employed: 1. *Alum mordant for silk*. Into water containing the 60th part of its weight of alum, at the ordinary temperature of the air, the silk is plunged, and allowed to remain for 24 hours, when it is withdrawn, drained and washed. If the liquid is warmed, it is found that the silk absorbs less of the mordant, and that, of course, it combines less easily with the coloring matter, besides losing, in part, its natural gloss. 2. *Alum mordant for wool*. When it is wished to combine wool with this mordant, after its cleansing has been effected, it is plunged into a boiling solution, composed of 8 or 900 parts of water, and 25 of alum, where it is allowed to remain during 2 hours; when it is taken out, suffered to drain, and washed. Frequently a little cream of tartar is added in this process, in order to engage the excess of acid in the alum, as well as the portion arising from a slight decomposition of the alum by the oily matter of the wool. 3. *Alum mordant for cotton, hemp and flax*. This operation is effected by plunging the body to be imbued with this mordant into water slightly warmed, and which contains one quarter of its weight of alum, and leaving it 24 hours, at the common temperature of the air; when it is withdrawn, washed and dried. The cotton will be sufficiently imbued with the mordant, if allowed to remain in the solution only 7 or 8 minutes, pressing it a little, without twisting it, however, on taking it out, and not immersing it in the coloring bath until 12 or 15 hours after. In all alum mordants for wool, the alum of commerce may be employed; but when silk or cotton is to be dyed, especially if the colors are bright, it is necessary to make use of the alum of Rome, or of that which is equally pure; that is to say, of alum which does not contain above 1-500th of its weight of sulphate of iron; otherwise there will be a great quantity of oxide of iron adhering to the fabric, which will affect the shade we desire to obtain. The coloring matters to be transferred to the various stuffs are either soluble or insoluble in water. When they are soluble in water, which is most generally the case, they are dissolved in it at a boiling temperature; and the material to be dyed, after having been duly prepared, and impregnated with the mordant, is plunged into it, where it is allowed to remain for a certain time, and at a temperature varying

with the nature of the stuff. When, on the contrary, the coloring matter is insoluble in water, its solution is effected in some other fluid, and the article to be colored (prepared as in the former case, with the exception that the application of the mordant is omitted) is immersed, and the coloring matter is precipitated by the addition of a third body. Silks are dyed at a temperature which is gradually increased from 86° to 175° Fahr. If the bath is heated above 86°, at the commencement of the process, the effect of the mordant is diminished, and the desired shades of color will not be produced. For the same reason, in dyeing hemp and flax, the temperature should not exceed 97° Fahr. Cotton and woollens may be dyed at a boiling heat. Various mechanical contrivances are made use of in immersing the different materials to be dyed into the coloring solution, so as to cause all their parts to be equally affected at the same time. As soon as they are withdrawn from the coloring bath, they are washed in a large quantity of water, in order to deprive them of those particles of coloring matter that are merely superficial. The following are the dye-stuffs used for producing *fast* colors: 1. *Black*. The cloth is impregnated with acetate of iron (iron liquor), and dyed in a bath of madder and logwood. 2. *Purple*. The preceding mordant, diluted, with the same dyeing bath. 3. *Crimson*. The mordant for purple, united with a portion of acetate of alumine, or red mordant, and the above bath. 4. *Red*. Acetate of alumine is the mordant (see *Alumine*), and madder is the dye-stuff. 5. *Pale red*, of different shades. The preceding mordant, diluted with water, and a weak madder bath. 6. *Brown of Pompadour*. A mixed mordant, containing a somewhat larger proportion of the red than of the black, and the dye of madder. 7. *Orange*. The red mordant, and a bath, first of madder, and then of quercitron. 8. *Yellow*. A strong red mordant, and the quercitron bath, whose temperature should be considerably under the boiling point of water. 9. *Blue*. Indigo, rendered soluble and greenish-yellow colored, by potash and orpiment. It recovers its blue color by exposure to air, and becomes firmly fixed upon the cloth. An indigo vat is also made by diffusing indigo in water, with quicklime and copperas. These substances are supposed to act by deoxidizing indigo, and, at the same time, rendering it soluble. *Golden dye*. The cloth is immersed alternately in a solution of copperas and

lime-water. The protoxide of iron, precipitated on the fibre, soon passes, by absorption of atmospherical oxygen, into the golden-colored deutoxide. *Buff.* The preceding substances, in a more dilute state. *Blue vat*, in which white spots are left on a blue ground of cloth, is made by applying to these points a paste, composed of a solution of sulphate of copper and pipe-clay, and, after they are dried, immersing it, stretched on frames, for a definite number of minutes, in the yellowish-green vat, of 1 part of indigo, 2 of copperas, and 2 of lime, with water. *Green.* Cloth dyed blue, and well washed, is imbued with the acetate of alumine, dried, and subjected to the quercitron bath. In the above cases, under 9, the cloth, after receiving the mordant paste, is dried, and put through a mixture of cow-dung and warm water. It is then put into the dyeing vat or copper. The foregoing colors are also produced from decoctions of the different coloring woods; but, as they possess but little fixity when thus formed, they are denominated the *fugitive* colors. 1. *Red* is made from Brazil wood and peach wood. 2. *Black.* A strong extract of galls and deuto-nitrate of iron. 3. *Purple.* Extract of logwood and the deuto-nitrate of iron. 4. *Yellow.* Extract of quercitron bark, or French berries, and nitro-muriate of tin. 5. *Blue.* Prussian blue and solution of tin. Fugitive colors are thickened with gum tragacanth, and are sometimes sent to market without being washed.

DYER, John, an agreeable poet, of the secondary class, was born at Aberglasney, in Caermarthenshire, in 1700, and educated at Westminster school. Being left, by the death of his father, at liberty to follow his own inclination, he became a pupil to Richardson, the painter, and travelled through Wales as an itinerant artist, but never seems to have gained any distinction in that capacity. In 1727, he made himself known as a poet, by the publication of his celebrated *Grongar Hill*. The intermixture of moral reflections, introduced in an easy manner, with the description of rural scenery, has rendered this poem highly and deservedly popular. After the publication of *Grongar Hill*, he went to Rome for professional improvement, and published, in 1740, a poem in blank verse, under the title of the *Ruins of Rome*. Not appearing likely to succeed in his profession, he was recommended to take orders, and was accordingly ordained by doctor Thomas, bishop of Lincoln. He then married, and retired

to a small living in Leicestershire, which he soon afterwards exchanged for another in Lincolnshire, to which a second was subsequently added. In 1757, he published his largest poem, the *Fleece*, in five books, a very ingenious production. He died in 1758. His poems, which comprise a few more pieces than those already mentioned, were published in 1 vol. 8vo. 1761.

DYKE, VAN. (See *Vandyke*.)

DYNAMETER, measurer of increase, *augomètre*; an instrument for measuring the magnifying power of telescopes. It consists of a small tube, with a transparent plate, exactly divided, which is fixed to the tube of a telescope, in order to measure exactly the diameter of the distinct image of the eye-glass.

DYNAMICS is the science of moving powers, or of the action of forces on solid bodies, when the result of that action is motion. *Mechanics*, in its most extensive meaning, is the science which treats of quantity, of extension, and of motion. Now, that branch of it which considers the state of solids at rest, such as their equilibrium, their weight, pressure, &c., is called *statics*; and that which treats of their motion, *dynamics*. So when fluids, instead of solids, are the subjects of investigation, that branch which treats of their equilibrium, pressure, &c., is called *hydrostatics*, and that which treats of their motion, *hydrodynamics*.

DYNAMIC AND ATOMIC THEORIES; the names given to two celebrated systems, explanatory of the essential constitution of matter. In the dynamic theory, every body is considered as a space filled with continuous matter; porosity then becomes an accidental quality, but compressibility and dilatability essential properties. The state of a body depends entirely on certain attracting and repelling forces; and its volume must change with every change in the relative proportions of these forces. All the varieties of matter are explained by supposing the existence of certain primitive simple substances, the different combinations of which produce all bodies. When two substances combine chemically, they must be considered, on this system, to penetrate each other mutually. The partisans of the atomic theory suppose every body to be composed of indivisible and impenetrable particles, which they term *atoms*. These are almost infinitely small, with void spaces between them, so that this theory makes porosity essential to matter. The atoms are not in contact, but are kept in their relative positions, at certain dis-

tances, by certain attractive and repulsive forces; from whence it arises, that, in the volume of each body, there is much more void space than matter. On this system, the diversities in bodies may be explained, either by an essential difference in the atoms themselves, or by a difference in their form, size, position and distance. When two substances combine chemically, the atoms of one penetrate the interstices of the other, and the atoms of the two combine so intimately, that they become, in a manner, new sorts of constituent particles, excepting that they are not simple, but compound.

DYNAMOMETER. Instruments for measuring the relative strength of men, and also of animals, are so called.

DYSPEPSIA (*δυσπεψία*, from *δύς*, bad, and *πέψις*, digestion); difficulty of digestion. The strict etymology of the term implies an imperfect or disordered condition of the function of digestion. Systematic writers have been not a little perplexed to find an appropriate location for this affection in their artificial arrangements; and this difficulty must exist whilst symptoms, which are always fluctuating, are admitted, as the elements of nomenclature and arrangement, into systems of nosology. From the same circumstance, different symptoms of the affection have received the character of separate diseases, as *apepsia*, *bradypepsia* (*βραδυς*, slow), *anorexia*, *cardialgia*, &c. These are no more than different grades in the symptoms, or varieties of the affection, and are not different diseases. The disorder of the digestive function is the most frequent and prevailing of the ailments that afflict man in the civilized state; all classes and all ages suffer from its attacks. Few are so happy as to pass through a life of ordinary duration, without undergoing a protracted struggle with this malady, and experiencing its torments. Once let it be fully established, and the comfort of existence disappears, or is regained, in most cases, tediously, and at the price of the most ascetic self-denial. The greater prevalence of dyspepsia or indigestion, in modern times, arises from the more frequent injury done to the stomach and its functions, directly, by the habits of luxurious indulgence, which have been exceedingly increased and extended; and, indirectly, by the multiplication of intellectual and moral agitations, from the extension of the commercial and financial operations of society, the greater activity and employment of the intellectual faculties, and augmentation of political, social and individ-

ual reverses. Something, too, is to be ascribed to the mere change of names. We call that *dyspepsia* now, which, formerly, was termed *liver disease*, *bilious disorder*, &c. A large proportion of the discomfort produced by this malady, arises from an ignorance of the digestive functions, leading to their abuse and premature derangement, and may be obviated, to a great extent, by instruction as to the nature of these functions, and their natural exercise. A general view of the digestive organs and functions is, therefore, requisite to an understanding of their disorders, the means to prevent, and the methods to remedy them. All organized or animated beings hold their existence under the condition of renewing, incessantly, the elements of their composition, by the appropriation to themselves of exterior matters. The simple animals (*polypi*, &c.) find, in the medium in which they live, and from which they directly receive them, the principles serving for their composition. The decomposition of animal and vegetable matter in the soil prepares the aliment or nutritive principle of vegetables, which, being held in solution by water, is absorbed by their roots. In all these beings there are no digestive organs or functions. The preparation of their nutriment is effected by physical operations exterior to themselves, and over which they have no control. In the higher or complete animals, or in man, the case is very different. Nature does not present to them the nutritive elements in a state fitted to be introduced, at once, into the interior organism, and to be employed in its composition. Their aliment consists of the nutritive principles in a compound state, intimately combined with other substances, from which they require to be disengaged. This is accomplished by the animal itself, which is provided with especial organs or apparatus and functions for this purpose. Digestion, then, consists in the disengagement of the nutritive elements from their combinations, and their reduction to the molecular state, admitting their introduction into the vessels, and their diffusion throughout the organism, for the purposes of its composition. It is a process analogous to the decomposition of the aliment of vegetables in the soil, and is effected, like all decompositions, by analogous or chemical operations. In this class, the procuring of the aliment is the act of the animal, depending on its voluntary powers, and is controlled by a great variety of circumstances, affecting the quantity and quality

of the food. The organs composing the digestive apparatus in man are numerous. They are the mouth, armed with teeth, for mechanically breaking down the food by mastication; the salivary glands, furnishing a fluid intimately combined with the food, in mastication, and collected in the stomach, which is its reservoir; the pharynx, a muscular and membranous bag, for the reception of the masticated bolus from the mouth; the œsophagus, a muscular and membranous tube, for conducting the bolus into the stomach; the stomach, a muscular and membranous bag, or enlargement of the alimentary canal, secreting a fluid or fluids, and a reservoir of the salivary and other secretory fluids of the interior surfaces, and in which the food is subjected to the decomposing process, until reduced to a pulpy mass, called *chyme*, consisting of the nutritive and innutritive elements, in a state of mechanical mixture; the duodenum, or second stomach, in which the chymous mass is submitted to the action of the biliary and pancreatic fluids, and in which the nutritive elements begin to separate from the innutritive matters, and to be absorbed by the lacteals, the roots of the animal economy; the liver and pancreas, furnishing bile and a species of saliva, which are mixed with, and act on, the chyme in the duodenum; the jejunum and ileum, or small intestines, in the course of which the separation, begun in the duodenum, is completed, and nearly the whole of the nutritive principles forming chyle are absorbed; and, lastly, the large intestines, a reservoir for all the excrementitious principles, and which, in it, are converted into feces. The whole of these organs compose the apparatus of digestion, but all are not of equal importance. The stomach and duodenum are the most eminent organs, and those whose condition exercises the greatest influence over the powers of digestion. This apparatus is intimately connected, and a natural state of each of its parts, and a due exercise of the function of each, are essential to the healthy, undisturbed performance of digestion. This connexion is maintained through the ganglionic system of nerves, which not only unites these organs together, but combines them with all their congeries, appropriated to the perfect elaboration of the nutritive and sustaining principles of the economy. The stomach is the centre of the digestive apparatus, and may be regarded in nearly the same view, for the whole of the organs connected with individual nutrition. It owes

this character to its intimate union with the great solar plexus, the centre or brain, if it may be so termed, of the ganglionic system, regulating the nutritive functions. It is also immediately associated with the brain, through the medium of the eighth pair or pneumo-gastric nerves, and thus is placed in relation with the exercise of the moral and intellectual faculties. The stomach is consequently exposed to be disordered in its functions by violent impressions from these faculties, as they are also liable to be affected by the disordered conditions of the stomach. It is necessary to have these diversified connexions pointed out, to possess a clear understanding of the numerous and very different sources from which disturbances reach the process of digestion. A few words will now be necessary as to digestion itself. It is not all substances that are fitted for aliment, and are susceptible of digestion. Food is intended for the renovation of the body. It must consist of the same elements as the animal structure, and be capable of becoming organized and living. It must then contain, at least, three elementary animal principles—hydrogen, carbon and oxygen; and much of it contains, also, a fourth—azote. These elements form secondary compounds, in which state alone they constitute aliment: such are albumen, fibrin, gelatin, osmazome, oil, engan, farina, mucilage, and other animal and vegetable compounds. In all these substances, the molecules are easily separable without being chemically decomposed, which is one of the primary requisites of digestibility, and to effect which is the chief object of digestion. The masticated and insalivated food passes into the stomach. Here it is macerated in the saliva collected in the stomach, and in the proper liquid secreted by the villi of the gastric mucous membrane, at a temperature of 104° Fahr. This liquor is called *gastric juice*. Its true nature is not accurately determined, but, as far as examination has ascertained, it resembles saliva mixed with a small portion of lactic or muriatic acid. The stomach, in a healthy state, always contracts on its contents, so that its parietes, in digestion, are always in contact with the food. During digestion, the stomach has a constant vermicular motion, its muscular fibres contracting, successively, from the smaller to the larger end. The food is thus agitated, acquires a rotatory movement, and is mingled with the fluids of the stomach. In a short time, the change accomplished in the stomach commences; it becomes

pulpy, and then reduced to a semifluid of a light, grayish color. From the uniform pressure of the stomach, the solid and most resisting portions are forced into the centre, while the digested and more fluid matter is found on the surface, and is gradually carried, by the contraction of the muscular fibres, into the duodenum. W. Philips and others have been led to suppose, from this circumstance, that the food in contact with the parietes of the stomach was alone digested; but it is a mere physical result, as uniform pressure in every direction, on a mass of different consistency, will always drive the most fluid to the circumference. The pulpy, grayish substance resulting from the stomachic digestion is called *chyme*. (q.v.) When examined with the microscope, the writer of this article has always found it to consist of an immense number of transparent globules, of various sizes, intermixed with undissolved fragments of the fibres of the alimentary substance. When food is masticated, and macerated for a few hours in simple saliva, he has found it to present exactly the same appearances as the chyme of the stomach. *The digestion of the stomach, he infers from his experiments, is not a decomposition of the alimentary matter, but is a simple disintegration or reduction of it into its component molecules, the animal character remaining unchanged.* The chyme, having passed into the duodenum, meets with the pancreatic liquor and the bile. What are the positive changes induced by these fluids, certainly is not accurately known. The acids of the chymous mass are neutralized by the alkaline principles of the bile, the picromel and coloring matter of which appear to coalesce with the unassimilable principles of the food, and assist in their conversion into *faeces*. A chemical modification in some of the alimentary elements may also be effected. It is certain that chyle, or the nutritive principles of which blood is formed, does not appear in the lacteals until after the action of the bile and pancreatic fluid on the chyme, the product of the stomachic digestion. The action of the stomach on the food is that usually designated as *digestion*, and it is the derangement of this process that is usually expressed by the term *dyspepsia*. The process accomplished in the duodenum is also a true digestion, and the symptoms arising from its disordered state are confounded with those of the stomachic digestion, in the general accounts of dyspepsia. From this sketch of the function of digestion, it is evident,

that its most important agents are, 1st, the secreted fluids collected in the stomach; 2d, the contractile movements of the stomach, keeping the alimentary mass in constant agitation, mixing it with the fluids as they are secreted, and removing the portion digested or reduced into chyme; 3d, the application of the biliary and pancreatic fluids to the chyme in the duodenum; and, 4th, the contractile movements of this viscus. Most of the derangements of the digestive functions may be traced immediately to a departure from a natural state of some one or more of the above requisites of digestion. But this deviation from the natural order is, itself, an effect. The secretions are products of organs, and all excitement of the secretory organ, beyond the range of healthy action, causes vitiation of the secretion, or its total suspension. The action of the organ, diminished below the physiological range, is attended with other vitiations of the fluid, or the cessation of its secretion. Indigestion or dyspepsia is a consequence of both these conditions of the organs furnishing the fluids of digestion. Digestion is a very stimulating process. All functional actions are exciting. The increased demand for secreted fluids renders an augmented action, and increase of blood in the furnishing organ, necessary for their production. The presence of the food, drinks, &c., in the stomach, add to the stimulation of digestion. If the stomach of an animal be examined in the act of digestion, the mucous membrane is found of a diffused scarlet color. The movements of the stomach essential to digestion depend on its nervous communications, and especially on the integrity of the eighth pair of nerves. When these are divided, the stomach and oesophagus are paralysed; the food is no longer agitated and mixed up with the digestive fluids, and it often regurgitates from the stomach into the oesophagus. This experiment proves the influence of the contractile motion of the stomach in the act of digestion. The ganglionic nerves are not less important, though their specific influence cannot as readily be determined. But in many cases of disease of these ganglions, vomiting, eructations, pain in the gastric region, and impaired digestion, are accompanying symptoms. Through the nervous system, the function of digestion is exposed to numerous disorders from moral impressions, especially those of an agitating character. From the preceding principles, it is evident that dyspepsia or indigestion is

not, properly speaking, a disease, but rather a symptom, attached to diseases of the apparatus of digestion, of very various and even opposite character. No specific treatment can, therefore, be laid down for the cure of dyspepsia, but each case requires to be managed according to its peculiar cause and nature. The organ of the digestive apparatus the most frequently productive of dyspeptic symptoms is the stomach, and the most usual cause of dyspepsia is its irritation and inflammation. The stomach is more liable than any other organ to these states, from its direct exposure to so many irritating aggressions, and its intimate sympathetic communications, which make it participate in the irritations of almost every other organ. The sub-acute and chronic forms of gastric irritation and inflammation, the signs of which have only of late been fully appreciated, are the disorders that, in seven or eight cases out of ten, are termed *dyspepsia*. Hence dyspepsia so frequently succeeds to febrile diseases, especially when treated by emetics, drastics, and the improper use of tonics and stimulants, which, although the patient escapes the fever, leave him a martyr to the chronic, disorganizing and perturbing irritations of the gastric mucous membrane. Hence, too, dyspepsia almost inevitably follows continued abuse of the digestive functions, from too highly seasoned or too abundant food, and stimulant drinks. The constant stimulation of the stomach finally becomes pathological or morbid. The simple prolongation of the functional excitement essential to digestion, continued from meal to meal, without permitting the stomach to revert to a state of repose, is sufficient to constitute a morbid state. All functions, for their perfect performance, require alternate periods of repose and activity. Incessant action irritates, inflames, and finally disorganizes the structure of the organs. A second condition of the stomach, productive of dyspepsia, is the congestion of its mucous tissue. This may be confined to the stomach alone, succeeding to an attack of acute gastritis, or following on its protracted irritation; or it may be an attendant on a general congestion of the whole portal system involving most of the abdominal viscera. Every irritation is attended with an afflux of the circulating fluids into the structure where it is seated, proportioned to its intensity and the vascularity of the structure. This gorged state often continues after the subsidence of the irritation that provoked it, and pre-

vents the resumption of the healthy functions. It is a state of passive congestion, and often exists in the mucous membrane of the stomach, after attacks of inflammation or acute irritation, and embarrasses its digestive operations. In all the extensive irritations of the alimentary canal, especially when attended with fever, having a paroxysmal character, the great portal system of the abdomen becomes loaded with blood, and congestion of its radical vessels ensues. The functions of the viscera are then disordered, the secretions are defective, and indigestion, costiveness, and their attendant nervous affections, are the necessary consequences of this condition. A third state of the stomach, a cause of dyspeptic symptoms, is precisely the reverse of the preceding. Asthenia, or diminution of vitality and actions below the healthy degree, occasionally takes possession of the stomach. Its circulation is then deficient, its secreted fluids are defective in quantity or quality, its sensibility is impaired, and digestion is imperfect. It is not probable that gastric asthenia is ever primitive. It succeeds to previous irritation, and is often occasioned by irritation in other organs.—The preceding form a first class of dyspeptic diseases, which, depending entirely on the stomach, may be termed *gastric dyspepsia*. They present characters totally different, and require a very opposite treatment. This class embraces three species.

A second class of dyspeptic diseases is connected with the duodenum and its functions. This viscus, similarly constituted to the stomach, is subject to the same morbid alterations. Its mucous membrane is the seat of irritation, in its various grades, and productive of its usual consequences—augmented irritability, sensibility, perversion of secretions, vitiation of structure, and disorder of function. Duodenic irritation most commonly accompanies gastric irritation, and the symptoms of the two are blended together. It exists, however, in many instances, independently, and then manifests particular symptoms, which are often termed *dyspepsia*. It is, more especially, the chronic irritation of the duodenum, that passes for dyspepsia. It is not probable, that congestion, or asthenia, ever affect the duodenum exclusively to the detriment of its function. When these states prevail, it is in conjunction with similar conditions of the whole digestive apparatus. At least, we have no knowledge of these states limited to the duodenum.

A third class of dyspeptic diseases de-

pend on the nervous organs, which furnish nerves to the digestive viscera. The ganglionic system of nerves, distributed on each side of the spine, from the head to the pelvis, transmits nerves to all the organs connected with the nutritive function. The stomach, especially, is largely supplied from the solar plexus, and it receives, likewise, numerous nervous filaments from the pneumo-gastric, placing it in connexion with the functions of relation. The offices of the ganglionic system are not ascertained with precision. It is, however, well determined, that diseases of the ganglions disorder the functions of the viscera to which they transmit nerves. Hence arises an order of dyspeptic symptoms, independent of any immediate affection of the stomach, but occasioned by disease in the great solar, or other neighboring plexus. The disorders of the digestive functions, from this cause, are various. The sensibility of the stomach is sometimes greatly increased, constituting gastralgia. At other times, the secreted fluids of the stomach are morbidly acid. The stomach appears, in other cases, to be partially paralysed, and the peristaltic movements necessary for the admixture of the food, and the gastric fluids, and the continuous passage of the chyme into the duodenum, are suspended. At the same time, considerable quantities of flatus collect in and distend the stomach, preventing its action on the food. Mechanical manipulation of the abdomen, and particularly of the epigastrium, after a meal, becomes a substitute for the natural motion of the stomach, expels the wind, and facilitates digestion, that would otherwise be laborious and painful.—Dyspepsia or indigestion, from this analysis of its modes of production, is seen not to be a disease of uniform character, and depending on an identical state of the digestive organs. It is attached, as a symptom, rather, to a variety of conditions, each of which requires to be managed in its appropriate mode. It is not possible that it can be remedied by any one general mode of treatment, or by any set of specific remedies. The most common causes of dyspepsia are excesses of various kinds, especially in the quantity of food eaten. Most individuals, in this

country, err in this respect. Meat at three meals, daily, can be borne only by the most robust frames, and by hard laborers. Persons of a sedentary life require less nutriment; the economy makes less demand on the stomach for supplies; and if it be compelled then to labor, it is at its own loss. Exercise, or the expenditure of the nutritive elements by the economy, and the quantity of food to be digested, must be proportioned to each other, for the preservation of health and the due vigor of digestion. This fundamental principle is laid down in an axiom by Hippocrates—*Homo edens sanus esse non potest, nisi etiam laborat.*—DE DIÆTA, Lib. I. Good cookery, by rendering food more digestible, is one preservative against dyspepsia. The food, by being rendered tender and pulpy, is reduced to chyme in a shorter period, with a smaller expenditure of the secreted fluids, and less excitement of the stomach, than when it is not properly concocted. The art of long and healthful living will depend on a perfect system of cooking, and a rational mode of eating. The powers of the stomach differ, in individuals, as much as the force of their muscles; and each one must adopt a mode of nutrition, both as to quantity and quality of food, suitable to the wants of his economy and the digestive capacity of his stomach. The quality of food is a frequent cause of dyspepsia. Tough and badly dressed meats, and crude vegetables, are among the prominent causes of this affliction, as are also hot bread and cakes, heavy and fresh bread, and the daily use of hot coffee for breakfast. In enumerating the more common causes of dyspeptic symptoms, we ought not to omit the frequent exacerbations of the malevolent passions, as anger, hatred, envy, jealousy, and, what is not often suspected, excessive indulgence and abuses of the venereal propensity. Another fruitful source of the digestive disorders is found in the employment of emetics, and in a frequent resort to saline or drastic cathartic medicines. When a constipated habit prevails, it should always be overcome, if possible, by a laxative regimen, and the aids of purgatives be cautiously and rarely invoked.

E.

E; the second vowel and the fifth letter of the English alphabet. The sound *e* (as in *bench*, or long, as in the French *père*) in the early stages of all languages, often passes into *i* (as in *liver*, or the Italian *i*), into *a* (as in *father*), and into *o*. But of the languages of modern civilized nations, since their orthography has been settled, the English gives to the letter *e* the most different sounds; as that of the German short *e*, for instance, in *bet*; that of the German *i*, as in *revere*, *he*, *me*; that of the German *a*, in *clerk* (pronounced *clark*), *sergeant* (pronounced *sargeant*; at least, this mode of pronouncing exists in England); that of *u*, as in *voler*, *murder*. We find similar sounds of *e* in different dialects of Germany; for instance, in the dialect of Silesia, where spoken most broadly, *Seele* (soul) is pronounced as an Englishman would pronounce it, whilst the true German pronunciation of the word is as if it were written *Sa-le*. In Latin, we also find *here* for *heri*, *Vergilius* for *Virgilius*, *Deana* for *Diana*; and, in old Italian, *desiderio* and *disiderio*, *peggiore* and *piggioro*. In French, *e* is pronounced in three different ways—the *è ouvert*, *é fermé* and *e muet*—all three in the word *fermé*. In German, there are four different ways of pronouncing the letter *e*; 1. merely as an aspiration, or very short indeed, as in *hatte* or *hoffen*; 2. short, like the English *e* in *bet*, *met*, as in *recht*, *rennen*; 3. long, like the English *a* in *fate*, as in *reden*, *predigen*; and like the French *è ouvert*, or like the German *ä* or *æ*, as in *Elend*, although little distinction is generally made between the two latter. Some provinces generally pronounce both like the latter; others pronounce them like the former, or like *a* in *fate*. The letter *e* may be called an intruder into the German language, because it has taken the place formerly occupied by full and melodious vowels, and it occurs too often. The Greeks, it is well known, had two characters—*ε*, or *epsilon*, and *η*, or *eta*, the latter corresponding to the French *è ouvert*, if it was not pronounced, as in modern Greek, like the

Italian *i*. **E**, in the Greek numeration, signified five. Many dictionaries state, that **E** was used by the ancients for 250, according to the verse—

E quoque ducentos et quinquaginta tenebit;

but this was only in late and barbarous times. **E**, as an abbreviation, stands, in English, for *east*. On ancient medals, it stands for the names of cities which begin with this letter; for *exercitus*, *effigies*, *edictum*, or for *ετος*, the year, *ελευθερια*, liberty, &c. The letter **E**, on modern French coins, signifies the mint of *Tours*; on Prussian, the mint of *Königsberg*; on Austrian, that of *Karlsburg*. (See *Abbreviations*.)

EAGLE; a coin. (See *Coins*.)

EAGLE (*falco*). This well known bird belongs to the genus *falco*, which has been much subdivided by modern ornithologists. In the present article, those species only will be noticed which belong to the subgenera of *aquila* and *haliaetus*. The eagle has been elevated, by the popular voice, to the rank of the noblest and most courageous of the rapacious birds. Its natural fierceness is so great, that it has seldom been employed for the purposes of the chase, as it can never be rendered sufficiently tractable to obey its keeper. The eagle soars to a greater height than any other bird, from which circumstance the ancients considered it as the messenger of Jove, "*Fulvum aquilam Jovis nuntiam*." Its sense of sight is exquisite. It lives for a great length of time, even in the captive state. Mr. Pennant mentions one in the possession of a gentleman, which he had kept for nine years, and the person from whom he had received it, thirty-two. The principal species are, 1. the *falco imperialis* (Bechst), or imperial eagle. This species is the largest known. It is distinguished by a large white spot on the scapulars, transverse nostrils, black tail, marked with gray on its superior portion. The female is fawn-colored, with brown spots. It is stouter than the common eagle. It inhabits the high mountains of the middle of Europe; and to this species may be refer-

red all the accounts of the ancients respecting the strength, courage and magnanimity of these birds. 2. *Falco chrysatos* (golden eagle). This fine bird measures, from the point of the bill to the extremity of the toes, upwards of three feet, and, from tip to tip, above six, weighing from 12 to 18 pounds. The male is smaller than the female. The bill is of a deep blue color, the cere yellow, the eyes are large, deep sunk, and covered by a projecting brow; the iris is of a fine bright yellow, and sparkles with uncommon lustre. The general color is a deep brown mixed with tawny on the head and neck; the quills are chocolate, with white shafts; the tail is black, spotted with ash color, the legs are yellow, the toes very scaly, and the claws remarkably large. It occurs in various parts of Europe and of North America; in the latter, however, it is rare. 3. *F. fulvus* (common or ring-tailed eagle) is said to be the young of this bird. The same nests are made use of by eagles for a succession of years. These nests are, in fact, of great bulk, and of such durable materials as to be almost indestructible. They are built in dry and inaccessible situations, of large twigs, lined with several layers of reeds or brambles; of a flat form, several feet in breadth, and of such strength as to support not only the eagle and her young, but likewise the large quantity of food she provides for them. This is so great, that it is related by Smith, in his history of Kerry, that a peasant procured a comfortable subsistence for his family, during a summer of famine, by robbing the eaglets of the food provided for them by the old birds. In the middle of this aerie, the female deposits two or three eggs, and sits on them about thirty days. The plumage of the eaglets is not as dark as it becomes when they arrive at the adult state; but age, famine and captivity gradually diminish their natural colors, and give them a faded appearance. 4. White-tailed eagle (*F. albicilla*). This bird, which is only found in the old continent, is inferior in size to the golden eagle. It inhabits far north, and is extremely ferocious; feeds principally upon fish, and usually lays two or three eggs, building its nest upon lofty trees. It is distinguished by its black bill and claws, and white tail. 5. The sea-eagle of Europe (*F. ossifragus*) is the young of this species, whilst the bird on which Wilson has bestowed the same denomination in this country, is the young of the bald eagle. 6. Great eagle of Guiana (*F. harpyia*). This bird belongs to the sub-genus *harpyia*

of Cuvier, and is furnished with a terrible beak and claws. Its size is larger than that of the common eagle; its plumage is ash-colored on the head and neck, blackish-brown on the breast and sides, whitish beneath, rayed with brown on the thighs. It has long plumes, which form a black tuft on the back of the head, and can be raised, giving it somewhat the physiognomy of an owl. This bird is said to be so powerful as to have destroyed men by a blow of its beak. Its usual food is the sloth, though it sometimes carries off fawns. There can be no doubt but that this species is the *yzquautzli* of Hernandez, though this author is guilty of great exaggeration when he says it is as large as a sheep. 7. Bald eagle (*F. leucocephalus*). The bald eagle is the most distinguished of the North American species, not only from his beauty, but also as the adopted emblem of our country. This bird has been known to naturalists for a long time, and is common to both continents, chiefly frequenting the neighborhood of the sea, and the shores and cliffs of lakes and large rivers. He is found during the whole year in the countries he inhabits, preferring the spots we have mentioned from his great partiality for fish. The following poetic description of one of his modes of obtaining his prey is given by Wilson: "Elevated upon a high, dead limb of some gigantic tree, that commands a wide view of the neighboring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below—the snow-white gulls, slowly winnowing the air; the busy *tringæ*, coursing along the sands; trains of ducks, streaming over the surface; silent and watchful cranes, intent and wading; clamorous crows, and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one, whose action instantly arrests all his attention. He knows him to be the fish-hawk, settling over some devoted victim of the deep. His eye kindles at the sight, and, balancing himself with half-opened wings on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of its wings reaching the ear as it disappears in the deep, making the surges foam around. At this moment, the eager looks of the eagle are all ardor, and, leveling his neck for flight, he sees the fish-hawk once more emerging, struggling with his prey, and mounting in the air with screams of exultation. These are a signal

for our hero, who, launching into the air, instantly gives chase; soon gains on the fish-hawk; each exerts his utmost to mount above the other, displaying, in the rencounter, the most elegant and sublime aerial evolutions. The unincumbered eagle rapidly advances, and is just on the point of reaching his opponent, when, with a sudden scream, probably of despair and honest execration, the latter drops his fish; the eagle, poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp, ere it reaches the water, and bears it silently away to the woods." The bald eagle also destroys quadrupeds, as lambs, pigs, &c.; and there are well authenticated instances of its attempting to carry off children. When this bird has fasted for some time, its appetite is extremely voracious and indiscriminate. Even the most putrid carrion, when nothing better can be had, is acceptable. In hard times, when food is very scarce, the eagle will attack the vulture, make it disgorge the food it has swallowed, and seize this disgusting matter before it can reach the ground. The nest of this species is usually found in a lofty tree, in a swamp or morass. It is large, and, being increased and repaired every season, becomes of great size. It is formed of large sticks, sods, hay, moss, &c. Few birds provide more abundantly for their young than the bald eagle. Fish are daily carried to the nest in such numbers, that they sometimes lie scattered round the tree, and the putrid smell of the nest may be distinguished at the distance of several hundred yards. The eagle is said to live to a great age—60, 80, or even 100 years.—In poetry and the fine arts, the eagle plays a very important part. As king of birds, the eagle was the bird of Jove, the carrier of the lightning, and thereby expressive of sole or supreme dominion. In this sense, he is used as the emblem and symbol of nations, princes and armies. He was the hieroglyphic sign of the cities Heliopolis, Emesus, Antioch and Tyre. Among the attributes of royalty, which the Tuscans once sent to the Romans, as a token of amity, was a sceptre with an eagle of ivory; and from that time the eagle remained one of the principal emblems of the republic, and was retained also by the emperors. As the standard of an army, the eagle was first used by the Persians. Among the Romans, they were at first of wood, then of silver, with thunderbolts of gold, and, under Cæsar and his success-

ors, entirely of gold, without thunderbolts. For a long time, they were carried, as the standards of the legions, on a long pike, and revered as their peculiar deities. Napoleon chose the Roman eagle as his banner. It was of metal, gilt, and elevated on a long staff; but the royal army in France no longer retains this standard. The double-headed eagle was first found among the emperors of the East, who thereby expressed their claims to the Eastern and Western empires. It was afterwards adopted by the Western emperors. The German emperor Otho IV had it first on his seal. King Philip afterwards made it the impress on his coins. Austria received this emblem from the inheritance of the East. The eagle was also adopted by the kings of Prussia, Poland, Sicily, Spain, Sardinia, by the emperors of Russia, by many princes, counts and barons of the German empire, and by the U. States of America. Napoleon's eagle was seated, with his wings folded, like that of the Romans. The eagle of the U. States stands with outspread wings, guarding the shield below him, on which are the stripes and stars representing the states of the Union, and the motto *E pluribus unum*.—The eagle is also the badge of several orders, as the black eagle and the red eagle of Prussia, the white eagle of Poland, &c.

EAHEINOMAUWE; a large island in the South Pacific ocean, and the most northern of the two constituting New Zealand, extending from lat. $34^{\circ} 30'$ to $41^{\circ} 30'$ S. Its form is irregular. From lat. $37^{\circ} 30'$ to $39^{\circ} 40'$ S., the breadth is from 150 to 180 miles; afterwards it decreases gradually to 30 miles, the distance from cape Tierawitte to cape Palliser, its most southern point.

EAR (*auris*). The ear is the organ of hearing. It is situated at the side of the head, and is divided into external and internal ear. The *auricula*, or *pinna*, commonly called the *ear*, constitutes the external part. It is of a greater or less size, according to the individual. The *pinna* is formed of a fibrous cartilage, elastic and pliant: the skin which covers it is thin and dry. There are also seen, upon the different projections of the cartilaginous ear, certain muscular fibres, to which the name of *muscles* has been given. The *pinna*, receiving many vessels and nerves, is very sensible, and easily becomes red. It is fixed to the head by the cellular tissue, and by muscles, which are called, according to their position, *anterior*, *superior* and *posterior*. These muscles are

much developed in many animals: in man, they may be considered as simple vestiges. The *meatus auditorius*, or auditory passage, extends from the concha to the membrane of the tympanum; its length, variable according to age, is from 10 to 12 lines in the adult; it is narrower in the middle than at the ends; it presents a slight curve above and in front. Its external orifice is commonly covered with hairs, like the entrance to the other cavities. The middle ear comprehends the cavity of the tympanum, the little bones which are contained in this cavity, the mastoid cells, the Eustachian tube, &c. The tympanum is a cavity which separates the external from the internal ear. Its form is that of a portion of a cylinder, but a little irregular. The external side presents the *membrana tympani*. This membrane is directed obliquely downward and inward: it is bent, very slender and transparent, covered on the outside by a continuation of the skin; on the inside, by the narrow membrane which covers the tympanum. Its tissue is dry, brittle, and has nothing analogous in the animal economy; there are neither fibres, vessels nor nerves found in it. The cavity of the tympanum, and all the canals which end there, are covered with a very slender mucous membrane: this cavity, which is always full of air, contains, besides, four small bones (the *malleus*, *incus*, *os orbiculare*, and *stapes*), which form a chain from the *membrana tympani* to the *fenestra ovalis*, where the base of the *stapes* is fixed. There are some little muscles for the purpose of moving this osseous chain, of stretching and slackening the membranes to which it is attached: thus the internal muscle of the *malleus* draws it forward, bends the chain in this direction, and stretches the membranes; the anterior muscle produces the contrary effect: it is also supposed that the small muscle which is placed in the pyramid, and which is attached to the neck of the *stapes*, may give a slight tension to the chain, in drawing it towards itself. The internal ear, or labyrinth, is composed of the cochlea, of the semicircular canals, and of the vestibule. The *cochlea* is a bony cavity, in form of a spiral, from which it has taken its name. This cavity is divided into two others, which are distinguished into external and internal. The partition which separates them is a plate set edgewise, and which, in its whole length, is partly bony and partly membranous. The semicircular canals are three cylindrical cavities, bent in a semi-

circular form, two of which are disposed horizontally, and the others vertically. These canals terminate by their extremities in the vestibule. They contain bodies of a gray color, the extremities of which are terminated by swellings. The vestibule is the central cavity, the point of union of all the others. It communicates with the tympanum, the cochlea, the semicircular canals, and the internal *meatus auditorius*, by a great number of little openings. The cavities of the internal ear are entirely hollowed out of the hardest part of the temporal bone: they are covered with an extremely thin membrane, and are full of a very thin and limpid fluid: they contain, besides, the acoustic nerve. The internal ear and middle ear are traversed by several nervous threads, the presence of which is, perhaps, useful to hearing.

EAR-TRUMPETS; instruments used by persons partially deaf, to strengthen the sensation of sound. They are of various forms, and are intended to compensate for the want of the external ear, or to augment its power when the internal organs perform their functions but imperfectly. The purpose of the external ear, both in men and beasts, is to collect, by its funnel form, all the rays of sound (if we may be allowed the expression), and conduct them to the internal organs, the seat of the sense of hearing. All the artificial instruments, then, ought to resemble, in form, the natural ear. In ancient times, they were made like a trumpet, of moderate size, and usually provided with handles, by which they might be held up to the ear. They were so fitted that the smaller aperture entered the ear, and the wider was directed to the quarter from which the sound was to proceed. But these instruments were soon found inconvenient, both on account of their size and the necessity of continually holding them to the ear. Another objection was, that they did not sufficiently conceal the defect they were designed to remedy, and therefore they were soon thrown aside. New instruments were made without these defects. One resembles a small silver funnel, with a long winding channel in its interior, which terminates at the beginning of the auditory passage. On the broad, bent rim there are holes, with ribbons passing through them, to fix the machine to the external ear. A second form consists of a lathered tin tube, with numerous windings, having the narrow end communicating with the auditory passage, and the exterior, wider end made fast to the

external ear. In the same way, two of these instruments might be connected by an elastic hoop, and fitted, at the same time, to both ears. A third instrument consists of a sort of hollow tin case, curving so as to fit the head, having a broad aperture in the middle of the front surface, and terminated by two tubes bent inwards. This hoop is so fixed under the hair, that the aperture in the middle is exactly over the upper part of the forehead, and the lateral tubes communicate with the right and left auditory passages. The great advantage of this last instrument is, that it receives directly sounds which come from before.

EARL ; a degree of the English nobility, between marquis and viscount. (For the origin of the title and the dignity, see *Alderman*.) In Latin, the earls are called *comites*, corresponding to the count or *Graf* of the European continent. (See *Count*.) It is now become a mere title, the official authority which the earls formerly possessed in the counties having devolved entirely on the sheriffs (in Latin, *vice-comites*). In official instruments, they are called, by the king, *trusty and well beloved cousins*—an appellation as ancient as the reign of Henry IV, who, being, either by his wife, mother or sisters, actually related or allied to every earl in the kingdom, artfully acknowledged this connexion in all his letters and other public acts. An earl's coronet is composed of eight pearls, raised upon points, with small leaves between, above the rim. There are, at present, 105 earls in England, 5 in Scotland, and 19 in Ireland. As the earls, for some time after the Norman conquest, were called *counts*, their wives are still called *countesses*.

EARL MARSHAL OF ENGLAND ; a great officer, who had, anciently, several courts under his jurisdiction, as the court of chivalry and the court of honor. Under him is also the herald's office, or college of arms. He has some preëminence in the court of Marshalsea, where he may sit in judgment against those who offend within the verge of the king's court.

EARLOM, Richard, a mezzotinto engraver, was born in London, and was the son of the vestry-clerk of the parish of St. Sepulchre. His taste for design is said to have been excited by the inspection of the ornaments on the state-coach of the lord-mayor, which had been painted by Cipriani. About 1765, he was employed by alderman Boydell to make drawings from the celebrated collection of pictures at Houghton, most of which he afterwards admirably engraved in mezzotinto. In

this branch of art he had been his own instructor, and he introduced into the practice of it improvements and instruments not previously used. The fruit and flower-pieces executed by Earlom, after Van Huysum, established his fame. In history, he distinguished himself by his engraving of Agrippina, from the grand picture by West. He also engraved some Oriental scenes, from paintings by Zoffani, and published two volumes of plates from the *Liber Veritatis* or sketch book of Claude. He died Oct. 9, 1822, aged 79.

EARNEST ; a part of the price paid in advance, to bind parties to the performance of a verbal agreement. The party is then obliged to abide by his bargain, and is not discharged upon forfeiting his earnest, but may be sued for the whole money stipulated, and damages. No contract for the sale of goods not to be delivered immediately, to the value of £10 or more, is valid, unless a written contract is made by the parties, or those lawfully authorized by them, or earnest is given.

EARTH ; the name of the planet which we inhabit. We may view it in regard to its physical, mathematical and political condition. (See *Geography*.) First, as to the form of the earth: to an observer whose view is not obstructed, it presents itself as a circular plain, on the circumference of which the heavens appear to rest. Accordingly, in remote antiquity, the earth was regarded as a flat, circular body, floating on the water. But the great distances which men were able to travel soon refuted this limited idea as an optical illusion; and, even in antiquity, the spherical form of the earth began to be suspected. On this supposition alone can all the phenomena relating to it be explained. A sphere of so great a magnitude as our earth, surrounded by a stratum of air, or the visible firmament, must present to the eye of an observer, on a plain, the appearance just described. But how could the earth appear, from every possible position, as a surface bounded by the firmament, if it were not a sphere encircled by it? How else could the horizon grow wider and wider, the higher the position we choose? How else can the fact be explained, that we see the tops of towers and of mountains, at a distance, before the bases become visible? But besides these proofs of the sphericity of the earth, there are many others, such as its circular shadow on the moon during an eclipse, the gradual appearance and disappearance of the sun, the inequality of day and night, the changes in the posi-

tion and course of the stars, and the gradual disappearance of some and appearance of others, as we go from the equator to the poles. Finally, if the earth were not spherical, it would be impossible to sail round it, which is frequently done. The cause of the earth's sphericity is very evident, if we consider it as having been, at first, a yielding mass, capable of assuming any form: then, by the force of gravity, every particle contained in it tending towards the common centre, the globular form is the necessary consequence. As to the objection to the sphericity of the earth, drawn by weak and ignorant people, from the imagination that our antipodes (q. v.) would fall from its surface, and many similar ones, they will appear to have no force whatever, when we consider that, in a globe of the magnitude of the earth, every thing on the surface tends to the centre, and that, if we speak of what is above and below, the whole surface of the earth is below, and the surrounding atmosphere above. The earth is not, however, an exact sphere, but is flattened at the poles. Philosophers were first led to observe this by the variation in the vibrations of the pendulum under the equator and near the poles. It was found that the pendulum performed its vibrations slower the nearer it approached the equator, and hence was inferred the variableness of the force of gravity. This was easily explained on the theory just mentioned, because, the circle of daily revolution being greatest at the equator, all bodies revolve proportionally faster there than at the poles, so that the centrifugal force is greater, and the force of gravity less, than at other parts of the earth's surface; and because, at the equator, the centrifugal force is exactly opposed to that of gravity, but towards the poles, being oblique to it, produces less effect. From these observations it was justly inferred, that the earth is a sphere flattened at the poles, or a spheroid; and this form was satisfactorily accounted for by the fact that the particles of a yielding mass, which revolves on its own axis, depart from the poles and tend to the centre, by which the poles are, of course, flattened, and the middle elevated. Various measurements have put this beyond all doubt. (See *Maupertuis*, and *Condamine*, and *Degree, Measurement of*.) Another important desideratum for a more intimate acquaintance with the earth was, to fix its magnitude. The labors of the ancients, in this respect, were all fruitless, owing to their

want of suitable instruments. Accurate results were first obtained in the year 1615. Willibrord Snellius, a Dutchman, first struck into the only true way, and measured an arc of a meridian from Alcazar to Leyden and Bergen op Zoom, by means of triangles. After him, the measurements of Picard, and the later ones of Maupertuis, approximated nearer the truth. These made the circumference of a great circle of the earth 25,000 miles. But it is to be remarked that, in this calculation, the earth is regarded as a perfect sphere. Further measurements of all parts of the surface of the earth will be necessary to find, rigidly and accurately, the true magnitude of it. (See *Account of Experiments, to determine the Figure of the Earth, by Means of the Pendulum, &c.*, by Captain Ed. Sabine (London, 1825, 4to.), under the direction of the board of longitude.) If we take a view of our earth in its relation to the solar system, astronomy teaches us that, contrary to appearances, which make the sun revolve about the earth, the earth and ten other planets revolve about the sun, and, being themselves opaque bodies, receive from the sun light and heat. The earth completes its revolution round the sun in about 365 days and 6 hours, which forms our common year. The orbit of the earth is an ellipse, with the sun in one of its foci. Hence the earth is not equally distant from the sun in all parts of the year: its least distance is estimated at 93,336,000 miles, and its greatest, at 95,484,572, making a difference of more than 2,000,000 of miles. In winter, we are nearest the sun, and in summer, farthest from it; for the difference in the seasons is not occasioned by the greater or less distance of the earth from the sun, but by the more or less oblique direction of the sun's rays. The length of the path travelled over by the earth is estimated at 567,019,740 miles, and, as this immense distance is passed over in a year, the earth must move 17 miles a second—a rapidity so far exceeding our conceptions, that it gave very just occasion to the pleasant remark of Lichtenberg, that, while one man salutes another in the street, he goes many miles bareheaded without catching cold. Besides this annual motion about the sun, the earth has also a daily motion about its own axis (according to mean time, in 23 hours, 56 minutes and 4 seconds). This diurnal revolution is the occasion of the alternation of day and night. But as the axis on which the earth performs its diurnal rotation forms,

with its path about the sun, an angle of $23\frac{1}{2}$ degrees, the sun ascends, from March 21 to June 21, about $23\frac{1}{2}$ degrees above the equator towards the north pole, and descends again towards the equator from June 21 to September 23; it then sinks till December 21, about $23\frac{1}{2}$ degrees below the equator, towards the south pole, and returns again to the equator by March 21. This arrangement is the cause of the seasons, and the inequality of day and night attending them, which, for all countries lying beyond the equator, are equal only twice in the year, when the ecliptic coincides with the equator. The moon, again, revolves about the earth, in a similar elliptical path, in 28 days and 14 hours. Copernicus first laid down this as the system of the universe.—To the physical knowledge of the earth belongs, especially, the consideration of its surface and its interior. The earth's surface contains over 196,000,000 square miles, of which scarcely a third part is dry land; the remaining two thirds are water. Of the surface of the earth, Europe comprises about one 54th part; Asia, one 14th; Africa, a 17th; and America, a 16th. The islands of the Pacific, taken together, are somewhat larger than Europe. The population of the whole earth is estimated at from 800 to 1000 millions. The interior of the earth is entirely unknown to us, as the depth to which we have been able to penetrate is nothing in comparison with its diameter. Many modern speculators are of opinion that the interior is composed of a metallic mass. Respecting the origin and gradual formation of the earth, there are various hypotheses. (See *Geology*; see also *Day, Cycle, Degree, &c.*; and *Mountain, Volcano, Earthquake, Current, &c.*)

Earth, Motion of the. The earth has two motions, the daily motion round its axis, and the yearly motion in its orbit round the sun. The theory of the motion of the earth has become memorable in the history of the human mind, showing, as it does, a marked ability in man to resist the impressions produced by appearances, and to believe the contrary of that which had been believed and taught for many centuries. The theory of Copernicus not only founded the modern system of astronomy, but made men eager to examine other articles of their creed, after they were thus convinced that they had erroneously taught and believed the earth to be stationary for 6000 years. All the opinions of the ancients respecting the motion of the earth were speculative hypotheses, arising from the Pythagorean

school, which, as we know, considered fire the centre of the world, round which all was moving. Thus we ought to explain the passage of Aristarchus of Samos, mentioned by Aristotle in his *Arenario*. Aristarchus, as a Pythagorean, held the idea, that the earth revolves round its axis, and, at the same time, in an oblique circle round the sun; and that the distance of the stars is so great, that this circle is but a point in comparison with their orbits, and therefore the motion of the earth produces no apparent motion in them. Every Pythagorean might have entertained this idea, who considered the sun or fire as the centre of the world, and who was, at the same time, so correct a thinker, and so good an astronomer, as Aristarchus of Samos. But this was not the Copernican system of the world. It was the motions of the planets, their stations and their retrogradations, which astronomers could not explain, and which led them to the complicated motions of the epicycles, in which the planets moved in cycloids round the earth. Aristarchus lived 280 B. C., Hipparchus, the great astronomer of antiquity, 150 B. C., therefore 130 years later. At this time, all the writings of Aristarchus were extant, and, had the Copernican system been set forth in them, Hipparchus would not have despaired of explaining the motions of the planets. The same is true of Ptolemy, in whose *Almagest*, the most complete work of antiquity on astronomy, this system is not mentioned in the account of Aristarchus. Every Copernican speaks of the motion of the earth, but not every one who speaks of the motion of the earth is a Copernican. Copernicus was led to the discovery of his system by a consideration of the complicated motion of the planets, and, in the dedication of his immortal work, *De Revolutionibus Orbium*, to pope Paul III, he says, that the truth of his system is proved by the motion of the planets, since their successive stations and retrogradations are the simple and necessary consequence of the motion of the earth round the sun; and we need not take refuge in the complicated epicycles. Copernicus did not live to see the persecutions which the Roman Catholic priests raised against his system. They began only 100 years later (about 1610), when the telescope was invented, when the moons of Jupiter and the phases of Venus were discovered, and, by these means, the zeal for astronomy had been highly excited. Every city in Italy was then a little Athens, in which the arts and sciences

flourished. Galileo obtained high distinction, and defended the new system of the world. The Roman inquisition summoned him before its tribunal, and he was compelled to abjure this theory. (See *Galileo*.) The general sympathy for the fate of this astronomer increased the popularity of the system, and it was as violently defended on one side as it was attacked on the other. Among the arguments against the motion of the earth, it was alleged, that a stone, falling from a tower, did not fall westward of the tower, notwithstanding this had advanced eastward several hundred feet during the four or five seconds of the fall of the stone. Copernicus had answered justly: the cause of its remaining near the tower is, that it has the same motion eastward, and, in falling, does not lose this motion, but advances with the earth. Galileo said the same, and asserted that a stone, falling from the top of the mast of a vessel, at full sail, falls at the foot of the mast, notwithstanding the mast advances, perhaps, 10 or more feet during the fall. Gassendi tried these experiments in the harbor of Marseilles, and the stones fell at the foot of the mast, notwithstanding the vessel was under full sail. Galileo therefore maintained, that it is impossible to draw any conclusions concerning the motion of the earth from such experiments, since bodies would fall on the earth in motion precisely the same as on the earth at rest. In 1642, Galileo died. In the same year, Newton was born. He proved, in 1679, that the opinion of Galileo was erroneous, and that we certainly can try experiments on the motion of the earth; that the balls would not deviate westward, but would fall a little eastward of the plumbline, about a half inch at the height of 300 feet. The cause is this: since the top of the tower is at a greater distance from the axis of the earth than its base, the centrifugal force must be greater at the former point than at the latter; the ball, in falling, does not lose this impulse, and, therefore, advances before the plumbline, which strikes the foot of the tower, since it has a less impulse eastward. This hint, given by Newton, was followed by Hooke. He tried experiments on the motion of the earth, at a height of 160 feet, and asserts that he succeeded. The academy appointed a committee, Jan. 14, 1680, in the presence of which he was to repeat his experiments. Probably they were not satisfactory, since they have never been mentioned in the *Philosophical Transactions*, and were entirely forgotten. Only

112 years later, a young geotmetrician in Bologna, Guglielmini, attempted to repeat these experiments, which had been considered very difficult by astronomers, in the tower *Degli Asinelli*, in that city, at a height of 240 feet. After having surmounted all difficulties, he succeeded in causing the fall of 16 balls, which perceptibly deviated eastward. But Guglielmini committed an error in not suspending the lead every day when he tried his experiments, of which he often made three or four in one night. He did not drop the plummet until after he had finished all his experiments, and, as it did not come to a perpendicular position until six months, on account of stormy weather, the tower in the meantime was a little bent, the point at which the plummet should have fallen was altered, and his experiments were lost. This happened in 1792. Benzenberg, a German, performed similar experiments in 1804, in Michael's tower, in Hamburg. He let fall 30 balls, from the height of 235 feet: the balls deviated from the perpendicular four lines eastward. But they deviated, at the same time, $1\frac{1}{2}$ line southward, probably owing to a gentle draft of air in the tower. He repeated these experiments in 1805, in a coalpit, at *Schlebusch*, in the county of Mark, at the height of 260 feet: there the balls deviated from the perpendicular five lines eastward, just as the theory of the motion of the earth requires for the latitude of 51° , but neither southward nor northward. From these experiments, Laplace calculated that the chances are 8000 to 1 that the earth turns round its axis. The invention of the telescope, by means of which the rotation of Jupiter was soon observed, but still more, Newton's discovery of universal gravity, and of the nature of the celestial motions, established the theory of the motion of the earth; and, in modern times, no man of intelligence doubts it any longer. The French general Allix, however, endeavored to prove that the motion of the planets does not depend on the law of gravitation. The flattening of the earth (see *Degree, Measurement of*), and the diminution of gravity in the vicinity of the equator, proved by the experiments of Richers and others on the motion of the pendulum in the equatorial regions (see *Pendulum*), also give as convincing proofs of the rotation of the earth, as the aberration of light (q. v.) affords of the revolution of the earth round the sun. Thus the human intellect has triumphed over the evidences of sense, and the opposition of authority.

EARTHQUAKE ; a shaking of certain parts of the earth's surface, produced by causes not perceivable by our senses. This motion occurs in very different ways, and in various degrees of violence. Sometimes it is perpendicular, throwing portions of the ground into the air, and making others sink. Sometimes it is a horizontal, undulating motion, and sometimes it appears to be of a whirling nature. Sometimes it is quickly over; sometimes continues long, or recurs at intervals of weeks, days or months. At one time, it is confined within a small circle; at another, it extends for many miles. At one time, it is hardly perceptible; at another, it is so violent, that it not only demolishes the works of human art, but changes the appearance of the ground itself. Sometimes the surface of the ground remains unbroken; sometimes it bursts open into clefts and chasms; and then occasionally appears the phenomenon of the eruption of gases, and also of flames, with the ejection of water, mud and stones, as in volcanic eruptions. The eruptions of proper and permanent volcanoes are preceded by, and proportionate to, the agitations of the earth in their neighborhood. These observations furnish grounds for the conclusion, that earthquakes cannot proceed from external causes, but arise from certain powers operating within the circumference or crust of the earth. Moreover, all the phenomena of earthquakes bear so much affinity to those of volcanoes, that there can hardly be a doubt, that both proceed from the same causes, acting differently, according to the difference of situation, or different nature of the surface on which they operate. A volcano differs from an earthquake, principally, by having a permanent crater, and by the reappearance of the eruptions in the same place, or in its immediate vicinity. All the other phenomena of a volcano, such as the subterranean thunder-like noises, the shaking, raising and bursting asunder of the earth, and the emission of elastic fluids, the fire and flames, the ejection, too, of mineral substances, all occur, now and then, more or less, in earthquakes as well as in volcanic eruptions, even when at a distance from active volcanoes; and the genuine volcanic eruptions are, as has been remarked, accompanied or announced by shakings of the earth. All our observations go to prove, that volcanic eruptions, earthquakes, the heaving of the ground from within, and the disruption of it in the same way, are produced by one and the same cause, by one and the

same chemical process, which must have its seat at a great depth beneath the present surface of the earth. The most remarkable earthquakes of modern times are those which destroyed Lima, in 1746, and Lisbon, in 1755; in the latter, 20,000 persons were killed. It extended from Greenland to Africa and America. A similar fate befell Calabria, in 1783, the province of Caracas, in South America, in 1812, and Aleppo, in Syria, in 1822. Several earthquakes have taken place quite lately, in South America, one particularly dreadful at Lima. The city of Guatemala, also, was nearly destroyed in the spring of 1830, by earthquakes, which continued five days successively.

EARTHS. The term *earth* is applied, in common life, to denote a tasteless, inodorous, dry, uninflamable, sparingly-soluble substance, which is difficultly fusible, and of a moderate specific gravity. Several of the earths are found in a state of purity in nature; but their general mode of occurrence is in intimate union with each other, and with various acids and metallic oxides. Under these circumstances, they constitute by far the greatest part of the strata, gravel and soil, which go to make up the mountains, valleys and plains of our globe. Their number is ten, and their names are *silex*, *alumina*, *magnesia*, *lime*, *barytes*, *strontites*, *zircon*, *glucine*, *yttria* and *thorina*. The four first have long been known to mankind; the remainder have been discovered in our own times. *Silex* exists nearly pure, in large masses, forming entire rocks, as quartz rock, and constituting the chief ingredient in all granitic rocks and sandstones, so that it may safely be asserted to form more than one half of the crust of the earth. *Alumine* is found pure in two or three exceedingly rare minerals, but, in a mixed state, is well known as forming clays and a large family of rocks, usually called *argillaceous*. *Lime*, an earth well known from its important uses in society, occurs combined with carbonic acid, in which state it forms limestone, marble, chalk, and the shells of snails. It exists also, upon a large scale, in combination with sulphuric acid, when it bears the name of *gypsum*. *Magnesia* is rare in a state of purity, but enters largely into the composition of some of the primary rocks, especially of the limestones. The remaining eight (if we except barytes, which, in combination with sulphuric acid, is often met with in metallic veins) are only known to the chemist as occurring in the composition of certain minerals, which, for the most part, are exceed-

ingly rare. The earths are very similar to the alkalies (q. v.), forming, with the acids, peculiar salts, and resembling the alkalies likewise in their composition. They consist of peculiar metals in combination with oxygen, and compose the greatest part of the solid contents of the globe. They differ from the alkalies principally in the following peculiarities: they are incombustible, and cannot, in their simple state, be volatilized by heat; with different acids, especially the carbonic, they form salts, insoluble, or soluble only with much difficulty, and with fat oils, soaps insoluble in water. They are divided into two classes, the alkaline and proper earths. The former have a greater similarity to the alkalies. In their active state, they are soluble in water, and these solutions may be crystallized. They change the vegetable colors almost in the same way as alkalies, and their affinity for acids is sometimes weaker and sometimes stronger than that of the alkalies. They combine with sulphur, and form compounds perfectly similar to the sulphureted alkalies. With carbonic acid, they form insoluble salts, which, however, become soluble in water by an excess of carbonic acid. The alkaline earths are as follows: 1. barytes, or heavy earth, so called from its great weight; 2. strontites (q. v.); both these earths are counted among the alkalies, by many chemists, on account of their easy solubility in water; 3. calcareous earth, or lime, forms one of the most abundant ingredients of our globe; 4. magnesia is a constituent of several minerals. The proper earths are wholly insoluble in water, infusible at the greatest heat of our furnaces, and, by being exposed to heat, in a greater or less degree, they lose their property of easy solubility in acids. Some of them are incapable of combining with carbonic acid, and the remainder form with it insoluble compounds. They are the following: 1. alumine; 2. glucine, which is found only in the beryl and emerald, and a few other minerals; 3. yttria is found in the gadolinite, in the yttrious oxide of columbium, &c.; 4. zirconia is found less frequently than the preceding, in the zircon and hyacinth; 5. silex. The earths were regarded as simple bodies until the brilliant researches of sir H. Davy proved them to be compounds of oxygen with peculiar bases, somewhat similar to those of the alkalies, potassium and sodium. Some of the heavier of the earths had often been imagined to be analogous to the metallic oxides; but every attempt to

effect their decomposition or reduction had proved unsuccessful. After ascertaining the compound nature of the alkalies, Davy submitted the earths to the same mode of analysis by which he had effected that fine discovery. The results obtained in his first experiments were less complete than those afforded with the alkalies, owing to the superior affinity between the principles of the earths, as well as to their being less perfect electrical conductors. By submitting them to galvanic action, in mixture with potash, or with metallic oxides, more successful results were obtained; and a method employed by Berzelius and Pontin, of placing them in the galvanic circuit with quicksilver, terminated very perfectly in affording the bases of barytes and lime, in combination with this metal. By the same method, sir H. Davy decomposed strontites and magnesia; and, by submitting silex, alumine, zircon and glucine to the action of the galvanic battery, in fusion with potash or soda, or in contact with iron, or by fusing them with potassium and iron, appearances were obtained sufficiently indicative of their decomposition, and of the production of bases of a metallic nature. Thorina, the last discovered earth, was decomposed by heating the chloride of thorium with potassium. The metallic bases of the earths approach more nearly than those of the alkalies to the common metals, and the earths themselves have a stricter resemblance than the alkalies to metallic oxides. Viewing them as forming part of a natural arrangement, they furnish the link which unites the alkalies to the metals. Accordingly, many of the more recent systems of chemistry treat of all these bodies as forming a single group under the name of the metallic class. Still (as doctor Ure justly remarks), whatever may be the revolutions of chemical nomenclature, mankind will never cease to consider as earths those solid bodies composing the mineral strata, which are incombustible, colorless, not convertible into metals by all the ordinary methods of reduction, or, when reduced by scientific refinements, possessing but an evanescent metallic existence. (For a more particular account of the properties of the earths, and of their bases, consult the articles relating to them, respectively, in this work.)

EARWIG; an insect whose name is derived from its supposed habit of insinuating itself into the ears of persons who incautiously sleep among grass where it is found. It is extremely doubtful whether

the animal intentionally enters the ear; and, indeed, there is no reason whatever that it should, except from mere accident. A piece of an apple applied to the orifice, is said to entice the insect, and thus relieve the sufferer; where this fails, a few drops of sweet oil destroy the life of the earwig, which must then be extracted with a proper instrument by a physician. A remarkable fact, in relation to the earwig, is its great abundance at particular times, and its subsequent rarity. From the observations of entomologists, it has been proved that these insects migrate in considerable flocks, selecting the evening for their excursions. Much damage is sustained by gardeners from the depredations of these little animals among fruit and tender vegetables, which constitute their proper food: occasionally, however, they feed on animal substances, and even devour each other. The places in which the species of this small genus are found are chiefly damp and cool situations, under stones and the bark of trees, among chests and boxes which have been long undisturbed, and in similar haunts. In the systems, the family which is formed of the original genus *forficula* of Linnæus, consists of two genera, *forficula* and *labidura*; to which another is added by Leach, the characters of which differ in so trifling a degree from the preceding, as to prevent its being generally received as distinct. It is even doubtful whether the simple disparity in the number of joints in the antennæ, is worthy of any distinction further than a section. The *forficula auricularia* is a small insect, about three quarters of an inch in length, having the wings folded under very short and truncate elytra or wing-cases, and the extremity of the abdomen armed with a horny forceps. When alarmed, the insect elevates the abdomen, and opens these forceps, in order to defend itself from the attack of its enemies.

EAST; one of the four cardinal points of the world, being the point of the horizon where the sun is seen to rise when in the equator. In Italy and throughout the Mediterranean, the east wind is called the *levante*. (For the origin of the word, see *Easter*.)

EASTER; the festival commemorating the resurrection of Christ. The Greek *ἡ Pascha*, and the Latin *pascha*, from which come the French *pâques*, the Italian *pasqua*, and the name of the same festival in several other languages, originated from the notion that Christ was typified by the paschal lamb, ordained by Moses in the feast

of the passover; thus Paul says (1 Cor. v. 7), "For even Christ our passover is sacrificed for us." The first Christians were therefore considered to continue the Jewish feast; understanding by the lamb, which was sacrificed at the festival, Jesus, who suffered for mankind. (See *Passover*.) Among the Greeks and Roman Catholics, Easter is the most joyful festival of the church, and is also observed with great solemnity by the English church, the Lutherans, and the European Calvinists. The Greek and Roman Catholic churches did not celebrate it at precisely the same time, and, while some Christians were mourning in commemoration of the passion, others were rejoicing in the resurrection of the Savior. In the second century, the dispute became warm. The Eastern church would not discontinue the celebration of the feast at the same time with the Jews; whilst the Western church insisted upon celebrating it without the paschal lamb, and beginning it on Sunday, the day of Christ's resurrection. The dispute was finally settled by the council at Nice, in 325, which ordered that the feast should be celebrated uniformly on the Sunday after March 14, and not on the same day with the Jews. The English name *Easter*, and the German *Ostern*, are most probably derived from the name of the feast of the Teutonic goddess *Ostera*, which was celebrated by the ancient Saxons early in the spring, and for which, as in many other instances, the first missionaries wisely substituted the Christian feast. Adelung derives *ostern* and *easter* from the old word *oster*, *osten*, which signifies *rising*, because nature arises anew in spring. This is also the derivation of *east*, in German, *osten*. Easter-fires, Easter-eggs, and many other customs and superstitions, have all their origin from the ancient heathen feast, which, as the celebration of the resurrection of nature, was very appropriately succeeded by the festival which commemorates the resurrection of Christ.

EASTER ISLAND, or DAVIS' ISLAND; an island in the South Pacific ocean, lon. 109° 50' W., lat. 27° 8' S. It is of a triangular form, one side about 12 miles long, the other two about 9 each. Square miles, about 14. Population differently estimated, at 700, 1500, and 2000. The inhabitants are of a tawny color, well formed, sagacious and hospitable, yet thievish. The surface is mountainous and stony, and the hills rise to such a height, that they are visible at the distance of 45 miles. At the southern extremity is the crater of a volcano of great size and depth. The soil of the

island is extremely fertile, but not a tenth part is under cultivation.

EASTERN EMPIRE. (See *Byzantine Empire*.)

EAST INDIA COMPANIES. From the earliest times, the commercial enterprise of the Europeans has been directed towards an immediate intercourse with the East Indies; but the Arabian empire, and its mercantile grandeur, at first, and the dominions of the Persians and Turks at a later period, presented insurmountable barriers. The commercial shrewdness of the Italian republics did not succeed in entirely overcoming these obstacles; and even the Venetian commerce with India, extensive as it was, could not be called direct. After the Turks had established themselves in Europe, by the conquest of Constantinople, and in Africa, by that of Egypt, the access to India was more completely shut up, and the enterprising spirit of the merchants of Christendom was turned to the discovery of a direct channel to that land of commerce. The west of Europe was delivered from the Saracens, and the warlike spirit which had long been occupied by the contests with the infidels required some new scene of activity. The great Portuguese prince Henry, surnamed the *Navigator*, directed this energy towards the ocean; and not half a century had elapsed from the taking of Constantinople, when Vasco da Gama (1498) landed in Hindostan, on the coast of Malabar, and the Portuguese successfully established themselves on those distant shores. The whole commerce of the East Indies was in their hands for nearly a century—the golden age of Portugal.—The efforts of Alphonso Albuquerque, Nuño da Cunha and Francis Xavier—the latter with spiritual weapons, and the former by force of arms—will ever be remembered with admiration, even had they not been sung in the glorious verses of Camoens. During eighty years, while the transportation of Indian productions through Genoa, Venice and the Hanse towns, was constantly diminishing, Lisbon was the India of the north of Europe. The English and Dutch obtained their supplies of Indian spices either from Lisbon or from Portuguese merchants in Antwerp. Venice also found herself supplanted by the military power of the Portuguese and the subjection of her commercial friends, the Saracens. When, however, Philip II, in 1580, united Portugal with the Spanish monarchy, and soon after commenced his war with England, against whose vessels he closed the ports of his empire, the Brit-

ish merchants were compelled to draw their supplies of Indian produce from the Netherlands. The Dutch took advantage of this circumstance, and raised the price of pepper to three times its former amount. But the revolt of the Netherlands from Spain induced Philip II to take decided measures against the Dutch commerce also, and the capture of their vessels in the port of Lisbon compelled the Dutch to engage in a direct trade to India: the English soon followed their example. Thus, during the last ten years of the sixteenth century, the foundation was laid in England and Holland, nearly at the same time, of those great commercial corporations, called *East India Companies*. They are distinguished from the Hanseatic league, and other earlier unions of that kind, in being merely associations of individuals uniting for a common commercial purpose, with transferable shares, and not of political bodies; and also by having bought their privileges and rights at once from their own governments, while those of the earlier commercial confederacies were obtained, together with their political privileges, by successive treaties. As such an extensive commerce in distant parts of the world requires a political power to preserve and protect it, we find the English, Dutch, and other smaller East India companies, engaged, soon after their establishment, in laboring to form a political power on the basis of wealth; which, even if it succeeded, would not accord with the politics of the mother country, and would not be able, for any great length of time, to resist the reaction that would arise in the conquered countries.—I. The earliest East India company was the Portuguese, although essentially different, in its organization, from the others. By the union of Portugal with Spain, the connexion between the distant Portuguese governments in India and the mother country became less close. Abuses of every kind, illicit traffic on the part of the viceroys and officers, smuggling and piracy became prevalent. The Spanish government perceived that the East India commerce, if continued on account of the crown, would not only be unprofitable, but would occasion an annually increasing loss, and therefore granted the exclusive privilege of the East India trade, in 1587, to a company of Portuguese merchants, in consideration of the annual payment of a considerable sum. This company, in attempting to enforce its privileges, became involved in disputes, equally disadvantageous to both parties, with the Portuguese government

in India, which was engaged in the smuggling trade; and the way for the enterprises of the Dutch and English could not have been better prepared than by this weakening of the Portuguese power. To this may be added, the impatience of the Indian nations under the Portuguese yoke, and the jealousy and hatred entertained against both by the Arabians. The English and Dutch companies found every thing in that state of division which is favorable to the establishment of a third party, by means which, in any other case, would be entirely inadequate. This explains their immediate and brilliant success, notwithstanding the great inferiority of their strength. The Portuguese company, on the contrary, on the breaking out of open war between England and Holland and Spain, soon became unable to pay the annual tribute to the crown, and gradually declined, till, in 1640, on the reestablishment of Portuguese independence by king John IV, of the house of Braganza, it was entirely abolished.—From that time, the insignificant remains of the Portuguese commerce with the East Indies have been in the hands of the government, if we except the unsuccessful attempt to form a new company in 1731.

II. Eight years after the establishment of the first Portuguese company, the offer of a Dutchman, Cornelius Houtman, who had been taken prisoner by the Spanish, and had become acquainted with the Portuguese East India trade, induced the merchants of Amsterdam, who had already made three unsuccessful attempts to discover a passage to India through the Northern ocean, to form a company, under the name of the "Company of Remote Parts," and send their first commercial fleet round the cape of Good Hope to India, under the command of Houtman. Four small vessels were equipped with a capital of 70,000 guilders, and sailed the 2d of April, 1595, from the Texel. The example of Amsterdam was followed in the other United Provinces; but these companies soon became aware that they interfered mutually with each other; and, March 20, 1602, they were united by a charter from the states general, conferring on them the exclusive privilege of trading to the East Indies for twenty-one years, together with all necessary civil and military powers. The former companies remained, in some measure, distinct from each other, and the six cities of Amsterdam, Middelburg, Delft, Rotterdam, Horn and Enkhuysen, which had made

the first attempts, were allowed to continue the commerce from their ports. This company began its operations with a capital of 6½ millions guilders; 65 directors (*Bewindhebbers*)—divided amongst the different members, in proportion to the amount of shares, so that Amsterdam had twenty-five, Middelburg twelve, and each of the other cities seven—superintended the equipment of the vessels, in their respective ports; a committee of fifteen directors, apportioned in the same manner, had the general direction of affairs. In 1622, the subject of the renewal of the charter being before the states general, it appeared that, during the 20 years of its existence, 30 millions guilders, that is, more than four times the amount of the original capital, had been divided amongst the stockholders; besides which, a great amount of capital had been vested in colonies, fortifications, vessels, and other property, on which no dividend could be made. These results will not be surprising, if we consider how much more favorable was the condition of the East Indies, in every respect, for republicans and Protestants than for Catholics and subjects of a monarchy. The Portuguese acted on the principle, that without a strong military force, and a religion common to the conquered and ruling nation, no permanent commercial connexion could be formed; and this system was pursued for a century, sometimes with prudence, but more frequently with great inhumanity. The Dutch, on the contrary, with their indifference to the moral relations of nations, and their well conducted commerce, were well calculated to succeed. Their superiority to the English, in their first enterprises, was owing not only to their superior skill by sea, their youthful republican spirit, and the greater amount of their capital, but chiefly to their having carried on all their operations, from the first, with a common capital, while the first English East India company, till 1610, was a mere association, each member of which transacted business on his own account, merely conforming to certain general rules, such as the employing the company's ships. It has been proved by subsequent results, that a mere money power cannot be upheld without an entire disregard of the claims of humanity; and the example of the first Portuguese conquerors has convinced enlightened men, that the dominion of Europeans in India remains insecure, if not founded on a certain moral, legal and religious community with the inhabitants of

the country. The charter of the Dutch East India company was continued till 1644; Batavia was founded in a very favorable situation for the traffic with the Spice islands, the chief branch of the Indian trade; 34—41 freighted vessels annually left the ports of Holland for India; 25—34 merchant vessels, on the average, returned. The commerce with Japan increased rapidly, and the extension of Portuguese power in the Brazils, after the accession of the house of Braganza to the throne, although a great disadvantage to the Dutch West India company, promoted the interest of the East India company, by directing the attention of the Portuguese wholly to America, and leaving free scope to the Dutch in Asia. In 1641, Malacca, the capital of the Portuguese East Indies, fell into the hands of the Dutch, by the treason of the governor.—But the increasing activity of the English and French, and the political and military establishments of the company, diminished their profits, and it was difficult to raise the 1,600,000 guilders, which were to be paid to the states general, in 1644, for the extension of the charter till 1665. Soon after, however, the independence of the republic of the United Provinces was secured by the peace of Westphalia—an event which was of great advantage to the company, and enabled them to found colonies on the cape of Good Hope.—This was done in the course of 20 years (from 1650), at an expense of 20 millions guilders. These colonies were a great assistance to the intercourse between Europe and India, and richly repaid the expenses incurred. In 1658, the conquest of Ceylon was completed, after a vigorous defence by the Portuguese; and the Tartar revolution in China occasioned the settlement of 30,000 Chinese, who would not submit to the new government, in the Dutch island of Formosa. These proved a valuable accession to the population. Although the direct commerce with China had to struggle with insurmountable difficulties, the indirect communication through these emigrants, who were well acquainted with the country, and the influx of Chinese productions from all sides into Batavia, amply recompensed the company. They were, however, deprived of this valuable island in 1661, by a Chinese adventurer, named Kaxinga, whose family afterwards ceded it to the emperor of China. The energy of the company seemed to be excited by this loss. In 1663, the most valuable settlements of the Portuguese on the coast of Malabar were

taken; and, in 1666, by the conquest of Macassar, the object of the exertions of 70 years, they obtained the monopoly of the spice trade. At this time, the civil and military expenses of the company, exclusive of the expenses of the war, amounted to 3½ millions guilders. In 1665, after much opposition, the charter was renewed till 1700, on condition of the payment of a large sum into the treasury; and the report of the company showed an almost inconceivable extension of commerce.—Their factories extended from the cape of Good Hope to the coasts of Arabia and Persia. They were masters of all the important settlements of the Portuguese, from Surat, on the Malabar coast. Ceylon, with its cinnamon and ivory; the pearl fishery and cotton trade on the coast of Coromandel; Bengal and Orissa, with their silks and cottons, rice, sugar, saltpetre, &c., were in the hands of the company, as was also the commerce with Pegu, Siam, and Tonquin, only interrupted by some temporary accidents. They obtained valuable supplies of silver and copper from Japan; carried on an extensive trade in spices with Amboyna, the Banda islands, and the Moluccas, &c. Malacca, the principal seat of the Portuguese trade, appeared, by this report, to be on the decline, the expense of protection being disproportioned to the size of the place; and the straits of Sunda, on which Batavia is situated, had superseded the straits of Malacca, as the general passage to the farther East. The charter of the company has since been several times renewed, and always on condition of the payment of large sums; from 1701—40; then till 1775; and in 1776 for 30 years more, for the sum of two millions guilders, and the annual payment of 360,000 guilders. Avarice and cruelty, which increased with the gradual decay of the republican spirit, and the decline of simple and moderate habits; a shameless system of intrigue towards their allies, and particularly their incapacity to appreciate the moral and religious character of the nations of India; and, finally, the renewed vigor of the British company at the commencement of the 18th century, and the change in the European demand; the preference given to other spices;—these are the principal causes of the decline of the Dutch East India company. In the 18th century, their annals abound with relations of conspiracies, insurrections, and generally unsuccessful wars; and, in 1781, we find them so completely broken up by the war with England, and by enormous political

expenses, that the states general, notwithstanding their own difficulties, were obliged to assist them with a loan. In the first revolutionary war, the company lost most of their possessions, and were obliged to suspend the payment of their dividends in 1796. They had scarcely taken possession of what was restored to them by the peace of Amiens, 1802 (England retaining only Ceylon), when every thing was lost by the new war; and at the general peace, they retained none of their early East India possessions, but the governments of Batavia and Amboyna, Banda, Ternate, Malacca, Macassar, and some scattered factories on the coasts of Malabar and Coromandel. The cape of Good Hope and Ceylon were lost to them for ever. At their commencement, the Dutch East India company had enjoyed the advantage of all the Portuguese establishments; their forts, magazines, artillery and provisions for defence, their commercial and political relations, and an immense booty which the capture of the Portuguese ships on every sea afforded them; while, on the contrary, the English had to struggle for a century with the difficulty of gradually gaining the ground on which to plant their commercial lever. But the very circumstance of their slow progress gave a firmer footing to their power.

III. *English East India Company.*—The history of this great company may be divided into four periods. During the first fourteen years, its members were, in a great measure, independent. In the following ninety-five years, although it had a common capital, its operations were confined by the superiority of the Dutch in the Indian seas, by the civil wars at home, and particularly by the calling in question of its exclusive privileges, which were merely a royal, and not a parliamentary grant. For the succeeding forty years, it enjoyed all its rights undisputed, and founded on parliamentary authority, but confined to mere commercial transactions. And, finally, during the subsequent seventy years, its political power was developed.

1. Period from 1600 to 1613. The English, in their first attempts to reach India, directed their course to the north-west, as the Dutch did to the north-east. John Cabot, in the employ of Henry VII, had discovered Newfoundland, and the coasts of North America, in 1497. In 1553, his son, Sebastian Cabot, under Edward VI, engaged in a second enterprise of this kind. The king chartered a company, which, with a capital of £6000, equipped

three vessels, for the discovery of a northern passage to India. Part of this expedition was lost in the northern ocean; another part landed on the northern coast of Russia, and formed commercial connexions which gave rise to the English Russian company, in the same manner as the Hudson's bay company owes its establishment to the attempts to discover a north-west passage, which have been continued to the present day. The English, at the same time, endeavored to penetrate to India, directly, by land, and, at least, to rival the Venetians, if they could not contend with the Portuguese. This was the main object of the English Turkish company, established in 1581, which, however, soon became convinced of the impracticability of the attempt, and was induced, by sir Francis Drake's account of his circumnavigation (1591), to send out three ships to India, under the command of captain Raymond, on the route of the Portuguese. This attempt, and that made by Robert Dudley, in 1596, failed entirely. The Spanish war, the shutting up of Lisbon, and the avarice of the Dutch, gave, however, a new vigor to the enterprise of the London merchants, and, Sept. 22, 1599, a society was formed in London, which, in the course of two centuries, acquired the greatest power of any commercial association on record. The original capital amounted to £30,133 sterling; and queen Elizabeth, Dec. 31, 1600, granted to the governor and company of merchants of London trading to the East Indies, for fifteen years, the exclusive right of trading to all countries from the cape of Good Hope eastward, to the straits of Magellan, excepting those which were in the possession of friendly European powers. Until 1613, the company consisted merely of a society subject to particular regulations; each member managed his affairs on his own account, and was only bound to conform to certain general rules. Notwithstanding the disadvantages of this arrangement, the profits of eight voyages amounted to 171 per cent.

2. Period from 1613 to 1708. At this time (1613), the capital was united, and the constitution, in consequence, became more aristocratic; the largest stockholders having the principal management, and the great mass of the stockholders having only a nominal control in the general meetings. These latter, in reality, had only in view speculation in the shares. The concerns of the company were so prosperous, that, in the course of four years, the shares rose to the value of 203 per cent., and the

Dutch became desirous, though they did not succeed, to unite with it against the Portuguese. Its factories were extended to Java, Sumatra, Borneo, the Banda islands, Celebes, Malacca, Siam, the coasts of Malabar and Coromandel, but chiefly to the states of the Mogul, whose favor the company had very prudently secured. Their success was such, that, a new subscription being opened in 1616, the amount raised was £1,629,040. But, in 1627, complaints were made of bad management, and abuses of all kinds, particularly in regard to the private commerce of the officers, which has always been of the greatest disadvantage to all such companies. The opposition to the royal authority, under the Stuarts, brought into question the monopoly of the company which rested on a royal grant. The kings themselves contributed to raise these doubts, by granting to individuals the privilege of trading to India, much to the disadvantage of the company. During the time of the commonwealth, the public opinion became very strong against monopolies, and Cromwell, by destroying the charter, in 1655, attempted to make the East India trade free. But this was impracticable. To give up the company, was to destroy the whole capital of power and influence obtained in India. After the restoration of the royal family, the charter which even Cromwell had been obliged to renew, was again in full force. During the short period which elapsed from this time to the revolution of 1688, the company obtained, by the acquisition of Madras and Bombay, the predominance on the coasts of Malabar and Coromandel, and laid the foundation for the extension of its possessions into the interior of Hindostan, and for that power which rose on the ruins of the empire of the great Mogul. The affairs of the company were not, however, in a prosperous state; and, soon after the revolution, the question was started, whether the king could impose restrictions on commerce by a charter, and whether a sovereign, who possessed the rights of sovereignty conditionally, could confer them on a privileged company. The consequence was, that, the company not being able to perform their obligations, on account of the losses occasioned by wars, infidelity of officers, extravagance, &c., parliament granted a charter to a new East India company, in 1698, on condition of a loan of £2,000,000 sterling, at 3 per cent., for the service of the state. But the great contentions between the two companies soon made it necessary

to unite them, and a union was effected in 1708.

3. Period from 1708 to 1748. In 1708, an act of parliament was passed, establishing the English East India company on its present footing, under the title of The united Company of Merchants of England trading to the East Indies. Its exclusive privileges were granted till 1726, after which it was determinable upon three years' notice. The capital was raised by the sale of the shares: one share (of the value of £500) gave the holder a vote in the "General Court;" four shares, or stock to the amount of £2000, rendered the holder eligible as one of the twenty-four "Directors," who managed the government of the company. The shares being transferable, the great mass of stockholders are constantly changing, and take no personal interest in the affairs of the company, but merely speculate in the shares. The whole management is thus left to the directors, and all the numberless abuses of an oligarchical constitution are readily introduced. The local affairs of the company were intrusted to the three councils of Madras, Bombay and Calcutta, while the general direction was retained in England. But, as every thing depended ultimately on the local officers in India, the pernicious abuse prevailed of attempting to secure the fidelity of the superior officers by allowing them to appropriate to themselves the inferior lucrative posts. The renewal of the charter in 1732 was not obtained without great difficulty, and against a powerful opposition. The company therefore thought it advisable, in 1744, to advance £1,000,000 sterling, at 3 per cent., for the service of government, in consideration of an extension of their grant till 1780.

4th Period. The political power of the English in India commenced in 1748. The French had already set the example. In 1746, a French battalion had destroyed the army of the nabob of the Carnatic, and, soon after, the French officers succeeded in disciplining Indian troops according to the European method. The inferiority of the native Indian troops opposed to European soldiers, and the facility of instructing Indian soldiers, known by the name of *Seapoys*, in the European discipline, was thus proved. Ambition and avarice, political and mercantile cunning, could now act on a larger scale; and the independence of the Indian princes was gone whenever this trading company, which was already encroaching upon all the rights, both of the rulers and the people of those countries, should establish a

permanent military force. Thus far, the military organization of the company had been merely on the defensive: it now became able to act offensively; and the entire difference of the European and Indian notions of law could never fail to furnish opportunities to put this new means of power into action. The rights of succession, and all the rights of princes, subjects and families, were so much disputed on the different principles of the Indian, Mohammedan and British laws, that the company (which often interposed as arbitrator) easily succeeded in extending their legal jurisdiction. If called to account in Europe for any of its undertakings, it was easy to uphold the correctness of its conduct, politically; on the ground of self-defence, which, at the distance of several thousand miles, could not be called in question; and, in legal matters, by taking advantage of the impenetrable labyrinth of law. Edmund Burke, who experienced, in the case of Hastings (q.v.), this impregnability of the company, accused them justly "*of having sold every monarch, prince and state in India, broken every contract, and ruined every prince and every state who had trusted them.*" The high officers in India, whatever great names may appear among them, become despotic from situation: 1. because each receives an inheritance of injustice, which must be maintained; 2. because public opinion has no influence;* 3. because no moral and religious connexion, nor even that of language, exists between the ruled and the rulers; 4. because no fear of dangerous insurrections can exist, on account of the great division of the Hindoo and Mohammedan classes and interests; 5. because the officers of the company have no object but to make money with a view of spending it in England as soon as they have accumulated sufficient to satisfy their wishes, and therefore are not disposed to make opposition against abuses. In 1749, the robberies of the company began with its protection of the pretender of Tanjore. Under pretence of illegitimacy, the nabob of this district was driven out, for the purpose of obtaining some cessions

of territory, and then restored, on making further concessions. The rapid progress of the company in the art of extending their possessions appears from their treaties with Surajah-Dowlah, the nabob of Bengal, in 1757, when large and rich provinces were the reward of their faithless policy. This enlargement of territory caused such enormous expenditures, the difficulties of governing increased so greatly with the increase of power, the numerous officers became so much more independent, rapacious and disobedient, that the finances of the company suffered. The direction in London was now nothing more than a mere control of the real government, which had its seat in India. Its orders were antiquated before they reached Calcutta. The governors having the advantage of being on the spot, it was to be expected that they would obey only when personal interest required it. Thus the repeated prohibition to carry on a traffic in the interior, with salt, tobacco and betel nuts, was entirely disregarded, with the express consent of the East Indian councils; and, long after the directors had forbidden the officers of the company to accept presents from the Indian princes, it was proved that they had openly received them, to the amount of £6,000,000, from the family of the nabob of Bengal alone. On this account, the internal situation of the company became constantly worse, and, in 1772, it was compelled to raise a loan, at first of £600,000, from the bank, and afterwards of £1,400,000 from the government, for its current expenses. The public dissatisfaction was the greater, as it had been expected that the extension of British power in India would have brought much wealth into the mother country. At the same time, great complaints were made against the unprincipled conduct of the company's officers towards the princes and people of India; and, as the expected advantages appeared not to have been obtained, it now began to be proclaimed, that the rights of humanity had been trampled upon. The popular hatred was unjustly directed against the directors; their power was to be limited; they, who had to manage a disobedient world, were to be still more cramped. Control was demanded; as if a control which sympathizes with the oppressors, and has no connexion with the oppressed, could avail any thing; as if oppression were a single act, which might be prevented by superintendence, or punished like a crime: and what would be the effect of a controlling power whose commands would require

* The East Indian government takes great pains to prevent the expression and consolidation of public opinion. Thus newspapers, which are so free in England, are under strict regulations in India. They are not allowed to criticise public measures or public officers, nor to say any thing which may cause dissatisfaction among the natives. Violence always produces violence. The statement, at the end of this article, of the proportion of the English to the natives will easily show why such precautions are deemed necessary.

6—9 months to be conveyed to the spot, and as much more time before the result could be known in Europe? And, if the company had obtained a power by force, which could only be preserved by the same means, on what principle should the control act? Burke's famous, but unsuccessful struggle of seven years, against Hastings, and in the cause of humanity in India, proved, that the only possible control of the officers in India, is the public opinion of the British nation. One party asserted that all would be well as soon as the company divided its power with the ministry. Another party maintained, that all that was wanting to the Hindoo was the benefit of British law. Some thought it would be sufficient merely to increase the difficulty of becoming a director. Thus the incomplete reform of 1773 took place. Instead of £500, £1000 was made necessary to give the right of a vote, £3000 for two votes, £6000 for three votes, and £10,000 for four votes. Only six directors were to be annually elected. A governor-general, with four counsellors (at first named by parliament, that is, by the ministry, but afterwards by the directors, for five years), was to be placed over the provinces of Bengal, Bahar and Orissa; the other provinces were to be dependent upon him. As a counterpoise to this concentration of power, a supreme court was established in Calcutta, with a chief justice and three associate judges, who were independent of the company, and were appointed by the crown. All the civil and military correspondence of the company was to be communicated to the ministry. Under the old system, in many disputed cases, conscience, or, at least, common sense, had decided; but now, the introduction of a new and strange legal constitution occasioned the ruin of all legal relations. The court decided in the case of every complaint made against any individual who was directly or indirectly in the service of the company, as well as all complaints relating to contracts in which the parties had submitted to its jurisdiction. If we consider that nothing was more uncertain than the personal condition of the Indian and Mohammedan inhabitants of Hindostan; that the company governed some provinces immediately, others indirectly, by means of the nabobs; that the zemindars were sometimes considered as the independent nobility of India, sometimes as officers of the company, &c.—it follows, that the court could take all cases into its own hands, or decline them, at pleasure. Immediately after its establishment, it gave a specimen

of the spirit by which it was actuated. Nunkomar, who had accused the governor-general, Hastings, was convicted, on insufficient grounds, of forgery, and hanged; which, as has been ingeniously remarked, is about the same as punishing a Mohammedan for bigamy. On the whole, the history of the British East India trade justifies the assertion, that, except Burke and the family of Wellesley, scarcely a single Englishman has ever entered completely into the spirit of the people of India. When the inefficacy of the measures of 1773 was sufficiently proved, and the finances of the company again suffered by the American war, the establishment of a board of control was again discussed in parliament, and on broader grounds; from 1782 to 1784, the greatest men of England were engaged on this important subject. The famous East India bill of Fox, which proposed seven commissioners, to be appointed by parliament, and invested with supreme power, and, as it were, the right of protection over India, could not be agreeable to the court, as the principal object of the bill was to deprive the crown of all influence on Indian affairs, and to place an intermediate power between the king and India. Pitt's project, therefore, took effect. A *board of control* was erected, dependent on the crown, authorized to superintend the civil and military government and the revenues of the company, and to transmit the despatches of the directors to the different presidencies. The salaries of the governor-general, the president and the council were fixed by the king. We have thus given a historical outline of the constitution of the company. The power of control in England, so far as any exists, is in the hands of the ministry; the particular direction of the government is subjected to the company. It is certain, that, since the establishment of the board, much less is known of Indian affairs than formerly. The ministers have not the same grounds for occasional investigation; the stockholders, in the general meetings of the company, can effect nothing, even if desirous to interfere, while the board and the directors agree; and this agreement is the more firmly established, as a committee of secrecy exists, consisting of three directors, which can consult and decide, with the concurrence of the board, without any communication with the other directors. The improvement of the moral condition of British India is impossible, while the fear of a result like that which occurred in the case of the North Ameri-

can colonies prevents the regular colonization and establishment of British subjects in India. A race of Englishmen born in India could alone succeed, in the course of time, in bringing order and harmony into the jarring interests and relations of the country. The political importance of the East Indies, in their present state, to England, is too great to allow us to expect an essential improvement in the condition of this country. A taxable population of 83,000,000 of inhabitants, with 40,000,000 under dependent native princes; an army of 200,000 men, in the service of the company; about 16,000 civil officers; an annual export of about £14,000,000, and an import to the same amount, from all parts of the world; £4,000,000 paid in the shape of duties to the British government annually, and an annual contribution of £11,000,000 for the general circulation of the British empire, are objects which outweigh all moral considerations. The funded stock of the company, at present, amounts to £6,000,000, their indivisible and fluctuating property to about £50,000,000, and the amount of their annual land-tax is £28,000,000, half as large again as that of Russia. This gigantic political-mercantile association will exist as long as a small military power is sufficient to prevent a great nation from attempting to throw off the yoke; as long as the system *de faire le commerce en sultan et de faire la guerre en marchand* can survive; as long as the pretensions of the *metis*, the offspring of European fathers and Indian mothers, do not increase; and the Indians and Mohammedans remain ignorant of the real weakness of their oppressors; that is, as long as the course of nature is reversed. Since 1813, all British subjects have been permitted to trade to the East Indies, under certain conditions advantageous to the company, which has, however, claimed the exclusive commerce in tea. As the charter of the East India company is to expire in 1834 (having been renewed the last time for twenty-one years), interesting debates will, of course, take place in parliament as to its continuation or abolition. In the session of 1830, parliament appointed a committee to inquire into the affairs of the company. Hume, McIntosh and Huskisson are members of it.—It appears that the revenue of the British possessions in India is greater than that of any European state, excepting France and England. In 1827—28, it amounted to £23,035,164 in 1828—29, it is estimated at £23,350,317. The interest on the debt is about £2,000,000 yearly;

the total interest on the debt and charges, including those paid in England, and the expenses of the island of St. Helena, was £26,314,344, in 1827—28, and £23,994,503, in 1828—29; the surplus of charge above revenue was, in 1825—6, over three millions; the estimated surplus revenue in 1829, £1,318,593. Before the Burmese war, there was a surplus of revenue over expenditure of one million and a half; but in the twenty years preceding 1828—29, there are only six which show a surplus revenue. The total assets of the company, including property of every description, amounted to £18,406,039. The rate of dividend, since 1793, has been 10½ per cent. It is believed that the value of American imports from England into China amounts to \$800,000, whilst that of the company amounts to £800,000. The company's tonnage to China had increased, for the last nine or ten years, 5,000, on an average. The East India company exported tea from Canton, from 1824—25 to 1827—28, and sold in England and the North American colonies, during the same period, as follows:

Exported from Canton.

	lbs.	Prime cost.
1824—25.	28,697,078	£1,900,666
1825—26.	27,821,121	1,729,949
1826—27.	40,182,241	2,368,461
1827—28.	33,269,333	2,086,971

Sales.

	England.	N.Am. colonies.	
	lbs.	lbs.	Amount.
1824—25.	26,523,327	.....	£3,741,402
1825—26.	27,803,668	512,314	3,946,770
1826—27.	27,700,978	723,081	3,567,737
1827—28.	28,120,354	941,794	3,468,590

From Great Britain to the East Indies and China, together with Mauritius, in the year ending January 5, 1829, goods were exported at the declared value of,

By the East India company, .	£1,126,926	7	7
Free trade, including the } privileged trade. }	4,085,426	16	11
Total,	£5,212,353	4	6

In produce of goods of the East Indies and China, were imported into Great Britain in the year ending Jan. 5, 1829,

By the East India company.	£5,576,905
Free trade, including the privileged } trade }	5,643,671
Total	£11,220,576

The amount of the population of the British East Indies cannot, of course, be known with any thing like accuracy; but the following is probably as near an approximation as can be made:—In the Ben-

gal presidency, 58,000,000; Madras presidency, 16,000,000; Bombay presidency, 11,000,000; total British, 85,000,000; subsidiary and dependent (say), 40,000,000; outports in the bay, &c. (say), 1,000,000; total under British control, 126,000,000; independent states, but controlled by the British arms (say), 10,000,000; approximate total, not European, 136,000,000; total Europeans, about 40,000; about one European to three thousand four hundred natives, or, where they have the whole command of the government and revenue, one European to two thousand one hundred and twenty-five natives.—We are glad to end our account by stating, that, at last, the English have abolished the *suttees*, or burning alive of widows. The order is dated Dec. 4, 1829.

IV. The French, Danish and Swedish East India companies have been of little importance, even in their most flourishing state, to the commerce of the world. The French, established in 1664, could not succeed; in 1796, the trade was again thrown open. A new company, established in 1785, expired in 1791. The East India company in Denmark established in 1618, and several times renewed, finally surrendered its possessions to the king in 1777. The company has now only the Chinese trade. The Swedish East India company, established in 1731, and renewed in 1766 and 1786, still exists at Gothenburg. For every voyage it pays \$75,000 in silver to the crown, to which, on its establishment, it was obliged to advance \$3,000,000 in silver, of which one million, not on interest, is merely a security, and the other two millions are considered as a loan.

EAST INDIA FLY (*lytta gygas*). The color is a deep azure or sea-blue; all parts of the insect, head, elytra or wing-cases, body and legs, are of the same color, with the exception of the under part of the chest, on which there is a brown spot. Its size is from three fourths of an inch to an inch in length, being nearly twice the size of the *lytta vesicatoria*, or cantharides. They have little or no odor. This species of cantharides has been tried at the Philadelphia alms-house. They proved to be exceedingly active as vesicatories, and never failed in their effect. They produce a vesication, in general, much earlier than the Spanish fly, and, from being found so much more active, only one half the quantity is added in making the *emplastrum cantharidis*. (See *Cantharides*.)

EAST INDIES. (See *India*, and the different articles, as *Calcutta*, *Bengal*, &c.)

EASTON; a post-town and borough of Pennsylvania, and capital of the county of Northampton; 60 miles N. of Philadelphia, 73 W. of New York; population, in 1820, 2370. It is situated on the Delaware, at the junction of the Lehigh river and canal, and also near the western end of the Morris canal, which connects it with New York. It is regularly laid out, handsomely built, and contains a court-house, a jail, three churches, has valuable mills in its vicinity, and is a place of considerable trade. The situation of the town is low, and it is surrounded by considerable eminences. Here is a bridge across the Delaware, 570 feet in length.

EASTPORT; a post-town and seaport of Maine, in Washington county, situated at the most eastern limit of the U. States, on Moose island, in Passamaquoddy bay, at the mouth of the Schoodic, or St. Croix, and Cobscook rivers; 93 miles E. Bangor, 260 E. N. E. Portland, 370 N. E. Boston; lon. 66° 56' W; lat. 44° 54' N.; population, in 1810, 1511; in 1820, 1937. It is a flourishing commercial town, and contains a bank, a printing-office, 4 houses of public worship, 70 ware-houses and stores, and 225 dwelling-houses, all of wood, and many of them handsome. Eastport is the most commercial town in the eastern part of Maine. It is very well situated for trade, having an easy communication with the interior, by the rivers which flow into the bay. Its harbor is one of the best in the U. States, capacious enough to contain a large navy, and of safe entrance. The wharfs are built nearly 40 feet high, on account of the extraordinary tides in the bay of Fundy. The common tides here rise 25 feet. The shores of Moose island and the other smaller islands, have all the preparations necessary for curing fish, and unloading timber and other articles of commerce. In 1820, a handsome toll-bridge, 1200 feet long, was erected over the ferry between Moose island and the main land, connecting Eastport with Perry. About 1500 tons of shipping are owned in this town. The exports consist of lumber, and provisions of various kinds.

EAST RIVER communicates with the Hudson in the bay of New York, and is formed by the narrowing of Long Island sound, which opens with a broad mouth at the eastern end, and receives a strong impulse from the tides in the Atlantic. This channel is so called in contradistinction to the North river (the Hudson). As the sound contracts, to the west of the broad expanse in front of New Haven,

and forms what is called *East river*, the oceanic currents act with a force that increases with the diminishing width of the stream; and this causes higher tides here than at any other place around the island. Arriving at New York about three quarters of an hour earlier than those by the narrows, this current drives upwards along the east shore of the Hudson, many miles in advance of the other on the west; and thus the Hudson has two tides, which hardly unite their action till they have passed Tappan and Haverstraw bays. *Horll-Gatt*, *Hell-Gate*, or *Hurl-Gate*, a dangerous and very crooked strait in East river, eight miles N. E. of New York, was called by the Dutch *Horll-Gatt*, signifying *whirlpool*. The strait is formed by projecting rocks, that confine the water to a narrow and crooked channel, occasioning strong eddy currents. There is a sufficient depth of water for any vessel, but the passage of large ships should only be attempted with skilful pilots. (See *L. Island Sound*.)

EATON, William, remarkable for his adventures, was born at Woodstock, Connecticut, February 23, 1764. He was the son of a farmer, in straitened circumstances, and one of thirteen children. He displayed talent in his childhood, and acquired the rudiments of a good English education. When about 16 years of age, he enlisted in the army, in which he remained for a twelvemonth, in the capacity of waiter to an officer. In 1783, he was regularly discharged, with the rank of sergeant. He then undertook the study of the Latin and Greek languages, which enabled him to gain admission into Dartmouth college. From January, 1788, to August, 1791, he taught a school in Vermont, devoting himself, at the same time, to the classics, in order to qualify himself for the degree of bachelor of arts, which he obtained from the college in the last mentioned year. In October of the same year, he was chosen clerk to the house of delegates of the state of Vermont, and, in 1792, received a captain's commission in the American army. He proceeded with his company down the Ohio, to the western army, at Legionville, with which he continued until 1794. In 1797, he was appointed consul for the kingdom of Tunis. Here he became involved in negotiations and altercations with the bey, which he conducted with extraordinary spirit, and at the frequent risk of his life. The history of them, as left by himself, is not a little entertaining and curious. His official correspondence and private journal are full of striking anecdotes and descrip-

tions. War was declared by the bashaw of Tripoli against the U. States, in 1801. The reigning chief was a usurper, and the lawful one, his brother, happened to be at Tunis, in exile. With him Eaton concerted a project for attacking the usurper by land, while the American squadron in the Mediterranean operated against him by sea. In 1803, he returned to the U. States, and opened his plan to the government; but, finding that no aid could be had from the government, he set out for Egypt, merely with the character of American agent. He sailed with the squadron for the Mediterranean in July, 1804, and proceeded to Alexandria, in Egypt, where he arrived in November. In the following month, he was at Grand Cairo, where he learned that Hamet Bashaw, after a series of vicissitudes and disasters, had been reduced to the alternative of joining the Mamelukes, and that he was actually with them, commanding a few Tripolitans and their Arab auxiliaries, in Upper Egypt. Eaton contrived to obtain from the viceroy of Egypt an amnesty for Hamet Bashaw, and permission for him to pass the Turkish army unmolested. A rendezvous was appointed; they met near Alexandria, and formed a convention, in the eighth article of which it was stipulated, that Eaton should be recognised as general and commander in chief of the land forces which were or might be called into service against the common enemy, the reigning bashaw of Tripoli. The forces consisted of 9 Americans, a company of 25 cannoniers, and a company of 38 Greeks, the bashaw's suite of about 90 men, and a party of Arab cavalry; which, including the footmen and camel-drivers, made the whole number about 400. Such was the land expedition against Tripoli. The march was pursued with a great variety of adventure and suffering, and Bomba was reached April 15th, where the U. States' vessels, the *Argus*, captain Hull, and the *Hornet*, had arrived with provisions, to enable the almost famished army to proceed to Derne. April 25, they encamped on an eminence which commands this place, and immediately reconnoitred. On the morning of the 26th, terms of amity were offered the bey, on condition of allegiance and fidelity. The flag of truce was sent back with this laconic answer—"My head or yours!" Derne was taken, after a furious assault, but its possession was not secure. An army of the reigning bashaw of Tripoli, consisting of several thousand troops, approached the town, and gave battle to

the victors, May 13, but were repulsed, with considerable loss. June 2, they returned to the assault, and met with no better fate. On the 10th, an engagement took place, in which there were supposed to be not less than 5000 men on the field. The hopes of Eaton were, however, suddenly blasted by the official intelligence, received on the 11th, that the American negotiators, in the squadron before Tripoli, had concluded a peace with the usurper. Eaton was required to evacuate the post of Derne, and, with his Greek and American garrison, to repair on board the ships. It was necessary for him to do this clandestinely, lest his Arabian auxiliaries should endeavor to prevent him. Hamet Bashaw embarked at the same time; the Arabians fled to the mountains; and thus ended this gallant and romantic affair, which is stated, in the official correspondence of the American commissioners, who negotiated the peace, to have had the effect of bringing the Tripolitans to terms. Eaton returned to the U. States in August, where he received the most flattering marks of public favor. The president, in his message to congress, made honorable mention of his merit and services. A resolution was moved in the house of representatives, at Washington, for presenting him with a medal; but the motion, after being warmly debated, was rejected by a small majority. The legislature of Massachusetts bestowed upon him a tract of land, of 10,000 acres, in testimony of their sense of his "undaunted courage and brilliant services." In the winter of 1806—7, Aaron Burr endeavored, without effect, to enlist him in his conspiracy. On the trial of Burr at Richmond, he gave full testimony against him. About this period, he was elected a representative in the legislature of Massachusetts. A few years after, this bold and enterprising man fell a victim to habits of inebriety, which he contracted soon after his return. His death took place in 1811. Mr. Eaton was well acquainted with French and Italian, and with history, geography and tactics. His official and private correspondence is marked by great acuteness and energy. The letters and journal in which he has left the history of his life on the coast of Barbary, and his celebrated expedition to Derne, denote no common powers of observation and description. They are replete with curious remarks and incidents, and may be found in an octavo volume, entitled *The Life of General Eaton*, and published by one of his friends in Massachusetts.

EAU; a French word, signifying *water*, and used in English, with some other words, for several spirituous waters, particularly perfumes; as, *eau de Cologne*, *eau de luce*, *eau de Portugal*, &c. The two most celebrated are the

Eau de Cologne, or water of Cologne, a fragrant water, made originally, and in most perfection, in Cologne. Formerly many wonderful powers were ascribed to this water, but it was probably never so much in demand as at present, in Europe and America, and numberless recipes have been given for its manufacture. It was invented by a person named *Farina*, in whose family the secret, as they say, continues to be preserved, since chemistry has not been able, as yet, to give the analysis of it. It is imitated, however, every where. The consumption of this perfume has increased much ever since the seven years' war; and there exist, at present, 15 manufactories of it in Cologne, which produce several millions of bottles yearly; much, also, is manufactured at Paris, in Saxony, and other places. One of the many recipes to make *eau de Cologne* is the following:

Alcohol, or spirit of wine, at 30°	2 pints.
Oleum neroli*	
— de cedro	
— de cedrat	
— cort aurant	
— citri	
— bergamot	
— rosmarin	
	24 drops.
Seed of small cardamum	2 drachms.

Distil it in the Mary-bath, until $\frac{3}{4}$ of the alcohol have evaporated.

Eau de Luce (*aqua Lucia*, or *spiritus salis ammoniaci succinatus*); invented by a person named *Luce*, at Lille, in Flanders; a volatile preparation, thus made: ten or twelve grains of white soap are dissolved in four ounces of rectified spirit of wine, after which the solution is strained, and a drachm of rectified oil of amber is added, and the whole is filtrated. Afterwards, some strong volatile spirit of sal ammonia should be mixed with the solution. This water is much in use in England.

EBB. (See *Tide*.)

EBEL, John Godfrey, an eminent statistical and geographical writer, was born about 1770, at Frankfort on the Oder, in Prussia. Having finished his medical studies, and received a doctor's degree, he went to France, where he became acquainted with Sièyes, whose writings he

* Ethereal oil of orange-flowers.

did much towards circulating in Germany. In 1801, he went to Switzerland, where he lived chiefly in Zürich. He travelled through the country, during his long stay there, in all directions, making close and accurate observations. The fruits of his inquiries were some works which give us the most valuable accounts of the natural and statistical condition of Switzerland, and are particularly useful to travellers. His *Guide to the Traveller in Switzerland*, the best known of his works, has been translated into French and English, and is a model for every work of this kind, as it leaves hardly a single subject, which can have interest to a traveller, untouched. In his *Description of the Mountaineers of Switzerland* (Tubingen, 1798—1802, 2 vols.), he gives a picture of the inhabitants of Appenzell and Glarus. His work on the *Structure of the Earth in the Alps* (Zürich, 1808) gives a general view of the structure of the earth, and valuable accounts of the geology of the Alps. In the time of the Helvetic republic, Ebel was honored with the rights of citizenship, as an acknowledgment of his services to Switzerland.

EBELING, Christopher Daniel; born 1741, at Garmissen, in Hildesheim. He studied theology at Göttingen, from 1763 to 1767, paying particular attention to ecclesiastical history and exegesis, which led him to a careful study of the Oriental languages, especially the Arabic. He also studied political history, Greek, Roman and English literature, and the fine arts, for which he, at length, relinquished theology. In order to procure himself further advancement, he went to Leipsic as a tutor, and, in 1769, accepted a place offered him in the academy of commerce at Hamburg. As good manuals were wanted for the study of modern languages, he published, for the academy of commerce, in 1773, his *Miscellaneous Essays in English Prose*, which passed through six editions, and were soon followed by similar manuals for the Italian, French, Spanish and Dutch languages. For the same reason, he applied himself more to the study of geography, and published translations of many, especially English travels. Encouraged by his connexions with Hamburg, the academy of commerce, and the house of Büsching, he soon found means to open for himself new sources of geographical information. England, Spain, Portugal and America, especially the U. States, were the subjects of his particular attention. In the new edition of the great geography of Büs-

ching, he undertook an account of Portugal and the U. States of North America. The long interruption of commerce with foreign countries, and the author's wish to give his work the highest perfection, were the causes of the slow progress of this labor. But all that is completed, is justly viewed as a master-piece. This is the acknowledged opinion, not only in Europe, but also in the North American states. This great work of his is entitled, *Geography and History of North America* (Hamburg, 1793—99, 5 vols.). After the removal of Wurm from the academy of commerce, Büsching, in company with Ebeling, undertook the management of this establishment, and they published the *Library of Commerce*. In 1784, Ebeling was appointed professor of history and the Greek language in the Hamburg gymnasium; and the superintendence of the Hamburg library was afterwards committed to him. He filled both offices till his death, June 30, 1817, with great reputation. For almost all the literary periodicals of Germany he prepared articles in the geographical and kindred departments. In his earlier years, he wrote a history of German poetry for the *Hanover Magazine*, and furnished several contributions to the *German Library*, published by Frederic Nicolai, and, at a later period, contributed many literary articles to the *New Hamburg Gazette*. His frank, cheerful and amiable manners never deserted him, though, for nearly 30 years, he suffered a partial, and, finally, an almost total deafness, and was thus deprived, among other pleasures, of the enjoyment of music, of which he was passionately fond, and in which he had made uncommon attainments. He left behind two collections, perhaps unique in their kind—a collection of from 9 to 10,000 maps, and a library of books relating to America, and containing more than 3900 volumes, which was purchased, in 1818, by Israel Thorndike, of Boston, and presented by him to Harvard college, in Cambridge, Massachusetts.

EBEN, Frederic (baron von), since 1821, general in the service of the republic of Colombia, was born in 1773, at Creutzburg, in Silesia, of an ancient family. Young Eben early distinguished himself, and received the Prussian order of merit. In 1799, he became knight of Malta, and, in 1800, entered the English service. The year after the peace of 1802, he received a commission in the 10th regiment of light dragoons, or the prince of Wales's own. At this time, he composed instructions for

the service of the light horse and of the riflemen in the English army; he established, also, at the command of the prince, a company of light horse, after the manner of the Hungarian hussars, and composed of foreigners; and his manual for the new arming of the English cavalry was introduced into the army by the commander in chief, the duke of York. In 1806, he was made major in a regiment of chasseurs; in 1807, he served till the peace as a volunteer in the Prussian corps under general Blücher, and, in 1808, he went, with a number of Portuguese emigrants, to Oporto, where, in December, he was made commander of the English troops. After the embarkation of the British army at Corunna, Eben formed, from the scattered English soldiers, a corps of a thousand men, which joined the army of the present duke of Wellington. He himself remained in Oporto, from which place he carried the English military chest, and provisions of war of every kind, in safety to Lisbon. Here he established a small corps, from deserters of the French Swiss regiments, and, in February, 1809, led a division of the Lusitanian legion to Galicia, where he and the marquis de la Romana directed the arming of the country. Called back to Portugal, he accepted the post of commander in chief in Braga, where the rebellious populace had murdered the Portuguese general Bernardin Gomez Freyre d'Andrade, and his field-officers, March 17, 1809; but he was not able, with his undisciplined troops, consisting of 18,000 militia, and no more than 995 regular soldiers, without ammunition, to maintain himself longer than the 20th of March against the advancing French army under Soult. With the military chest, colors and cannon, he made his retreat to Oporto, where he quelled, March 26, the insurrection of the people against the adherents of the French, of whom 15 had been murdered; but, on the 29th, Soult took the city by storm, and Eben, who collected again the scattered Portuguese troops near Coimbra, lost his property in the plunder of the city. His behavior gained him the esteem of the nation, so that the bishop of Oporto, the patriarch Eleito, who conducted the revolution against the French, presented him with a gold cross; and all the officers recommended by him were promoted. Notwithstanding this, lord Beresford, who reorganized the Portuguese army, in which Eben had been acknowledged as colonel, gave him who had been hitherto a British major, only

a commission as lieutenant-colonel in that army. Eben, therefore, asked his dismissal, which was granted to him by Beresford, but not by the Portuguese government, which made him governor of Setuval. At the command of the English ambassador, he accepted the post, with the commission of a Portuguese colonel. He subsequently commanded the loyal Lusitanian legion in the battle of Busaco, in the lines of Torres Vedras, and in the pursuit of Massena. In 1811, he was made lieutenant-colonel and Portuguese brigadier-general, commanded a brigade of infantry of the line in the battle of Fuentes d'Onoro, in the blockade of Almeida, before Rodrigo and at Badajoz. After this, in 1812, he commanded the corps in Spain. In 1813, he was made governor *intrino* of the province Tras-os-Montes, and, in 1814, he was appointed a colonel in the English army, and aid-de-camp of the prince regent, but was dismissed from the Portuguese service, as eldest brigadier, under the pretext that he had been formerly an officer of the cavalry. This took place, however, without the consent of the Portuguese government. He still remained, with the permission of the prince regent, in Portugal, and offered his services to the king, in the army of Brazil; but, by the contrivance of his enemies, he was implicated in the pretended conspiracy of general Freyre d'Andrade, was arrested, and, on insufficient grounds, was sentenced to exile. Eben lived after this at Hamburg, from whence he petitioned in vain the king of Portugal, at Rio Janeiro, for the revision of his trial. The Portuguese ambassador in Hamburg, however, assured him that his master, the king, was entirely convinced of his innocence. In 1821, Eben repaired to South America, and offered his services to the republic of Colombia. He was admitted, as a brigadier-general, into the army of the republic, organized the army, and, after the victory of Bolivar, in April, 1822, coöperated in the occupation of Quito.

EBENEZER (*Hebrew*; the stone of help); the name of a field where the Philistines defeated the Hebrews, and seized on the sacred ark, and where, afterwards, at Samuel's request, the Lord discomfited the Philistines, with thunder, &c. On this occasion, Samuel set up a stone, and gave it this designation, to indicate that the Lord had helped them. It is said to be about 40 miles south-west of Shiloh. The name of *Ebenezer* has also been given to a town in Georgia, Effingham county.

EBERT, John Arnold; a poet and trans-

lator, particularly of English works; born 1723, at Hamburg. His love of the English language was awakened and cherished by Hagedorn, who contributed much to the influence of English literature upon the German. Not long after the establishment of the *Carolinum*, in Brunswick, he received an appointment, in 1748, in the school connected with it, and instructed the hereditary prince, afterwards duke of Brunswick, in the English language. About this time, he conceived the idea of translating, and thus making known to his countrymen, the best English poets and authors. The best of his translations were those of Young's Night Thoughts, which gained him great reputation as a translator; and Glover's Leonidas. In 1753, he obtained the place of regular professor in the *Carolinum*, and afterwards the station of court counsellor. He died in 1795. Ebert had a lively fancy, and a warm imagination. His writings, collected by himself, appeared under the title *J. A. Ebert's Epistles and Miscellaneous Poems*, to which another volume was added after his death (Hamburg, 1789 and 1795, 2 vols.).

EBIONITES; a sect of the first century, so called from their leader, Ebion. They held several dogmas in common with the Nazarenes, united the ceremonies of the Mosaic institution with the precepts of the gospel, observed both the Jewish Sabbath and Christian Sunday, and, in celebrating the Eucharist, made use of unleavened bread. They abstained from the flesh of animals, and even from milk. In relation to Jesus Christ, some of them held that he was born, like other men, of Joseph and Mary, and acquired sanctification only by his good works. Others of them allowed that he was born of a virgin, but denied that he was the word of God, or had any existence before his human generation. They said he was, indeed, the only true prophet; but yet a mere man, who, by his virtue, had arrived at being called *Christ*, and the *Son of God*. They also supposed that Christ and the devil were two principles, which God had opposed to each other. Of the New Testament they only received the Gospel of St. Matthew, which they called the *Gospel according to the Hebrews*. (See the article *Nazarenes*.)

EBONY; a kind of wood, extremely hard, and susceptible of a very fine polish, which is much used in mosaic, inlaying, and other ornamental works. Its color is red, black or green. The black is most esteemed, and is imported principally

from Madagascar and the Isle of France. *Red ebony*, so called, though its color is brown striped with black, is less compact, and is also brought from Madagascar. The green is softer than either of the preceding, yields a fine green tincture, which is employed in dyeing, and is brought from the West Indies, particularly from Tobago, as well as from the above mentioned islands. The best is jet black, and free from knots, or reddish veins. Ebony is imitated by subjecting some hard kinds of wood, especially that of the pear tree, to a hot decoction of galls, and, when this is dry, applying ink with a stiff brush; a little warm wax is then used to give it a polish: another method is by heating and burning the wood. The ebony-tree (*diospyros ebenum*) grows wild in the East Indies, and has been cultivated for many years in the Isle of France, which supplies a great part of that consumed in Europe. The central part, or heart-wood, only is black; the sap-wood does not differ in color from that of other trees. Several other species of the genus afford ebony, among them *D. decandra* and *dorcadendra* of Cochin China, which are used in that country for cabinet work, &c. The species of *diospyros* are trees or shrubs, with alternate petiolate and coriaceous leaves; the flowers monopetalous, dioecious, axillary, and sessile or subsessile. About 30 species are known, one of which, the *persimmon*, is found in the U. States. That which the Greeks used in the most ancient times was procured from India; but it was unknown in Rome till after the victories obtained by Pompey over Mithridates. The ancient inhabitants of India, the Greeks, and finally the Romans, made frequent use of this fine wood, inlaying it with ivory on account of the contrast of colors. According to Pliny, the statue of Diana at Ephesus was of ebony, but according to Vitruvius, it was of cedar. Artists and poets used ebony allegorically for the attributes of the infernals, giving a throne formed of it to Pluto and Proserpine, and making the gates of hell of the same dark and durable material. It is also used at the present day for sculptural decorations, embellished and inlaid with ivory, mother of pearl, silver and gold.

EBRO (Latin, *Iberus*), a river in Spain, once the boundary between the territory of Rome and Carthage, has its source in a little valley east of Reynosa; it proceeds from a copious spring at the foot of an ancient tower, called *Fontibre*, and, after traversing many open and fertile districts,

passes by the city of Tortosa, where there is a bridge of boats over it, and then falls into the Mediterranean, at the island of Alfachs; but, on account of its current and many rocks and shoals, it is navigable no higher than Tortosa, and even to that place only for small craft. Length about 350 miles.

ECBATANA; the chief city or ancient metropolis of Media, built, according to Pliny, by Seleucus. It was the summer residence of the Persian and Median kings, and existed in great splendor at a very early period in the history of the world. It was situated on a rising ground, about 12 stadia from Mount Orontes, and 1200 stadia south of Palus Spautia. Its walls are described by ancient writers in a style of romantic exaggeration, and particularly by Herodotus and the author of the book of Judith. Daniel is said by Josephus to have built one of its most magnificent palaces, some of the beams of which were of silver, and the rest of cedar plated with gold. This splendid edifice afterwards served as a mausoleum to the kings of Media, and is affirmed, by the last mentioned author, to have been entire in his time. There are no traces now remaining of these lofty buildings; and even the site of this celebrated city has become a subject of dispute among modern travellers. It was pillaged by the army of Alexander.

ECCE HOMO (*Latin*; Behold the man!). This name is often given to crucifixes and pictures which represent the suffering Savior, because, according to John, xix. 5, Pilate broke out in these words, when he saw with what patience Jesus suffered scourging.

ECCLESIASTICAL COURTS. (See *Courts*.)

ECCLESIASTICAL ESTABLISHMENTS. In the following article, an account is given of the number of the clergy, and the expense of supporting the ecclesiastical establishments in some of the principal countries of Europe. In the *Tableau de la Constitution Politique de la Monarchie Française selon la Charte, &c. par A. Mahull*, is the following account of the French clergy: "The Catholic clergy, before the revolution, were composed of 136 archbishops and bishops, 6800 canons and priests of the *bas chœurs*, attached to the cathedral and collegial churches, 44,000 curates, 6400 *succursalistes* (a sort of curates, removable by the bishops), 18,000 vicars, 16,000 ecclesiastics, with or without benefices, 600 canonesses, 31,000 monks, 27,000 nuns, 10,000 servants of the church; total, 159,936. The Catholic

population of France then comprised 25,000,000 souls. The clergy thus formed the hundred and sixty-eighth part of it. The possessions of the clergy then afforded, according to the statistical tables of M. César Moreau, 121,000,000 of the revenue. The French clergy, at the commencement of 1828, according to the documents collected by the editor of the *Almanach du Clergé*, comprised 5 cardinals, 14 archbishops, 66 bishops, 5 *cordons bleus*, of the order of the Holy Ghost, 468 vicars-general, 684 titular canons, 1788 honorary canons, 3083 curates, 22,475 *desservans* (who perform the duties of the titular clergy), 5705 vicars, 439 chaplains, 839 almoners, 1076 priests resident in the parishes, or authorized to preach or hear confession, 1044 priests, directors and professors of seminaries. The number of priests deemed necessary by the bishops amounts to 52,457, which would give for the present population of France, excluding the Protestant sects, one for each 550 souls. The total number of officiating priests is 36,649. In 1824, the number was estimated at only 30,443. Consequently, 15,808 are required to complete the number desired by the heads of the church. It is estimated, that 13,493 of the priests employed are over sixty years of age, and that there are 2328 whom age and infirmity render incapable of acting. The number of ecclesiastical *élèves* is 44,244, of whom 9285 are *théologiens*, 3725 *philosophes*, 21,118 are in the seminaries, 7761 in the colleges, 2355 with the curates. The whole expense of supporting the Catholic worship, according to the calculation presented by M. Charles Dupin, June 21, 1828, to the chamber of deputies, is 62,845,000 francs. Before the revolution, the possessions of the clergy afforded, as we have said, 121 millions, leaving a difference of expense in favor of the present system, of 58,155,000 francs, although the lower orders of the clergy receive a much ampler compensation than before, and the clergy are much more equally distributed among those whom they are to serve. In 1828, according to the *Almanach du Clergé*, the whole number of nuns in France was 19,340. *De jure* or *de facto*, there exist 3024 establishments of nuns, to wit, 1983 definitely authorized, and 1041 *en expectative*. There are but a small number of religious houses for males in France. The state of the clergy of Spain before the revolution is thus given in the *Diario de la Coruna* for July 1, 1821:—

Archbishops and bishops,	62
Canons and dignitaries,	2,399
Prebends,	1,869
Parish rectors,	16,481
Curates,	4,927
Other beneficed clergy,	16,400
Religious men of the greater orders,	17,411
Religious men of the minor orders,	9,088
Hermitands,	1,416
Servants,	3,987
Sacristans, church clerks,	15,000
Monks,	5,500
Friars with shoes,	13,500
Friars without shoes,	30,000
Regular congregationists,	2,000
Servants of regulars,	6,400
Youths in their houses,	1,800
Total,	148,242
Nuns and religious women,	32,000
Total of regular and secular clergy,	180,242

Property belonging to the Clergy.

Pious foundations for the use of both sexes, consisting in lands and buildings,	Value. £62,500,000
Estates of the secular clergy,	62,000,000
Estates of the regular clergy,	62,000,000
Real property, land and buildings,	£186,500,000

exclusive of tithes, and various other taxes and dues for the clergy. The population of Spain, in 1827, was estimated in Hassel's Historical and Statistical Almanack, published in 1829, at 13,953,959. The number of places of worship may be 11,000. At the period of the Spanish revolution, the cortes, by a decree of October 24, 1821, introduced a new organization of the Spanish church, abolishing all the monasteries, excepting ten or twelve, declaring all gifts and legacies to monasteries, churches and hospitals unlawful, and curtailing the whole ecclesiastical establishment, so as to effect a saving of forty-four and a half millions of dollars annually to the nation, reckoning the annual expense of the church to the nation, before the revolution, at six per cent. on the church property. But the king, on his restoration to absolute power, October 1, 1823, immediately annulled all the decrees of the constitutional government, and the ecclesiastical establishment was placed on its former footing. The Spanish clergy, however, contribute considerably to the support of the government.

Their contributions are as follow: 1. the *subsidio*, or voluntary gift of £100,000 annually; the *excusado*, or tithe, of the tenth house or farm, originally appropriated for building and repairing churches. Pope Pius V allowed Philip II to apply the produce of this tax to his wars against the infidels. It is now applied to the ordinary expenses of the state. The king has the choice of all the houses and farms, and selects the most valuable; so that this *tenth* may be considered equivalent to one eighth or one seventh of all the tithes of the parish. 2. The *tercias reales* is a tax of two-ninths of the tithes received by the clergy. 3. The *noveno*, another ninth part of the tithes annually paid to the clergy. 4. The *novales*, tithes on land newly brought into cultivation. 5. The *diezmos extentos*, the tithe of all lands originally exempted from clerical jurisdiction. The whole of the above taxes are farmed. These, however, are not the only burden imposed on the clergy. It has for some time been the practice to oblige them to pay two years' revenue upon their appointment to a new benefice. The payment is made during a period of four years, being the half of each year's income; and, on the expiration of this term, the incumbent is sometimes removed to another living, to undergo the same depletory operation during another four years. In consequence of this policy, the Spanish clergy, formerly so wealthy, are now, in many cases, but indifferently provided for, and are daily becoming of less consequence in the estimation of the people as well as of the government. Many of the great dignitaries, however, are very rich. Next to the ecclesiastical principalities of Germany, the richest Catholic prelacies are found in Spain. The archbishoprics of Toledo, Seville, Santiago, Valencia and Saragossa have larger revenues than any in France, or any other country. Some of the bishops and other dignitaries, also, have very considerable incomes. The bishop of Murcia receives annually about £20,833 sterling, and the bishop of Lerida £10,000. The possessions of some of the monasteries, particularly some of the Carthusians and Ieronymites, include the greatest part of the district in which they are situated. These religious foundations, while they depopulate and impoverish the neighboring country, increase poverty and idleness by indiscriminate charity.

Latin Catholic Church in Hungary.

Hearers,	4,000,000
Places of worship,	3,230

Average number of persons to a place of worship, 1,240
 Clergymen, 5,469
 3 archbishops, 18 bishops, 16 titular bishops, 274 prebendaries and canons, 5158 working clergy.

Average number of clergymen to a place of worship, 1½
 or five clergymen to three places of worship.

Average number of clergymen to 1000 persons, 1½
 Income, £314,214

37 archbishops and bishops, 96,000
 374 prebends and canons, 58,000

£154,000

5158 working clergy, averaging } £170,214
 £33 each, }

4,000,000 of hearers, at £80,000 per million of hearers, £320,000

This is, perhaps, the greatest instance on the continent of Europe of the abuse of church property: 311 comparatively idle churchmen possess themselves of nearly as much income as 5158 working clergymen, who, with scanty means of existence, labor in the ministry, and are the real spiritual pastors of the people. The richest benefices are considered a provision for members of the great families of Hungary. Any benefice producing more than £3400 a year, pays the surplus to the fund for the working clergy.

Calvinistic Church of Hungary.

Hearers, 1,050,000
 Places of worship, 1,351
 Clergymen, 1,384

One place of worship for every 750 people.

One clergyman for every place of worship.

Income—1383 clergymen, average £44 each, £60,896
 1,050,000 hearers, at £60,000 per million of hearers, £63,000

Lutheran Church of Hungary.

Hearers, 650,000
 Places of worship, 448
 Clergymen, 456

One place of worship for every 1500 persons.

One clergyman for every place of worship.

Income, £25,080
 Highest stipend, £80—average, £55 for 456 persons.

650,000 hearers, at £40,000 per million of hearers, £26,000

Estimated Expenditure on the Clergy in Italy.

Hearers, 19,391,200

The Italians are all Roman Catholics. According to a publication called *Prospetto geographico statistico degli Stati Europei*, printed at Milan, 1820, they are distributed as follows:

Kingdom of Sardinia, (of which the island 520,900), 3,985,000
 Lombardo-Venetian kingdom, subject to Austria, 4,117,000
 Duchy of Parma, 390,000
 Duchy of Modena (Reggio and Mirandola), 350,000
 Duchy of Massa and Carrara, 30,000
 Duchy of Lucca, 127,000
 Grand duchy of Tuscany, 1,193,000
 States of the Church, 2,430,000
 Republic of San Marino, 7,000
 Kingdom of the Two Sicilies, or Naples, 7,576,000
 (Of which the island of Sicily 1,660,000). 19,391,200

Malta, 104,600

Corsica, 130,000

234,600 Italians, but detached from Italy.

Places of worship, 16,170

Clergymen, 20,400

Estimated at one working clergyman for every 1000 persons (being more than in France, and less than in Spain), and 1000 dignitaries, as follows:

1 pope,
 46 cardinals,
 38 archbishops, { Estimated at one prelate for every 200,000
 62 bishops, . . . } people,
 853 other dignitaries,
 19,400 working clergymen.

20,400

One clergyman for every 950 persons.

One place of worship for every 1200 persons.

Income, £776,000

Being at the rate of £40,000 per million of hearers.

19,391,200 hearers, at £40,000 per million of hearers, £776,000

This table is taken from Remarks on the Consumption of the public Wealth, by the Clergy of every Nation, &c. (London, 1822), and is said to have been framed with the assistance of a gentleman who had resided a considerable time in the great cities of Italy, particularly in Rome, and had given much attention to the subject.

The following statements respecting Russia are taken from the *Statistique et Itineraire de la Russie*, par J. H. Schnitzler, Paris and St. Petersburg, 1829. The population is estimated at 55,000,000. The clergy of Russia may be estimated at 230,000 individuals in actual service, of whom the cities comprise about 60,000; over 190,000 belong to the orthodox Greek

church, inclusive of the lay brothers, the choristers, &c.; the Catholic clergy amount to more than 30,000; the Protestant clergy do not exceed 1000, and there are over 9000 Mollahs. These are all allowed to marry, except the Catholics. Nearly 200,000 are fathers of families, and the total number of persons connected with the clergy may be computed at 900,000. Their condition differs according to their rank: the metropolitans, the archbishops, bishops, and the archimandrites are rich; but the great mass of the clergy is poorly provided for. The monks are numerous, and are supported at the expense of the state; but their wants are few, and their manner of living extremely simple. The secular clergy, which is under the superintendence of the bishops, is divided into *protohieris* or archpriests, *hieris* or priests (popes), and deacons. The regular clergy, which is also called the *black clergy* (*tchornoie doukhovenstro*) comprises the archimandrites, the *igoumenoi* or priors, the *igoumenai* or abbesses, the monks (*monachi*), and nuns (*monachini*), and the hermits (*poustynniki*). The bishops are taken from the regular clergy, and any priest, who desires to remain attached to the ecclesiastical order after the death of his wife, must enter that body, and is then called a *hieromonk*. The revenues of the clergy consisted originally of tithes; but, after it had come into possession of large landed estates, cultivated by boors, its support was derived partly from their produce, and partly from the *raskol-nitchai-prikaze*, or tax paid by dissidents for the privilege of wearing the beard. The management of the revenues was in the hands of the patriarch, until Catharine I established a commission for the purpose, which was, however, suppressed in 1742. The holy synod was then intrusted with their administration; and it appears, from an enumeration made by order of the empress Elizabeth, in 1746, that 839,546 male boors were attached to the estates of the clergy. These estates were secularized by Peter III, in 1762, who appointed a new commission for their management. Catharine II began by abolishing this board, and improving the condition of the clergy. In 1764, she secularized all the ecclesiastical possessions, reestablished the commission, and assigned a fixed revenue to the members of the clergy. The chambers of account, in the capitals of the governments, are now invested with the administration of these estates, the annual revenue of which is

estimated at 250,000 silver rubles, which is expended in paying the salaries of the clergy. Notwithstanding this seizure of their domains, the clergy have still a considerable amount of land connected with the convents, or with the church, but there are no boors attached.

Church or Kirk of Scotland.

The established religion in Scotland is the Presbyterian or Calvinistic sect, and is denominated the *kirk* of Scotland.

Hearers, 1,500,000

According to sir John Sinclair, in 1814, there were in Scotland,

Hearers of the established Presbyterian church, 1,407,524
Dissenting Presbyterians, 256,000
Baptists, Bereans, Glassites, 50,000
Scotch Episcopalians, 28,000
Church of England, 4,000
Roman Catholics, 50,000
Methodists, 9,000
Quakers, 300

Total, 1,804,824

The population having increased to 2,000,000, the hearers of the established church may be estimated at 1,500,000 (in 1822).

Places of worship, 1,000

One place of worship for every 1,500 persons,

Clergymen, 1,000

Average number of clergymen

for a place of worship, 1

Average number of clergymen

for 1500 persons, 1

Income, £206,360

Being an average of £220 for 938 clergymen. Their stipend can in no case be under £150: it averages much more; and then they are provided with a manse, or dwelling-house, and a glebe of land.

1,500,000 hearers, at £135,000

per million hearers, £202,500

The revenue of the Scotch clergy, according to the *Remarks*, is derived from a charge on the rents of land, paid by the landlord throughout Scotland. It is a moderate charge, amounting to about ninepence sterling an acre on lands in cultivation, and, although it is called *teinds* or tithe, does not amount nearly to the tithe in England. An estate in Scotland pays £30 on 800 statute English acres, while the same sum of £30 is in some cases paid by an estate of 80 acres in England.

The average Number of People for whom there is a Church.

In France, 1,150

In Scotland, 1,500

In Spain, 1,000

In Portugal,	1,000
In Hungary, Catholics,	1,240
In do. Calvinists,	750
In do. Lutherans,	1,500

The average Number of Persons for whom there is a Clergyman provided.

In France,	1,150
In Scotland,	1,500
In Spain,	700
In Portugal,	700
In Hungary, Catholics,	730
In do. Calvinists,	750
In do. Lutherans,	1,500

There are in France about 9000 clergymen generally engaged in tuition, who have not employments in the church, but who render occasional and regular aid to the ministers of the churches; they are the remnants of the times before the revolution; their number is diminishing fast, and is not renewed. Taking these into consideration, there is in France one clergyman for every 330 persons.

The following estimates are taken from the Remarks above quoted, as are also the preceding respecting Scotland, &c.

Estimated Expenditure on the Clergy of the Established Church of England.

IN ENGLAND AND WALES.

Hearers, 6,000,000

The whole population is 12,000,000; if one half are hearers of the establishment, it is certainly the outside.

Places of worship, 11,743
Clergymen, 18,000

Archbishops, 2
Bishops, 24
Archdeacons, 60
Deans, 27
Canons and prebends, 544

Dignitaries, 657
Working clergy, rectors, vicars, curates, and chaplains, 17,343

One place of worship for every 500 hearers.

One clergyman for every 333 hearers.

One archbishop for every 3,000,000 hearers.

One prelate for every 233,000 hearers.

Income, £7,600,000
6,000,000 of hearers, at
£1,266,000 per million, . . . 7,596,000

Estimated Expenditure on the Clergy of the Established Church of England and Ireland.

IN IRELAND.

Hearers, 400,000

According to the population return, there are in Ireland 6,846,000 people; say 7,000,000

The following is deemed their distribution into sects:

Roman Catholics,	5,500,000
Presbyterians,	800,000
Church of England and Ireland,	400,000
Methodists and other sects,	300,000

Places of worship, 740
Clergymen, 1,700

Archbishops, 4
Bishops, 18
Deans, 33
Archdeacons, 34
Canons, prebends, &c. 500

Dignitaries, 587
Working clergy, 1,113

(For full particulars, see *Ecclesiastical Register*, printed by Nolan, Dublin.)

One place of worship for every 540 hearers.

One clergyman for every 235 hearers.

One archbishop for every 100,000 hearers.

One prelate for every 18,000 hearers.

Income, £1,300,000
400,000 hearers, at £3,250,000
per million of hearers, . . . £1,300,000.

Estimated Expenditure on their own Clergy, by the People who are not hearers of the Established Church.

IN ENGLAND AND WALES.

Hearers, 6,000,000

Places of worship, 8,000

Clergymen, 8,000

One place of worship to 750 hearers.

One clergyman to 750 hearers.

Income, £500,000
Voluntary contributions at an average rate of £65 for each clergyman.

6,000,000 of hearers, at £85,000
per million, £510,000

Estimated Expenditure on the Clergy of that Part of the People whose Ministers do not receive Stipends from the Kirk.

IN SCOTLAND.

Hearers, 500,000

(See the numbers of each sect in the table of the Scotch kirk.)

Places of worship, 333

At an average of one place of worship for every 1500 persons, as in the kirk.

Clergymen, 400

At an average of six clergymen to five places of worship.

Income, £44,000
Voluntary contributions at an average of £110 each, to 400 clergymen.

A place of worship to every 1500 hearers.

A clergyman to every 1250 hearers.

500,000 hearers, at £90,000 per
million, £45,000

Estimated Expenditure on their own Clergy, by the people of Ireland who are not of the Established Church.

Hearers, 6,600,000

Computed as follows:

Catholics, 5,500,000

Presbyterians, 800,000

Methodists, and other sects, 300,000

Places of worship, 2378

Clergymen, 2378

One place of worship for every 2400 hearers,

One clergyman for every 2400 hearers,

Income, £261,580

Voluntary contribution, at an average of £110 each, for 2378 clergymen.

6,600,000 hearers, at £40,000 per million of hearers, £264,000

Government grant, yearly, the sum of £13,437 to certain Protestant ministers, viz. to Presbyterians, £3,697; to seceding Presbyterians, £4,034; to other Protestant dissenting ministers, £756.

To these tables succeed, in the Remarks abovementioned, comparative tables, showing in one view the expense of supporting the ecclesiastical establishments in all the countries of Europe and America. These latter, it must be recollected, were drawn up during the short sway of the constitutional governments in Spain and Portugal, when the expense of the church in these countries was greatly reduced. The following comparison, therefore, is true only of that time:—

Christians throughout the World.

	Roman Catholics.	Protestants.	Greek Church.
In Great Britain and Ireland,	5,800,000	15,200,000	
In all the rest of the world,	118,872,060	38,856,000	41,500,000
Total,	124,672,000	54,056,000	41,500,000
Catholics, 124,672,000	Pay to their clergy,	£6,106,000	
Protestants, 54,056,000	"	11,906,000	
Greek Church, 41,500,000	"	760,000	
Total of Christians, . . 220,228,000	"	£18,772,000	

Of which England, for 21 millions, pays more than half (as things then stood). The restriction in the preceding paragraph applies to a similar estimate in our article *Church*.

ECCLESIASTICAL HISTORY. (See *Christianity*.)

ECCLESIASTICAL STATES. (See *Church, States of the*; also *Curia, Papal*.)

ECALOTE (*allium ascalonicum*); a kind of onion, a native of Syria, which has been cultivated in Europe for some centuries. The leaves are radical, awl-shaped and hollow; the stem naked, 6 to 8 inches high, terminated by a globose umbel of purplish flowers. The roots are pungent, but have an agreeable taste, and are generally preferred to the onion for various purposes of cookery.

ECARD, Lawrence; an English divine and historian of the last century. He was born in Suffolk in 1671, and studied at Cambridge. He died in 1730. Among his works are, *The Roman History*, 3 vols. 8vo.; *A General Ecclesiastical History*, 2 vols. 8vo.; both works extending only to the age of Constantine; *A History of England to the Revolution*, 3 vols. folio; *The Gazetteer's or Newsman's Interpreter*.

ECHEA (*ἡχέα* from *ἡχέω*, I sound), in ancient architecture; the name which the ancients gave to the sonorous vases of bronze or earth, of a bell-like shape, which they used in the construction of their theatres, to give greater power to the voices of their actors. The size of these

vases was proportioned to the magnitude of the building, and their conformation such, that they returned all the concords from the fourth and fifth to the double octave. They were arranged between the seats of the theatres in niches made for the purpose; the particulars of which are described in the fifth book of Vitruvius. According to this ancient author, such vases were inserted in the theatre at Corinth, from whence Lucius Mummius, at the taking of that city, transported them to Rome. It would appear that similar means have been employed in some of the Gothic cathedrals, to assist the voices of the priests and choristers; for in the choir of that at Strasburg, formerly belonging to a monastery of Dominicans, professor Oberlin discovered similar vases in various parts of the vaulted ceilings. The student is referred to Mr. Wilkin's translation of Vitruvius for further speculations on this curious mode of construction.

ECHELON (*French*; a ladder or stairway); used in military language. A battalion, regiment, &c., marches *en échelon*, or *par échelon*, if the divisions of which it is composed do not march in one line, but on parallel lines. The divisions are not exactly behind each other, but each is to the right or left of the one preceding, so as

to give the whole the appearance of a stairway. This order is used if the commander wishes to bring one part of a mass sooner into action, and to reserve the other. If the divisions of the *échelon* are battalions, these are generally from 100 to 200 steps from each other.

ECHENEIS; the remora, in natural history, a genus of fishes of the order *thoracici*. Generic character: head furnished on the top with a flat, oval, transversely grooved shield; gill-membrane, with ten rays, according to Gmelin, and six, according to Shaw; body not scaled. There are three species. The echineis remora, or Mediterranean remora, is of the length of from 12 to 18 inches. Among the ancients, its peculiarity of structure and habits was connected with the most incredible and marvellous circumstances, which are, however, detailed with all possible gravity and faith, by their most profound naturalists. Pliny states, that the force of the tide, the current and the tempest, joining in one grand impulse with oars and sails, to urge a ship onwards in one direction, is checked by the operation of one small fish, called *remora* by the Roman authors, which counteracts this apparently irresistible accumulation of power, and compels the vessel to remain motionless in the midst of the ocean. He credits the prevailing report, that Antony's ship, in the battle of Actium, was kept motionless by the exertion of the remora, notwithstanding the efforts of several hundred sailors; and that the vessel of Caligula was detained between Astura and Antium by another of these fish found sticking to the helm, and whose solitary efforts could not be countervailed by a crew of 400 able seamen, till several of the latter, on examining into the cause of the detention, perceived the impediment, and detached the remora from its hold.—The emperor, he adds, was not a little astonished, that the fish should hold the ship so fast in the water, and, when brought upon deck, appear to possess no power of detention over it whatever. This confiding naturalist expresses himself as perfectly convinced that all fishes possess a similar power, and states, as a notorious example, the detention of Periander's ship by a porcellane, near the cape of Gnidus. Quitting, however, the fables of antiquity, it may be observed, that the fins of the remora are particularly weak, and thus prevent its swimming to any considerable distance, on which account it attaches itself to various bodies, inanimate or living, being found not only fastened to ships, but to whales, sharks, and other fishes;

and with such extreme tenacity is this hold maintained, that, unless the effort of separation be applied in a particular direction, it is impossible to effect the disunion without the destruction of the fish itself. As the remora is extremely voracious, and far from fastidious in its food, it may attach itself to vessels and large fish with a view to secure subsistence. This fish will often adhere to rocks, and particularly in boisterous and tempestuous weather. The apparatus for accomplishing this adhesion consists of an oval area on the top of the head, traversed by numerous dissepiments, each of which is fringed at the edge by a row of very numerous perpendicular teeth, or filaments, while the whole oval space is strengthened by a longitudinal septum. It is reported by some authors, that, in the Mozambique channel, a species of remora is employed by the natives of the coast in their pursuit of turtles with great success. A ring is fixed near the tail of the remora, with a long cord attached to it, and, when the boat has arrived as near as it well can to the turtle, sleeping on the surface of the water, the remora is dismissed, and immediately proceeds towards the turtle, which it fastens on so firmly, that both are drawn into the boat with great ease.

ECHINUS, or SEA EGG; a marine animal, inhabiting the seas of most countries, and subject to great variety in the species. *Echinus esculentus*, the edible sea egg, is common on the coast of Europe, and is esteemed as an article of food. In systematic arrangements, the genus echinus of Linnæus has been much divided, and is at present restricted to those species which have an orbicular, oval or globular body, covered with spines, articulated on imperforate tubercles. These spines are very slightly attached, and fall off the dead animal on the least friction; in consequence, the specimens which commonly come under observation are deprived of them entirely. Five ranges of pores diverge from the summit, and tend to the centre beneath, dividing the shell into well marked sections. The mouth is situated on the inferior surface, in the centre, and is armed with five osseous pieces or plates; anus superior. Many species are ornamented with a profusion of long and pointed spines, while in others, they are quite short. It is by means of these spines that the animals change their position, and move from place to place. The apparatus of the mouth is provided with strong muscles, and is well calculated for crushing the hard portions of the animal's food. In the same species the colors va-

ry considerably, the traits changing, however, on the death of the animal. Echini are said to retreat to deep water on the approach of a storm, and preserve themselves from injury by attaching themselves to submarine bodies. *E. melo* is perhaps the largest species known, and is found not uncommonly in the Mediterranean. Many fine species have been discovered in a fossil state imbedded in chalk, &c., in beautiful preservation. Upon the coast of the U. States, several species of recent echini are found, and some also occur in the fossil localities. The species constituting the genus have not been well determined.

ECHO; daughter of the Air and Tellus; a nymph, who, according to fable, was changed by Juno into a rock, because her loquacity prevented Juno from listening to the conversation of Jupiter with the nymphs. The use of her voice, however, was left her so far as to be able to repeat the last word which she heard from others. Another account is, that Echo fell in love with Narcissus, and, because he did not reciprocate her affection, she pined away, until nothing was left but her voice.

ECHO. When sound strikes against a distant hard surface, it is reflected, and heard again after a short space; this repetition is called *echo*. If the sound is repeated several times, which is the case when it strikes against objects at different distances, many echoes are heard. This phenomenon is not caused by a mere repulsion of the sonorous particles of air, for then every hard surface would produce an echo; but it probably requires a degree of concavity in the repelling body, which collects several diverging lines of sound, and concentrates them in the place where the echo is audible, or, at least, reflects them in parallel lines, without weakening the sound, as a concave mirror collects in a focus the diverging rays of light, or sometimes sends them back parallel.—Still, however, the theory of the repulsion of sound is not distinctly settled, probably because the nature of reflecting surfaces is not sufficiently known. The reflecting surface must be at a certain distance, in order that the echo may come to the ear after the sound, and be distinctly separated from it. Observation proves that sound travels 1142 feet in a second; consequently, an observer, standing at half that distance from the reflecting object, would hear the echo a second later than the sound. Such an echo, then, would repeat as many words and syllables as could be heard in a second. This is call-

ed a *polysyllabic* echo. If the distance is less, the echo repeats fewer syllables; if only one is repeated, then the echo is monosyllabic. The most practised ear cannot distinguish, in a second, more than from 9 to 12 successive syllables, and, for a monosyllabic echo, a period of at least half a second is requisite. Hence we see why arched walks and halls echo, without producing a clear and distinct sound.—Some of the walls are too near; and some form an uninterrupted series of surfaces at different distances, and the ear is not able to distinguish the original sound from the first echo, nor to separate the numerous echoes which are thus confounded with each other. On the contrary, if several reflecting surfaces are at different distances, each of them may produce a distinct echo, of which the first is the strongest, because the others are weakened by a longer passage through the air. As the reflection of sound depends on the same laws as those which regulate the reflection of light, on which the science of *catoptrics* depends, the doctrine of echoes is sometimes called the *catoptrics of sound*; a better name is *cataphonics*, or *catacoustics*. The place of the sounding body is called the *phonic centre*, and the reflecting place or object, the *phonocamptic centre*. The most celebrated echoes are that at Rosneath, in Scotland, and that of the Villa Vimourtia, near Milan, which repeats a word 30 or 40 times.

ECKHEL, Joseph Hilary, a learned Jesuit, who distinguished himself greatly by his works on coins, medals, and other remains of classical antiquity. He was born at Enzersfeld, in Austria, in 1737. After becoming a member of the society of St. Ignatius, he was appointed keeper of the imperial cabinet of medals, and professor of archæology at Vienna. He died in 1798. Eckhel may be regarded as the founder of the science of numismatics, the principles of which are elaborately developed in his treatise entitled *Doctrina Nummorum Veterum*, 8 vols. folio, finished in 1798. He also published catalogues of the ancient coins and gems in the imperial cabinet, and other learned treatises. His first work was *Mummi veteres anecdoti*, 1775.

ECKMÜHL; a village on the Laber, in the Bavarian circle of the Regen, remarkable for the battle of April 22, 1809. Austria, encouraged by the national war, which had been kindled in Spain against Napoleon, entered the contest without allies, but, trusting chiefly to England and the Porte, with an energy greater than

she had ever before displayed. She called out all her regular forces, and the militia lately organized by the arch-duke John; the arch-duke Charles commanded in the character of generalissimo. While count Stadion, with Gentz and others, summoned the Germans to arms by proclamations, and conducted the negotiations, the army was destined to put an end to the confederation of the Rhine, and the power of France in Germany, Poland and Italy, and to restore to Austria and the German empire their former independent position in the European system. Six *corps d'armée*, under the arch-duke Charles, with two bodies of reserve, in all 220,000 men, guarded the Iser and Munich (April 16), and the Danube and Ratisbon (April 20); the seventh corps, under the arch-duke Ferdinand of Este, 36,000 strong, took possession of the duchy of Warsaw; and two corps, 80,000 strong, under the arch-duke John, menaced Italy, the Tyrol having already (April 11) taken up arms in favor of Austria. Napoleon's victory at Eckmühl decided the campaign of 1809, on the Danube, in the vicinity of Ratisbon, and compelled Austria to give up her offensive operations, and to re-assume the disadvantageous attitude of defensive war. The operations on the Danube, during the five days from the 19th to the 23d of April, cannot, therefore, be disconnected from the important battle of Eckmühl. Napoleon left Paris, April 13, and promised the king of Bavaria, at Dillingen, on the 16th, to restore him to his capital within a fortnight, and to make him more powerful than any of his ancestors; on the 18th, his head-quarters were at Ingolstadt. Here he determined to concentrate the different corps of his army commanded by Davoust, Oudinot, and Masséna, the Bavarians under the command of Lefebvre, and the Würtemberg troops under Vandamme, in all 200,000 men; Poniatowski, in expectation of the Russian auxiliary corps, was charged with the defence of Warsaw; the viceroy Eugene, step-son of Napoleon, was to protect Italy; and marshal Marmont, Dalmatia. Napoleon himself prepared for the attack. For this purpose, Oudinot, by the affair at Pfaffenhofen, on the 19th April, effected a junction with Masséna, on the 20th; at the same time, Davoust, who advanced from Ratisbon, attacked the arch-duke Louis at Tann (a town in the Bavarian circle of the lower Danube) and Rohr, while the Bavarians, under Lefebvre, fell upon his rear. Davoust, with the Bavarians, then joined the

main army, under Napoleon, who now commenced the attack in person. While Davoust kept in check three corps of the Austrian main army, under the arch-duke Charles, Napoleon, with the Bavarians and Würtembergers, and the French corps under Lannes and Masséna, fell upon the Austrian left wing, consisting of about 60,000 men, under the arch-duke Louis and general Hiller, at Abensberg (near Ratisbon), on the 20th, who were thus cut off from the Danube and the arch-duke Charles. Charles, meanwhile, had taken possession of Ratisbon on the 20th, formed a junction with the corps which advanced from the upper Palatinate, stormed the heights of Abbach, on the right bank of the Danube, on the 21st, and taken position at Eckmühl, which commands the communication with Ratisbon. Here, having concentrated four corps, he menaced the victor of Abensberg in his rear, and hoped to make himself master of the road to Donauwerth, on which the possession of Bavaria depended. But Davoust and Lefebvre held him in check on the 21st, and, on the 22d, Napoleon, with the divisions of Lannes and Masséna, the Würtembergers and the cuirassiers, advanced from Landshut to the Danube, and attacked the arch-duke, at two o'clock in the afternoon, at Eckmühl, where the Bavarians and Davoust were already engaged. This movement decided the contest. The Würtembergers took the village of Burghausen; the Bavarian general Seidewitz, with two Bavarian regiments of cavalry, carried an Austrian battery, which commanded the road from Landshut to Ratisbon; Lannes flanked the Austrian left, whilst Davoust, Lefebvre and Montbrun attacked them in front. The Austrians obstinately defended their second position, and the Würtemberg infantry took the village of Eckmühl by storm. At this time, the French cavalry broke the Austrian lines, on the plain in the rear of Eckmühl. The Austrian infantry, thus taken in flank, were thrown into disorder, and the arch-duke Charles himself was saved only by the fleetness of his horse. Thus, about 110,000 Austrian troops, under an able general, covering a position of 12 miles in length, were attacked from all quarters by about 130,000 French and Germans, extending over a line of 29 miles, were outflanked on their left wing, and totally routed. During the night, the arch-duke passed the Danube, and attempted to cover his retreat by defending Ratisbon, which was indifferently fortified. Napoleon moved on like

a storm. The French cuirassiers chased the Austrian cavalry, destined to cover Ratisbon, over the Danube. The French-Bavarian artillery made a breach in the walls, the French infantry, headed by Lannes, forced their way into the city, and, after a bloody combat in the streets, Napoleon became master of Ratisbon. Napoleon was slightly wounded in his foot by a spent musket-ball, on the 23d. His bulletin of the 24th announced that the fruits of the five days' campaign, of the three victories at Tann, Abensberg and Eckmühl, and the combats at Freising, Landshut, and Ratisbon, were 100 cannon, 40 stands of colors, 50,000 prisoners, 3 pontons and 3000 wagons; and added, "in four weeks, we shall be in Vienna." Davoust, duke of Auerstädt, received the title of prince of Eckmühl. The same day, Napoleon abolished the Teutonic order in all the states of the confederation of the Rhine. The consequences of the battles of Eckmühl and Ratisbon were very important. The Austrian general Jellachich was obliged to evacuate Munich, which the king of Bavaria reëntered on the 25th. The Austrian main army, strengthened by the corps of Bellegarde, retired, under the arch-duke Charles, to Budweis, in Bohemia, and was concentrated on the left bank of the Danube, at the foot of the Bisamberg, and on the Marchfeld, ready for the more famous combats at Aspern and Wagram. Charles, however, was not able to save Vienna. Napoleon advanced along the right bank of the Danube, notwithstanding the insurrection in the Tyrol, and passed the Inn. On the 3d of May, general Hiller made an obstinate resistance at Ebensberg, with 35,000 men, but was compelled to retreat to the left bank of the Danube. The French passed the Ems, and advanced to the capital of Austria, which capitulated May 12. On the 13th, Napoleon fixed his head-quarters at Schönbrunn. May 20, Napoleon crossed to the left bank, and thus brought on the memorable battles upon the Marchfeld, that of Aspern, or Essling, and that of Wagram. This whole campaign is highly interesting and instructive to a military man, who may derive useful lessons from the conduct of both parties; from that of Napoleon, who followed up a grand plan with unprecedented ability and spirit; and from that of Charles, who displayed great military skill in his manœuvres, as was always acknowledged by the victors.

ECLECTICS (from the Greek *ἐκλεκτός*,

select, from *ἐκλέγω*, to select) is a name given to all those philosophers who do not follow one system entirely, but select what they think the best parts of all systems. Their philosophy is also called *eclectic*. In the history of philosophy, this term is chiefly applied to that sect of Greek philosophers, who strove to unite and reconcile the opinions of Pythagoras, Plato and Aristotle, and to bring them into one harmonious system.

ECLIPSE.

An Eclipse of the Moon is a privation of the light of the moon, occasioned by an interposition of the earth between the sun and the moon; consequently, all eclipses of the moon happen at full moon; for it is only when the moon is in opposition, that it can come within the earth's shadow, which must always be on that side of the earth which is from the sun. The earth being in the plane of the ecliptic, the centre of its shadow is always in that plane; if, therefore, the moon be in its nodes, that is, in the plane of the ecliptic, the shadow of the earth will fall upon it. This shadow, being of considerable breadth, is partly above and partly below the plane of the ecliptic; if, therefore, the moon in opposition be so near one of its nodes, that its latitude is less than half the breadth of the shadow, it will be eclipsed. But, because the plane of the moon's orbit makes an angle of more than five degrees with the plane of the ecliptic, it will frequently have too much latitude, at its opposition, to allow it to come within the shadow of the earth.

An Eclipse of the Sun is an occultation of part of the face of the sun, occasioned by an interposition of the moon between the earth and the sun; thus all eclipses of the sun happen at the time of new moon. The dark or central part of the moon's shadow, where the sun's rays are wholly intercepted, is called the *umbra*, and the light part, where only a part of them are intercepted, is called the *penumbra*; and it is evident, that if a spectator be situated on that part of the earth where the *umbra* falls, there will be a total eclipse of the sun at that place; in the *penumbra* there will be a partial eclipse, and beyond the *penumbra*, there will be no eclipse. As the earth is not always at the same distance from the moon, if an eclipse should happen when the earth is so far from the moon that the rays of light proceeding from the upper and lower limbs of the sun cross each other before they come to the earth, a spectator situated on the earth, in a direct line between the centres of the

sun and moon, would see a ring of light round the dark body of the moon; such an eclipse is called *annular*; when this happens, there can be no total eclipse anywhere, because the moon's umbra does not reach the earth. People situated in the penumbra will perceive a partial eclipse; and an eclipse can never be annular longer than 12 minutes 24 seconds, nor total longer than 7 minutes 58 seconds; nor can the duration of an eclipse of the sun ever exceed 2 hours.

The sun being larger than the earth, the earth's shadow is a cone, whose base is on the surface of the earth, and the moon is eclipsed by a section of the earth's shadow. If the earth were larger than, or equal to, the sun, its shadow would either perpetually enlarge, or be always of the same dimension; but, in this case, the superior planets would sometimes come within it, and be eclipsed, which never happens. Therefore the sun is larger than the earth, and produces a shadow from the earth of a conical form, which does not extend to the orbit of Mars. An eclipse of the moon is *partial* when only a part of its disc is within the shadow of the earth; it is *total* when all its disc is within the shadow; and it is *central* when the centre of the earth's shadow falls upon the centre of the moon's disc. Now, the nearer any part of the penumbra is to the umbra, the less light it receives from the sun; and as the moon enters the penumbra before she enters the umbra, she gradually loses her light, and appears less brilliant. The duration of an eclipse of the moon, from her first touching the earth's penumbra to her leaving it, does not exceed five hours and a half. The moon does not continue in the earth's umbra longer than three hours and three quarters in any eclipse, neither is she totally eclipsed for a longer period than one hour and three quarters. As the moon is actually deprived of her light during an eclipse, every inhabitant upon the face of the earth, who sees the moon, sees the eclipse. An eclipse of the sun, as we have said, happens when the moon, passing between the sun and the earth, intercepts the sun's light; and the sun can only be eclipsed at the new moon, or when the moon, at its conjunction, is in or near one of its nodes. For, unless the moon is in or near one of its nodes, it cannot appear in or near the same plane with the sun; without which it cannot appear to us to pass over the disc of the sun. At every other part of its orbit, it will have so much northern or southern lati-

tude, as to appear above or below the sun. If the moon be in one of its nodes, having no altitude, it will cover the whole disc of the sun, and produce a total eclipse, except when its apparent diameter is less than that of the sun; if it be near one of its nodes, having a small degree of latitude, it will only pass over a part of the sun's disc, or produce a partial eclipse. In a total eclipse of the sun, the shadow or umbra of the moon falls upon that part of the earth where the eclipse is seen, and a spectator, placed in the shadow, will not see any part of the sun, because the moon will intercept all the rays of light coming directly from the sun. In a partial eclipse of the sun, a penumbra, or imperfect shadow of the moon, falls upon that part of the earth where the partial eclipse is seen. Were the orbit of the earth and that of the moon both in the same plane, there would be an eclipse of the sun every new moon, and an eclipse of the moon every full moon. But the orbit of the moon makes an angle of five degrees and a quarter with the plane of the earth's orbit, and crosses it in two points, called the *nodes*. Astronomers have calculated, that if the moon be less than $17^{\circ} 21'$ from either node, at the time of new moon, the sun may be eclipsed; or if less than $11^{\circ} 34'$ from either node, at the full moon, the moon may be eclipsed; at all other times there can be no eclipse, for the shadow of the moon will fall either above or below the earth at the time of new moon; and the shadow of the earth will fall either above or below the moon, at the time of full moon. An eclipse of the sun begins on the western side of his disc, and ends on the eastern; and an eclipse of the moon begins on the eastern side of her disc, and ends on the western. The average number of eclipses in a year is four, two of the sun, and two of the moon; and as the sun and moon are as long below the horizon of any particular place as they are above it, the average number of visible eclipses in a year is two, one of the sun and one of the moon. (See *Astronomy*.)

ECLIPTIC; the sun's path; the great circle of the celestial sphere, in which the sun appears to describe his annual course from west to east. The Greeks observed that eclipses of the sun and moon took place near this circle; whence they called it the *ecliptic*, from *eclipses*. By a little attention, we shall see that the sun does not always rise to the same height in the meridian, but seems to revolve round the earth in a spiral (see *Day*). We likewise

observe every day, at its rising and setting, new stars in the neighborhood of the sun. It will also be seen, that the sun is in the equator twice a year; about March 22 and September 22. The points of the equator, at which the sun is stationary on these days, are at the intersection of the equator with the ecliptic. June 21, the sun reaches its greatest height in the heavens; and December 21, it descends the lowest. Because the sun appears to turn back at these points, they are called the *tropics*; and the times at which the turning appears to commence are called *solstices* (*solstitia*, *solis stationes*). At these points, the sun has attained its greatest distance from the equator. These four points, the equinoctial and solstitial points, are distant from one another a quarter of a circle, or 90 degrees. Each of these quadrants, or quarters of a circle, is divided into 3 equal arcs of 30 degrees; thus the whole ecliptic is divided into 12 equal arcs or signs: these receive their names from certain constellations through which the ecliptic passes, and which extend each 30 degrees. The constellations, or 12 celestial signs, succeed one another in the following order, from the vernal equinox, reckoned towards the east:

- ♈ Aries, March 20.
- ♉ Taurus, April 20.
- ♊ Gemini, May 21.
- ♋ Cancer, June 21.
- ♌ Leo, July 22.
- ♍ Virgo, August 23.
- ♎ Libra, September 23.
- ♏ Scorpio, October 23.
- ♐ Sagittarius, November 22.
- ♑ Capricornus, December 21.
- ♒ Aquarius, January 19.
- ♓ Pisces, February 18.

The days of the month annexed show when the sun, in its annual revolution, enters each of the signs of the zodiac. The 30 degrees in every sign are divided into minutes and seconds, not reckoned separately, but after the signs. An arc of the ecliptic, for example, of $97^{\circ} 15' 27''$, reckoned from Aries, eastward, is called 3 signs, $7^{\circ} 15' 27''$ long, or, what is the same thing, it terminates in $7^{\circ} 15' 27''$ of Cancer. In this way the longitude of the stars is given. The ecliptic, like all circles, has two poles, which move about the poles of the earth every 24 hours, and in this manner describe the polar circles. What appears to be the path of the sun, however, is, in reality, the path of the earth. The planets and the moon revolve in different planes; but these are

inclined at only a very small angle to the plane of the ecliptic; hence these bodies can be but a small distance from the ecliptic. The plane of the ecliptic is very important in theoretical astronomy, because the courses of all the other planets are projected upon it, and reckoned by it. By the obliquity of the ecliptic we understand its inclination to the equator, or the angles formed by the planes of these two great circles. This angle is measured by the arc of a third great circle, drawn so as to intersect the two others perpendicularly, in the points at which they are farthest apart. These points of intersection are 90 degrees distant from those points at which the equator and ecliptic intersect each other, i. e. the solstitial points. The ancients endeavored to measure the obliquity of the ecliptic. According to Pliny, it was first determined by Anaximander; according to Gassendi, it had been ascertained by Thales. The most celebrated measurement of this obliquity in ancient times was made by Pytheas, at Marseilles. He found it, 350 B. C., to be $23^{\circ} 49' 23''$. A hundred years later, according to Ptolemy, Eratosthenes found it to be $23^{\circ} 51' 20''$. Various measurements have subsequently taken place, even down to our own time; and it is remarkable that almost every measurement makes the angle less than those which preceded it. Among the modern estimates are that of Cassini, $23^{\circ} 28' 35''$; of La Caille, $23^{\circ} 28' 19''$; of Bradley, $23^{\circ} 28' 18''$; and of Mayer, $23^{\circ} 28' 16''$: the observations of Delambre, Maskelyne, Piazzi, Bessel and others, give this important astronomical element, for the year 1800, at $23^{\circ} 27' 56''$. In respect to the decrease of the inclination of the ecliptic, the most celebrated astronomers of our time, as Lalande, adopted the opinion that this decrease continues uninterruptedly. Louville determined the annual decrease to be $1'$, La Caille $44''$, and Lalande $33''$. Several philosophers of modern times concluded, from these observations, that the equator and the ecliptic were formerly in the same plane; that the shock of a comet, or some mighty revolution on the earth, gave the axis of our planet this inclination, and that, for thousands of years, the axis has been returning to its original position, which it will reach after 190,000 years. Laplace, on the contrary, in his *Mécanique Céleste*, showed that this will never take place, but that the decrease of the angle between the planes of the equator and the ecliptic depends merely upon a periodical effect, arising from the action of the other planets; that,

its publication with so handsome a subscription, that his profits amounted to £1200, whereas the Beggar's Opera had gained him only £400. The duke and duchess of Queensbury took him into their house, and managed his pecuniary concerns. He was soon after seized with dejection of spirits, but enjoyed intervals of ease sufficient to enable him to compose his sonata of *Acis and Galatea*, and the opera of *Achilles*. He died in 1732, and was interred in Westminster abbey. His monument contains an epitaph by Pope.—Among his smaller pieces, his two ballads of *All in the Downs*, and *'Twas when the Seas were roaring*, are much admired.

GAY-LUSSAC, member of the academy of sciences, and professor in the polytechnic school at Paris, a chemist and natural philosopher of the highest eminence, first brought himself into notice, at Paris, by ascending in a balloon, with Biot, to the height of 3600 toises (23,018 English feet), a greater height than had been ever before reached. This ascension was the means of leading him to a number of remarkable discoveries in natural philosophy, which (as, for instance, his observations on the rising and falling of the mercury, and many other fluid and elastic bodies in the higher region of the atmosphere, as well as under different degrees of temperature) have been confirmed by repeated experiments, and gave occasion to the investigations of Dalton, upon the uncommon expansion of the volume of fluids (especially water) in passing through all the degrees of temperature from the freezing to the boiling point. At a subsequent period, Gay-Lussac joined with Alexander Humboldt in an attempt to determine exactly the deviation of the magnetic from the terrestrial equator, in which they both took for the basis of their work the observations of La Peyrouse, relating to this subject. There are some interesting essays of Gay-Lussac in the *Annales de Chimie* and the *Bulletin de la Société Philomathique*. With his present colleague, Thénard, he has published *Recherches Physico-chimiques faites sur la Pile Galvanique, et les Préparations du Potassium* (Paris, 1811, 2 vols.).

GAZA, Theodore; a successor of Emanuel Chrysoloras as teacher of the Greek language and literature in the West. He came a fugitive, after the capture of Constantinople, through Turkey to Italy, and there speedily acquired a thorough knowledge of the language of the country. In 1440, he was public teacher at Ferrara, and, in 1451, pope Nicolas V invited him,

with other learned men, to Rome, where cardinal Bessarion took him into his suite. After the death of Nicolas, king Alphonso invited him to Naples. When death had deprived him of this patron also, he returned again to Rome. Here, however, he was so mortified by the smallness of a reward given him by pope Sextus IV, for a dedication, that he withdrew to Ferrara, and from that place to Calabria, where he died, in 1478. Gaza labored for the diffusion of Greek literature not only by teaching, but also by his writings, and especially by Latin translations of the Greek classics. His chief work is a translation of the writings of Aristotle on natural history.

GAZA; a town of Palestine, about a mile from the Mediterranean sea; 44 miles south-west Jerusalem; lon. 34° 40' E.; lat. 31° 25' N.; population, 5000. It is often mentioned in Scripture, and was formerly a magnificent city, and strongly fortified. It is now much reduced from its ancient grandeur. The environs are exceedingly fertile, and produce pomegranates, oranges, dates and flowers, in great request even at Constantinople. Here is a manufacture of cotton, which employs 500 looms in the town and neighborhood. There are likewise great quantities of ashes made by the Arabs, and used in the manufacture of soap; but this manufacture has declined. Gaza, at present, is a large village, divided into two parts, called the Upper and Lower. Both of these parts, taken together, are now called *Gazara*; and the upper part, where the castle is situated, has the same name; but the lower part is by the Arabs distinguished under the name of *Haret el Segiayè*.

GAZELLE. (See *Antelope*.)

GAZETTE; a printed account of the transactions of all the countries in the known world, in a loose sheet or half sheet. This name, in England, is confined to that paper of news published by authority of the government. The first gazette in England was published at Oxford, November 7, 1665. (See *Newspapers*.)

GAZETTEER; a geographical dictionary. The first work of this kind, with which we are acquainted, is that of Stephen of Byzantium, who lived in the beginning of the 6th century. We have only an abridgment of it. The first modern work of the kind is the *Dictionarium Historico-Geographicum* (Geneva, 1565), by Charles Stephens, with additions, by N. Lloyd (Oxford, 1670, and London, 1686). The works of Ferrari (*Lexicon*

Geographicum, 1627), and Baudrand (*Geogr. Ordine Literarum Dispos.*, 1682), are full of the strangest errors. Those of Maty (1701), Thomas Corneille (3 vols., fol., 1708), and Savonarola (1713), were based on the former, with additions and corrections. The *Dictionnaire Géographique, Historique et Critique*, of La Martinière (Hague and Amsterdam, 1726, 10 vols., folio, Paris, 1768, 6 vols.), superseded all that had gone before it, though it retained many errors. An abridgment of it by Ladvocat, under the assumed name of *Vosgier*, has continued to be republished in France till the present time. The *Geographisch-Statistisches Handwörterbuch* of the late eminent German geographer Hassel (1817, 2 vols., with a supplement of two volumes) is the result of laborious and judicious investigations. The *Universal Gazetteer*, by Cruttwell (London, 1808, 4 vols. 4to.), and the *Edinburgh Gazetteer* (6 vols., 8vo., 1817—1822), are the principal English works of the kind. The latter, though not without errors, is a valuable work. An abridgment, in one volume (1829), professes to be brought down to the time of its publication, but does not in all instances bear marks of revision. The most valuable and recent of French gazetteers is the *Dictionnaire Géographique Universel*, now (1830) publishing in Paris. The first volume appeared in 1823 (*chez Kilian et Piquet*), the seventh in 1830. Among the contributors are Depping, Klaproth, the Lapiés, Rémusat, Walckenaer and Warden. A. von Humboldt and the late M. Malte-Brun have also assisted in the work. The *Gazetteer* of Mr. J. E. Worcester (second edition, Boston, 1823, 2 vols., 8vo.) displays the industry and accuracy of its editor in a favorable light. It is particularly valuable for America.

GEARING is the connexion of one toothed wheel with another. (See *Wheels*.)

GEBEL, a corruption of the Arabic *djebel* (mountain), appears in many geographical names, as *Gebel Amar*, &c. (See *Gibel*.)

GEBER; an Arabian philosopher, who, according to Leo Africanus, lived in the 8th century. He is said to have been a Greek by birth, and to have apostatized from Christianity to Mohammedanism. His writings relate to astronomy and chemistry, or rather alchemy, on which last subject his authority was so great, that he was styled the *master of masters* in that art. A Latin translation of his *Commentary on the Almagest* of Ptolemy was printed at Nuremberg, in 1533, and

his alchemical works were published in Latin, by Golius, under the title of *Lapis Philosophorum*, and an English translation of them by Robert Russel appeared at Leyden in 1668 (8vo.). Geber corrected many errors in the astronomy of the ancients, and described chemical instruments and operations with greater accuracy than his predecessors. Vulgar ignorance ascribed to this philosopher the character of a magician, on which Naudé remarks, that, from the catalogue of the works of Geber, given by Gesner, it may be concluded he understood every thing except magic.—Another philosopher, named *Geber*, is supposed to have been a native of Seville in Spain, and to have flourished about 1090. These individuals have been improperly confounded by some writers.

GEBERS. (See *Guebers*.)

GEIRGE, a German word, the collective noun of *Berg* (mountain), signifying a chain or family of mountains, appears in many geographical names, as *Riesengebirge* (mountains of giants), *Erzgebirge* (ore mountains).

GECKO; the local name of a small species of lizard, very common in the Levant, where it is supposed to poison persons who eat of provisions over which it has crawled. A peculiar acrid mucus is secreted by glands on the under surface of the toes, which is said to possess a slight blistering property when applied to the skin, and to be otherwise poisonous. There is in reality little foundation for the fears which are entertained of this little reptile, whose chief occupation is hunting flies, mosquitoes, and other troublesome insects, which constitute its proper food. The soles, or rather the inferior surface of the toes, is divided into a kind of lamellæ, by means of which the animal is enabled to exhaust the air under the foot, and thus adhere forcibly to any flat surface on which it may be placed. In this manner, it courses over perpendicular walls, and walks in perfect safety inverted on a ceiling. Much variation in the disposition of these curious suckers is observable, and has afforded M. Cuvier characters for several very good divisions of the genus. The pupil of the eye is very large, dilating and contracting in the same manner as those of the feline race among quadrupeds. The teeth are extremely small, and close set in the jaws. On the inferior surface of the thighs of some species are ranges of pores, and the skin of all the species is covered with rough scales and tubercles. Many of

Northumbrians, and repel the incursions of the Scots, and fitted out a powerful navy to protect his subjects from the Danes. By these precautions, he not only prevented invasion from the Danes, but secured the submission of the independent provinces of Wales and Ireland, and the surrounding islands. During the reign of Edgar, wolves were nearly extirpated from the southern parts of the island, by exchanging a tribute from Wales for payment in the heads of these animals. His adventure and marriage with the beautiful Elfrida, daughter of the earl of Devonshire, are well known. He died in 975, and was succeeded by his son, Edward the Martyr.

EDGEWORTH DE FIRMONTE, Henry Essex, father-confessor of Louis XVI; born 1745, in Ireland, in the village of Edgeworthstown. His father, an Episcopalian clergyman, adopted the Catholic faith with his family, and went to France. Henry studied first under the Jesuits at Toulouse, and then at the Sorbonne in Paris. His piety and virtue obtained him the confidence of the princess Elizabeth, sister of Louis XVI, who chose him for her confessor. The revolution broke out, and the king was thrown into prison. Elizabeth was an angel of consolation to her brother during his confinement, and by her means Louis was first made acquainted with the character of Firmont, who then lived in concealment at Choisy-le-Roi, under the name of Essex. When the king was informed of his condemnation, he requested a delay of three days, to prepare himself to appear before his God, and free communication with a priest of his own choice. This was Edgeworth. The convention assented to the latter request, but refused the respite. Edgeworth discharged the duties devolving on him with the deepest devotion. He offered personally to attend the king to the place of execution. Edgeworth ascended the scaffold with him; the executioner placed the king under the guillotine; Edgeworth exclaimed, "Son of saint Louis, ascend to heaven!" and the axe fell. Edgeworth succeeded in escaping from France in safety, and arrived in England in 1796. Pitt offered him a pension in the name of the king, which he declined. He soon after followed Louis XVIII to Blankenburg, in Brunswick, and thence to Mittau. As he had devoted his life to soothe the unhappy in the true spirit of Christian charity, he lost it in services of benevolence. In 1807, a number of French prisoners of war were

brought to Mittau, where Edgeworth was living with Louis XVIII. A contagious fever made the most dreadful devastation among them. Edgeworth, so far from being repelled by the danger, devoted himself to the care of the sick, and was himself attacked by the disease, of which he died May 21, 1807. The duchess of Angoulême attended him in his sickness; the royal family followed him to the tomb, and Louis XVIII wrote his epitaph.

EDGEWORTH, Maria, a distinguished female writer of the day, daughter of the well-known ingenious Richard Lovell Edgeworth (who died in 1817), was born at Edgeworthstown, Ireland. The family was originally English, and settled in Ireland in the reign of queen Elizabeth. Her mother (died 1772) was the first of four wives of Mr. Edgeworth: he had married her in Scotland, while he was yet a student in the university of Oxford. Of this wife he speaks with little affection or respect, in his account of himself (*Memoirs of R. L. Edgeworth*, continued by his daughter Maria, London, 1821); nor does miss Edgeworth herself pay her a passing tribute of filial love when her death is mentioned. Maria, who was the favorite daughter of her father, must have been educated, principally, under the influences of his second and third wives, sisters, by the name of Sneyd, who were accomplished and amiable women.—In 1798, miss Edgeworth made her first appearance as an author in the *Treatise on Practical Education*, written in conjunction with her father. Her numerous novels, tales and essays, have been chiefly directed to the improvement of early education. Children are not less delighted than instructed with her *Moral Tales*, *Popular Tales*, *Parents' Assistant*, *Early Lessons*, &c., which convey important moral and prudential instruction in a simple, clear and attractive form, and, at the same time, furnish many valuable lessons to parents and instructors in regard to the best methods of influencing the feelings, awakening the curiosity, and forming the minds and hearts of the young. In her other works, she does not lose sight of a moral application: her *Patronage*, *Belinda*, *Absentees*, *Tales of Fashionable Life*, &c., are intended to correct some fashionable folly, some national defect, or some mental or moral deformity. Miss Edgeworth possesses a cultivated mind, familiar with the literary riches of her own country, and not a stranger to the productions of other nations: the French critics bear testimo-

ny to her acquaintance with the manners and literature of France, and many of her works have been translated and well received in that country. Her writings display a great knowledge of life and of the human heart, a happy talent of conceiving situations and incidents, and of describing manners and characters. Without possessing great brilliancy of imagination, or any extraordinary reach of mind, she unites a manly judgment with a female tact, and affords a pleasing example of what Locke calls a *round about common sense*. Her works have enjoyed an extensive popularity in Europe, and have been often republished in the U. States.

EDGEWORTH, Richard Lovell, a gentleman distinguished for the versatility of his talents, was born in 1744, at Bath, of a family possessed of landed property at Edgeworthstown, in the south of Ireland. He received his education at Trinity college, Dublin, and Corpus Christi, Oxford, after which he entered at the Temple, but not probably with any serious intention of adopting the law as a profession. Mechanics and general literature chiefly attracted his attention. He formed an acquaintance with doctor Erasmus Darwin, Mr. Thomas Day, and other men of congenial pursuits, to whose researches, as well as his own, what may be termed practical philosophy is not a little indebted. In 1767, he contrived a telegraph, with regard to which, however, he had not the merit of having started the original idea, neither did he bring it into general use. After residing some years in England, he went to France, where he was engaged in the direction of some works on the Rhone at Lyons. In the latter part of his life, he resided much on his own estate, occupying himself with plans for constructing rail-roads, draining bogs, and other undertakings for the improvement of agriculture, manufactures and commerce. Much of his time, too, was devoted to literature, and, in conjunction with his daughter, the celebrated Maria Edgeworth (q. v.), he wrote a Treatise on Practical Education, one on Professional Education, as well as some subsidiary works, all remarkable for the air of good sense, and adaptation to the exigencies of common life, which they exhibit. He died in June, 1817. Mr. Edgeworth married four wives, of whom two were sisters.

EDICT; a public proclamation. In ancient Rome, the higher officers of state, who were elected annually, publicly declared, at their entrance upon office, the principles by which they should conduct

their administration. This was done particularly by the *Ædiles* (q. v.), who superintended buildings and markets, and by the pretors, as supreme judges. These annual proclamations, by which the deficiencies of the general statutes were supplied, and the laws were adapted to the peculiar wants of the period, gradually acquired a certain permanency, as each officer retained, unaltered, most of the regulations of his predecessor (*edictum tralatitium*); and they became, in fact, the source of the whole system of Roman law, which, being founded on the official authority of the authors, was called *jus honorarium*, and was opposed to the strictly formal law, *jus civile*. The *edictum prætoris*, under the emperor Adrian, A. D. 131, was reduced to a regular form (*edictum perpetuum*) by Salvius Julianus, and received the sanction of legal authority, although the pretors seem to have retained for a long time their privilege of issuing edicts, till all legislative power fell exclusively into the hands of the emperor. The form of the edict was still made use of occasionally, although general principles were often brought forward in the decision of particular cases (decrees and rescripts). The name *edict* has since been applied in several monarchical countries, as a general term, to an ordinance of the supreme authority. (See *Civil Law*.)

EDICT OF NANTES. (See *Huguenots*.)

EDILE. (See *Ædile*.)

EDINBURGH; the metropolis of Scotland, about a mile and a half from the frith of Forth, situated in the northern part of the county of Edinburgh. The town stands on high and uneven ground, being built on three eminences. The central ridge, on which the city was originally built, is terminated abruptly on the west by a precipitous rock, on which the castle is placed, while to the east it gradually inclines to the plain, from which rise Arthur's seat, Salisbury crags, and the Calton hill. Both sides of the central ridge, occupied by the principal street of the old town, extending from the castle to Holyrood house, are covered with buildings closely crowded together, and descending from the main street, chiefly in narrow lanes, with little regard either to health or cleanliness. That part of the town built on the southern eminence is much more spacious and pleasant in its appearance than the centre of the city, and contains several elegant squares. Of these, the principal is George's square. Here are also the Meadows, a tract of ground intersected by walks, shaded on

both sides by rows of trees. The two ridges on which the old town is built are connected by a bridge, which crosses the low street called the *Cowgate*, in the ravine between them, at right angles; on each side of which bridge houses are ranged, and a spacious and nearly level street is formed, notwithstanding the inequalities of the ground. The new town is built on the lower and northernmost of the ridges, parallel with the old town, with which it is connected by a bridge, and by a mound of earth called the *earthen mound*. Its streets and squares have been constructed with great elegance and regularity. St. Andrew's and Charlotte squares are remarkable for their beauty. An extension of the city is also making on the inclined plain on the north, and towards the west, where some handsome streets have lately been built; also the octagon of Moray place, the finest in the city. Edinburgh is connected with Leith by a paved road. A magnificent entrance from the east has also been formed along the south side of the Calton hill; and on the summit of the hill a national monument, after the model of the Parthenon at Athens, has been begun. Other improvements are at present going on with a view of remedying the disadvantages occasioned by the inequalities of the ground on which Edinburgh is built. The scenery around Edinburgh, owing to the abrupt and craggy heights of the Calton hill and Arthur's seat, which suddenly rises 800 feet from the surrounding plain, and presents the rocky heights of Salisbury crags towards the city, is uncommonly striking; and every thing has been done to display these natural advantages. Around the Calton hill several walks have lately been made at different elevations, from which the surrounding town and country are seen to great advantage; a walk has also been made on the still higher elevation of Salisbury crags, from which the view is grand and imposing.—Of the public works and buildings in Edinburgh, the castle is the most remarkable. It is situated at the western extremity of the old town, on a rugged rock, which rises on three sides from a level plain to the height of 150 to 200 feet. At the opposite or eastern extremity of the old town stands the palace and abbey of Holyrood, for several centuries the residence of the monarchs of Scotland. The abbey, of which only the walls remain, was founded in the year 1128, by David I; and in the burying-place within are interred several of his successors. The palace is a large quadrangular edifice of

hewn stone, with a court within, surrounded by piazzas. The palace contains a gallery 150 feet long, decorated with imaginary portraits of the kings of Scotland, from the time of Fergus I. As it now stands, it is not of high antiquity. Its north-west towers were built by James V, but the remaining part of it was added during the reign of Charles II. The appearance of the Parliament square, in the centre of the city, has been entirely changed, in consequence of two fires, which occurred in 1824, and burnt down the south and east sides of the square. On the site of the former houses an elegant structure is now in progress for the accommodation of the courts, to be connected with the former buildings, partly old and partly new, in which the supreme courts at present hold their sittings. The original portion of those buildings was finished in the year 1640, and was intended for the reception of the Scottish parliament. For the reception of the advocates' library, the richest collection in Scotland, consisting of more than 70,000 printed volumes, and a smaller one belonging to the writers to the signet, apartments attached to the north-west corner of the parliament house have lately been finished. Nearly opposite to the Parliament square stands the royal exchange, which was founded in the year 1753, and was formerly employed as a custom-house. The register-office, in which the public records of Scotland are deposited, was founded in the year 1774, and is distinguished for lightness, elegance, and classical simplicity of design. Of the churches, the metropolitan church, dedicated to saint Giles, is the most ancient. It is built in the figure of a cross, and forms one side of the Parliament square. It was erected into a collegiate church in 1466, but is said to have been founded nearly 600 years before. From the centre rises a square tower, surmounted by slender arches, supporting a spire 161 feet in height, the whole exhibiting the resemblance of an imperial crown. The other churches are, Trinity college church, the Old and New Grayfriars, the Tron, the Canongate, St. Cuthbert's, Lady Yester's, St. Andrew's, St. George's, St. Mary's, and St. Vincent's, with five chapels of ease. Besides these places of worship, there are four for the Burghers, three for the Antiburghers, four for the Relief, four for the Baptists, two for the Independents, a Gaelic chapel, and one each for the Methodists, Cameronians, Bereans, Glassites, Unitarians, Quakers, and Roman Catholics, and six for the Episcopalians. The

university of Edinburgh has long since attained general celebrity. It was founded in the year 1582, when there was only one professor. All the different branches of literature, science and philosophy are now taught in this seminary. The total number of students is about 2000. To the university is attached a library of more than 50,000 volumes. The high-school, the principal grammar-school of the city, was established in 1578. Of literary associations, the principal is the royal society, constituted in 1782; the royal society of antiquaries, and the Wernerian society; and the astronomical institution. The Highland society was established for advancing the interests of agriculture, manufactures and arts, in the Highlands of Scotland. It distributes annually about £700 in premiums for inventions and improvements. There are, besides, the faculty of advocates, and the royal colleges of physicians and surgeons. The principal charitable institution is Heriot's hospital, which was endowed by George Heriot, jeweller to James VI, for educating and maintaining the sons of burgesses and freemen: it was erected in 1650, at the expense of £30,000, after a Gothic design of Inigo Jones: it consists of a large quadrangle, with a court in the interior; and it is crowned with columns, turrets and spires. There are, also, numerous other hospitals, three charity work-houses, an asylum for the industrious blind, a Magdalene asylum, a house of industry, and a society for the suppression of begging; and four dispensaries, two for affording advice and medicines to the poor, and two for curing diseases in the eye and ear. On the summit of the Calton hill is Nelson's monument, a circular column, 108 feet in height. There are 13 banking companies, of which the bank of Scotland, the royal bank, and the British linen company, are incorporated by royal charter. The manufactures of Edinburgh are principally adapted for the consumption of its inhabitants, consisting of household furniture; travelling carriages, executed in a style of superior elegance; of engraving in all its branches, musical instruments, &c.: there are also manufactures of glass and marble, in which equal taste and skill are displayed; and between 300 and 400 weavers are employed in the working of linen, silks, sarsnets, and fine shawls. There are also brass and iron manufactures and distilleries of spirits in the neighborhood; and Edinburgh has been long noted for its excellent ale. The trades of bookselling and printing are

carried on to a great extent; and various periodical and other works are published here, which have deservedly attained extensive celebrity. Among these may be mentioned the *Edinburgh Review* (*see the next article*) and *Blackwood's Magazine*. There are two newspapers published three times a week, three twice a week, and four once a week. The places of public amusement are the theatre, the pantheon, and the assembly-rooms. A gas-light company has been established. Edinburgh is a royal burgh, and its council sends one member to parliament.—The origin of Edinburgh is lost in remote antiquity. About the year 854, according to the accounts of the earlier historians, Edinburgh was a town of some note. In 1215, a parliament was assembled here for the first time. In 1437, the kings of Scotland usually resided in it, and held regular parliaments; and about the year 1456, it was considered the metropolis of Scotland. Population of the city and suburbs, including Leith, 138,235; 42 miles E. Glasgow, and 396 N. N. W. London; lon. 3° 12' W., lat. 55° 58' N. A History of the University of Edinburgh, 2 vols. 8vo., was published, in 1830, by Bower, Edinburgh and London.

EDINBURGH REVIEW (The Quarterly). This celebrated journal was established in 1802, at a time when the periodical literature of the United Kingdom consisted of works conducted with inferior talent, and occupying narrow grounds. Its success was immediate and very great. Discussing all the great subjects of literature, science, philosophy and politics with freedom, boldness, spirit, varied learning, acute reasoning, elegant criticism, a piquant satire, and profound and original views, in politics it has supported the principles of the Fox whigs; in religion, it is more than suspected of a sceptical leaning. It is said to have originated in the social studies of a number of young men in Edinburgh, who were accustomed to meet occasionally to discuss questions in every branch of science and philosophy. It was edited, during the first year, by the reverend Sydney Smith, after whom Mr. Jeffrey, then a young Scotch advocate of more talents and leisure than practice in his profession, is well known to have been the editor, and one of the most fruitful contributors during the long time which he conducted it. His articles relate principally to the belles-lettres. Among the principal writers are to be found the distinguished names of Playfair, Leslie, Mackintosh, Brougham, Dugald Stewart,

doctor Brown, besides Macculloch (on political economy and Ireland), Williams (the advocate), Macaulay, &c. Doctor Brown was the author of the article on Kant (No. 2), but owing to some liberties taken with a paper intended for the 4th number, he discontinued his contributions. Playfair wrote the articles relating to Laplace, &c. Sir J. Mackintosh is the author of numerous literary, historical, and political articles, which display the liberal and generous principles, the extensive views and the varied learning of a statesman and scholar. Mr. Brougham, however, is, perhaps, the *Coryphæus* of the Edinburgh Review: he is present every where, possessing a sort of mental ubiquity, in parliament, at the bar, in the popular assemblies; leading in legislation, literature, politics, science; delivering lessons of wisdom and taste in the pages of the Review, and diffusing the lights of education and useful knowledge among the laboring classes, by means of the society formed for that purpose, of which he is at the head. The great influence of the Edinburgh Review in the hands of the whigs led to the establishment of a tory periodical, as a counterpoise. The London Quarterly Review was established in 1809, under the direction of Gifford. Blackwood's Magazine, a work of a smaller calibre, edited first by Lockhart (now editor of the Quarterly), and afterwards by Wilson, owed its existence to the same cause. The multiplication of quarterly and other periodicals has coöperated with the diminution of intellectual power in the Edinburgh itself, in depriving it of its former undisputed supremacy. The editorship has lately passed into the hands of Mr. Napier. The Edinburgh Review had, at one time, 12,000 subscribers. This Review, and also the London Quarterly, are republished, and circulate extensively, in the U. States.

EDMUND I, king of England, an able and spirited prince, son of Edward the Elder, succeeded his brother Athelstan in 941. He conquered Cumberland, which he bestowed on Malcolm, king of Scotland, on condition of homage. He was stabbed at a banquet by Leolf, an outlaw, who entered among the guests, and provoked the king to a personal attack upon him. Edmund immediately expired of the wound, in the sixth year of his reign.

EDMUND II, surnamed *Ironsides*, king of England, was the eldest son of Ethelred II. On the death of the latter, in 1016, he was obliged to take the field against Canute, by whom he was defeated at Assingden, in Essex, in consequence of the defec-

tion of Edric, duke of Mercia. A compromise was then effected, by which the midland and northern counties were assigned to Canute, and the southern to Edmund. He was soon after murdered at Oxford, at the instigation of the traitor Edric. This event made Canute master of the entire kingdom; but the line of Edmund was again partially restored by the marriage of his great grand-daughter, Matilda, to Henry I.

EDRED, king of England, son of Edward the Elder, succeeded to the throne on the murder of his brother, Edmund I (947). He quelled a rebellion of the Northumbrian Danes, and compelled Malcolm, king of Scotland, to renew his homage for his English possessions. Although active and warlike, he was extremely superstitious, and subservient to the celebrated Dunstan, abbot of Glastonbury. Edred died after a reign of nine years, and left the crown to his nephew, Edwy.

EDRIDGE, Henry, ARA., FSA.; a landscape and miniature painter of eminence, born at Paddington, in 1768. His earlier portraits are principally drawn on paper, with black lead and Indian ink. It was in later years only that he made those elaborate and high-finished pictures, uniting the depth and richness of oil-painting with the freedom and freshness of water-colors, of which there are so many specimens in England. He died in 1821.

EDWARD the Elder, king of England, son of Alfred the Great, whom he succeeded in 901. Ethelwald, the son of his father's elder brother, claimed the crown; but this insurrection ended with the death of Ethelwald in battle. The reign of Edward was further distinguished by successes over the Anglicised and foreign Danes. He fortified many inland towns, acquired dominion over Northumbria and East Anglia, and subdued several of the Welsh tribes. He died, after a reign of twenty-four years, in 925.

EDWARD, surnamed the *Martyr*, king of England, son of Edgar, succeeded his father, at the age of fifteen, in 975. His step-mother, Elfrida, wished to raise her own son, Ethelred, to the throne, but was opposed by Dunstan, through whose exertions Edward was peaceably crowned. His short reign was chiefly distinguished by the disputes, between Dunstan and the foreign monks on one side, and the secular clergy on the other. The young king paid little attention to any thing but the chase, which led to his unhappy death. Hunting one day in Dorsetshire, he was separated from his at-

tendants, and repaired to Corfe castle, where Elfrida resided. After paying his respects to her, he requested a glass of liquor, and, as he was drinking it on horseback, one of Elfrida's servants gave him a deep stab behind. He immediately set spurs to his horse, but, fainting from loss of blood, he was dragged in the stirrup until he died. The pity caused by his innocence and misfortune induced the people to regard him as a martyr. He had reigned four years.

EDWARD, surnamed the *Confessor*, younger son of Ethelred II. On the death of his maternal brother, Hardicanute the Dane, in 1041, he was called to the throne, and thus renewed the Saxon line. He was not the immediate heir, as his brother, Edmund Ironside, had left sons; but, as he received the support of Godwin, earl of Kent, on condition of marrying his daughter, Editha, his claim was established. Edward was a weak and superstitious, but well-intentioned prince, who acquired the love of his subjects by his monkish sanctity, and care in the administration of justice. He gained the title of saint and confessor by abstaining from nuptial connexion with his queen. Having been educated in Normandy, he introduced so many natives of that country to his court, that the French language and manners became prevalent in England, to the great disgust of earl Godwin and his sons. A rebellion took place, and Edward was forced to dismiss his foreign favorites. Perceiving that the youth and weakness of his son, Edgar Atheling, would not secure the succession against the power and ability of Harold, the son of Godwin, he turned his eyes upon his kinsman, William of Normandy, in whose favor it has been asserted, with little probability, that he executed a will. He died in 1066, leaving the point of the succession undetermined; and with him ended the Saxon line of kings. Edward was the first English monarch who touched for the king's evil. He caused a body of laws to be compiled from those of Ethelbert, Ina and Alfred, to which the nation was long fondly attached.

EDWARD I (of the Norman line), king of England, son of Henry III, was born at Winchester in 1239. The contests between his father and the barons called him early into active life, and he finally quelled all resistance to the royal authority, by the decisive defeat of Leicester, at the battle of Evesham, in 1265. He then proceeded to Palestine, where he signalized his valor on many occasions, and inspired

so much terror, that an assassin was employed to despatch him, from whom he received a wound in the arm, which, as tradition reports, being supposed to be from a poisoned weapon, was sucked by his faithful consort, Eleanor of Castile. On assuming the government, he acted with great vigor in the repression of the lawlessness of the nobles, and the corruption in the administration of justice; but often evinced an arbitrary and grasping disposition. In 1276, he summoned Llewellyn, prince of Wales, to do him homage, and, upon his refusal, except on certain conditions, commenced the war which ended in the annexation of that principality to the English crown in 1283. Edward then spent some time abroad, in mediating a peace between the crowns of France and Arragon, and, on his return, commenced his attempt to destroy the independence of Scotland. The expense attendant upon this strong, but unprincipled policy, was such that Edward was necessitated to use every expedient to raise supplies; and, for this purpose, in the twenty-third year of his reign, he summoned to parliament representatives from all the boroughs in the kingdom: this is therefore considered by some authors the true epoch of the formation of a house of commons in England. After his return from the Scottish expedition in 1296, which terminated in the capture of Baliol, he became involved in a quarrel with his clergy, who, supported by the pope, refused to submit to a tax which he had imposed on them. Edward forced their compliance, by placing them out of the protection of the law. His frequent expedients to raise money at length produced great discontent among the nobles, and people also, which obliged him to confirm the great charter, and charter of forests, and also to give other securities in favor of public liberty. He then made a campaign in Flanders against France, which terminated with the recovery of Guienne, and his second marriage with Margaret, the sister of king Philip. Meantime new commotions took place in Scotland, under the guidance of the celebrated William Wallace. These transactions recalled Edward from Flanders, who hastened to the borders with an army of 100,000 men. The events of this interesting campaign cannot be detailed here; but the ignominious execution of the brave Wallace, in 1303, as a traitor, forms a blot in the character of Edward. Neither did it avail; since Robert Bruce was able, in 1306, to place himself at the head

of a new confederacy. Highly indignant at this determined spirit of resistance, Edward vowed revenge against the whole Scottish nation, and, assembling another army, was on the point of passing the border, when he was arrested by sickness, and died at Burgh-upon-Sands, near Carlisle, July 7, 1307, in the sixty-ninth year of his age, and thirty-ninth of his reign. Few princes have exhibited more vigor in action, or policy in council, than Edward I. His enterprises were directed to permanent advantages, rather than to mere personal ambition and temporary splendor. Nor was he less intent upon the internal improvement of his kingdom than its external importance. The laws of the realm obtained so much additional order and precision during his reign, that he has been called the *English Justinian*. He passed an act of mortmain, protected and encouraged commerce; and in his reign first originated the society of merchant adventurers. The manners of this able sovereign were courteous, and his person majestic, although the disproportionate length of his legs gave him the popular surname of *Longshanks*. He left a son and three daughters by his first wife, Eleanor, who died in 1290, and two sons by his second wife, Margaret of France.

EDWARD II, king of England, born at Caernarvon castle in 1284, and the first English prince of Wales, succeeded his father, Edward I, in 1307. He was of an agreeable figure and mild disposition, but indolent and fond of pleasure. After marching a little way into Scotland, with the army collected by his father, he returned, dismissed his troops, and abandoned himself entirely to amusement. His first step was to recall Piers Gaveston, a young Gascon, whom his father had banished, and whom he created earl of Cornwall, and married to his niece. He then went over to France to espouse the princess Isabella, to whom he had been contracted by his father. Soon after his return, the barons associated against the favorite, Gaveston, whom they more than once obliged the king to send away. He was, however, as constantly recalled when the immediate danger was over, until an open rebellion took place; and, the person of Gaveston being captured, he was executed as a public enemy. In 1314, Edward assembled an immense army, to check the progress of Robert Bruce, but was completely defeated at Bannockburn. After the death of Gaveston, he selected a similar minion in the person of Hugh Spenser, a young nobleman whose father

was living, upon whom he lavished favors of every kind, until the barons again rebelled, and, the parliament dooming the Spensers to exile, the king was obliged to confirm the sentence. Edward, however, on this occasion, in concert with the Spensers, contrived to raise troops and attack the barons, at the head of whom was his cousin, the earl of Lancaster, who, being taken prisoner, was executed at Pomfret. Several others also suffered, and the Spensers were enriched with the spoils. Edward subsequently made another fruitless attempt against Scotland, which ended in the conclusion of a truce of thirteen years. In 1324, queen Isabella went to France to settle some disputes in relation to Guienne, and, while there, entered into a correspondence with several English fugitives, in whose hatred to the Spensers she participated. Among these was Roger Mortimer, a young baron of the Welsh marches, between whom and Isabella a criminal intercourse succeeded, in consequence of which the queen was still more determined upon the ruin of her weak and unhappy husband. Having formed an association with all the English malcontents, and being aided with a force by the count of Hainault, she embarked for England in September, 1326, and landed in Suffolk. Her forces seized the Tower of London and other fortresses, captured and executed both the Spensers without trial, and at length took the king prisoner, who had concealed himself in Wales, with a view of escaping to Ireland. The unfortunate Edward was confined in Kenilworth castle, and in January, 1327, his deposition was unanimously voted in parliament, on the ground of incapacity and misgovernment. A resignation of the crown was soon after extorted from him, and he was transferred to Berkeley castle, where Mortimer despatched two ruffians, who, it is said, murdered him, by thrusting a red-hot iron into his bowels, that no external marks of violence might remain, 21st of Sept., 1327, in the twentieth year of his reign and forty-third of his age.

EDWARD III, son of Edward II, by Isabella of France, was born in 1313. On his father's deposition in 1327, he was proclaimed king, under a council of regency, while his mother's paramour, Mortimer, really possessed the principal power in the state. The pride and oppression of Mortimer now became so intolerable, that a general confederacy was formed against him, at the head of which was the young king himself, who, now in his eighteenth year, could ill brook the ascendancy of

his mother's minion. The result was the seizure of Mortimer, in the castle of Nottingham, where he lodged with the queen, and his immediate execution upon a gibbet. The queen was also confined to her house, with a reduced allowance, and, although treated with outward respect, never again recovered any degree of authority. Edward now turned his attention to Scotland. Assisted by some principal English nobles, who enjoyed estates in that country, which were withheld from them contrary to the terms of the late treaty, Edward Baliol, son of the John Baliol to whom the crown had been awarded by Edward I, raised a force, and, defeating the Scots in a great battle, set aside David Bruce, then a minor, and was crowned at Scone, in 1332. Baliol, being driven away on the departure of his English auxiliaries, applied to Edward, who levied a well-appointed army, with which he defeated the regent, Douglas, at the famous battle of Halidown-hill, in July, 1333. This victory produced the restoration of Baliol, who was, however, again expelled, and again restored, until the ambition of Edward was called off by a still more splendid object. The crown of France, by the Salique law, having devolved to Philip de Valois, cousin-german to the deceased king, Charles the Fair, Edward was induced to claim it in right of his mother, that monarch's sister. There existed other claims that were superior; but these considerations weighed very little with a young, ambitious monarch, eager for conquest and glory. The first hostilities produced nothing of much moment. Edward, in order to obtain fresh supplies, made concessions to parliament which he never intended to keep; and, finding his territory of Guienne threatened, he sent over a force for its defence, and quickly followed himself, accompanied by his son Edward, the famous black prince, all his chief nobility, and 30,000 men. The memorable battle of Crecy followed, Aug. 25, 1346, which was succeeded by the siege of Calais. In the mean time, David Bruce, having recovered the throne of Scotland, made an incursion, at the head of a large army, into England; but, being met at Durham by a much inferior force, raised by queen Philippa, and headed by lord Percy, he was totally defeated and taken prisoner, with many of his principal nobles. Philippa went over to her husband at Calais, and, by her interference, prevented the barbarous execution of Eustache de St. Pierre and five other citizens, whom Edward, on the capitulation of the

place, had determined to execute, in revenge for his long detention in the siege. In 1348, a truce was concluded with France. The year 1349 was distinguished by the institution of the order of the garter; which, owing to the fame and chivalrous character of Edward and his eldest son, soon became one of the most illustrious orders of knighthood in Europe. Philip, king of France, dying in 1350, was succeeded by his son John, the commencement of whose reign abounded with intestine commotion, and, in 1355, Edward again invaded France on the side of Calais, while the black prince, at the same time, led a large army from Gascony. Both these expeditions were attended with much plunder and devastation; and Edward, being recalled home by a Scottish inroad, soon repelled it, and retaliated by carrying fire and sword from Berwick to Edinburgh. During this time, the prince of Wales had penetrated from Guienne to the heart of France, where he was opposed by king John, at the head of an army nearly five times more numerous. The famous battle of Poitiers ensued, in which the French monarch being taken prisoner, Edward held at the same time in captivity the kings of France and Scotland, the most dangerous of his enemies. John was taken to England, and treated with the greatest respect; and David was soon after liberated upon ransom. A truce had been made with France after the battle of Poitiers, at the expiration of which, in 1359, Edward once more passed over to Calais with a large army, and desolated the provinces of Picardy and Champagne, but at length consented to a peace, which was concluded in May, 1360. Besides the stipulation of a large ransom for king John, several provinces and districts in the southwest of France and neighborhood of Calais were yielded to Edward, who, in his turn resigned his title to the crown of France and duchy of Normandy. The successor of John, Charles V, invaded the provinces intrusted to prince Edward, then in the last stage of declining health, and Edward had the mortification of witnessing the gradual loss of all his French possessions, except Bordeaux and Bayonne, and of all his conquests except Calais. In the decline of life, he was in other respects unfortunate: becoming a widower, he fell into a species of dotage; and an artful mistress, named Alice Piers, so abused her influence, that, on a parliamentary remonstrance, he found it necessary to dismiss her. His administration also became un-

popular; and he had the affliction of witnessing his heroic son, Edward, sink a victim to a lingering illness; which calamity he survived about a year, dying June 21, 1377, in the sixty-fifth year of his age, and fifty-first of his reign.

EDWARD, prince of Wales, surnamed the *Black Prince*; one of the most chivalric and heroic characters of history, the eldest son of Edward III and Philippa of Hainault. He was born in 1330, and at the age of fifteen accompanied his father in his invasion of France, and received from him the honor of knighthood. The victory of Crecy, which king Edward left principally to the exertions of the force under his son's command, to use that warlike king's language, "showed that he merited his spurs." It was on this occasion that he assumed the motto of *Ich dien* (I serve), used by all succeeding princes of Wales, and derived, it is said, from the crest of the king of Bohemia, slain in that battle, which tradition, however, later antiquaries seem disposed to discredit. In 1355, he commanded the army which invaded France from Gascony, and the next year fought the great battle of Poitiers (see *Edward III*), and distinguished himself by the courtesy with which he treated his prisoner, king John. By the peace of Bretagne, his father had obtained the provinces of Poitou, Saintonge, Perigoux, Limousin, &c., which he annexed to Guienne, and formed into a sovereignty for his son, under the title of the principality of Aquitaine. There the prince took up his residence; and at his court Pedro the Cruel sought refuge, when driven from his throne by his natural brother, Henry of Trastamare. Edward undertook the reëstablishment of this tyrant, which he accomplished, but lost his health in the enterprise. Disappointed, by the perfidy of Pedro, of the stipulated reimbursements, the taxes he was obliged to levy on his new subjects rendered his government unpopular; and an appeal was made to the king of France, as his liege lord, who summoned him as his vassal to appear at Paris. "I will come," replied the angry prince, "but it shall be at the head of 60,000 men." His health, however, was too far declined to enable him to take the field, when the king of France invaded his dominions; and, having suffered the mortification of seeing his generals defeated, he withdrew into England, and after lingering some time, died, June 8, 1376, in his forty-sixth year, leaving an only son, afterwards Richard II.

EDWARD IV, king of England, was born

in 1441. His father, Richard, duke of York, was grandson of Edward, earl of Cambridge and duke of York, fourth son of Edward III, while the Lancaster branch descended from John of Gaunt, the third son. The York line had intermarried with the female descendants of Lionel, the second son, which gave it the preferable right to the crown. Edward, on the defeat and death of his father at the battle of Wakefield, assumed his title, and, having entered London, was declared king by acclamation in 1461. Soon after his accession, he had to fight for his crown against an army of 60,000 Lancastrians assembled in Yorkshire; and the field of Towton confirmed his title by a decisive victory. Although the high-spirited Margaret was enabled, by the aid of Louis XI of France, again to take the field, the result of the battle of Hexham, in May, 1464, obliged her to return to Flanders, and leave her husband, the imbecile Henry, a prisoner in the hands of his enemies, who immured him in the Tower of London. Freed from warlike cares, Edward indulged himself in the gallantries too common to his age and station, and, by a marriage of passion with Elizabeth Woodville, widow of sir John Grey of Groby, a Lancastrian, betrayed himself into very serious difficulties, since, at the same time, he had despatched the earl of Warwick to negotiate a marriage for him with Bona of Savoy, sister to the queen of France; so that he at once offended two royal houses, and his powerful friend, Warwick. Aided by France, Warwick, who had contracted his daughter to the Lancastrian prince Edward, landed with Clarence and some other lords at Dartmouth; and such was his popularity, that he quickly saw himself at the head of 60,000 men, with whom he marched to encounter Edward. They approached each other near Nottingham, where the king, by the treachery of the marquis of Montague, in whom he placed great confidence, had nearly been betrayed into the hands of his enemies. He had just time to mount on horseback, and with a few attendants proceed to Lynn, where he instantly embarked, and reached a port in Holland, leaving Warwick in full possession of his kingdom, eleven days after he had set his foot in it. Henry's title was again recognised by parliament, and Warwick and Clarence were declared regents of the kingdom. Edward, who at first had been received rather coldly by his brother-in-law, the duke of Burgundy, was at length secretly assisted by him with a small squadron of

ships, and a force of about 2000 men, with which he safely reached Ravenspur, in Yorkshire. Here his forces quickly increased by partisans from all quarters, and he was soon enabled to march to London, where, through the influence of many rich merchants who had advanced him money, he obtained entrance as king, and the unfortunate Henry again became prisoner. Warwick advanced against him as far as Barnet, where, on the 14th of April, 1471, another great battle was fought, which ended in the death of Warwick, and a decisive victory on the part of Edward. On the same day, queen Margaret and her son Edward landed at Weymouth, and marched into Gloucestershire, where she was met by the victorious Edward, who totally defeated her at Tewkesbury. The queen and her son Edward, being taken prisoners, and brought into the presence of the victor, Edward asked the latter how he dared to invade his dominions. On receiving a spirited answer, he basely struck the captive prince on the face with his gauntlet—the signal for immediate massacre by the king's brothers and other nobles attendant. Margaret was thrown into the Tower, where Henry VI soon after died, but whether by violence or by disease is uncertain. Edward now once more resigned himself to pleasure and gayety, until seized with a desire to make French conquests. Baffled by the arts, intrigues and money of Louis XI (which he condescended to accept), these attempts ended in nothing of importance. The latter part of his reign was disturbed by his jealousy of his brother Clarence. The consequence of this ill-will was the attainder of Clarence, who was indulged in his desire of meeting his death by immersion in a butt of Malmsey wine. Edward was preparing for another expedition against France, when he was taken off by sickness, in April, 1483, in the forty-second year of his age, and twenty-third of his reign. He left two sons and five daughters. Edward IV possessed some ability and activity, but was, however, more showy than solid. His valor was stained by cruelty, and he was less fitted to prevent evils, than, by his courage and enterprise, to remedy them.

EDWARD V, king of England, the eldest son of Edward IV, was in his thirteenth year when he succeeded his father, in 1483. His uncle, the duke of Gloucester, the regent, caused the young king and his brother, who were lodged in the Tower, to be smothered by ruffians. Two bodies, answering their description, being found buried at the foot of the stairs of their

apartment, in the reign of Charles II, were taken up by that king's order, and deposited in Westminster abbey.

EDWARD VI, king of England, son of Henry VIII, by Jane Seymour, was born in 1538. At his father's death, he was only nine years of age, and, as he did not live to attain majority, the public acts of his reign are to be deemed those of his counsellors. His education was intrusted to men of the first character for learning, among whom were sir Anthony Cooke and sir John Cheke. The progress of the young king, whose disposition was very docile and amiable, was great, especially in classical acquirements, and a rooted zeal for the doctrines of the reformation. His reign was, on the whole, tumultuous and unsettled. After his father's death, his maternal uncle, Seymour, duke of Somerset, became protector; but his administration raised up such powerful enemies, that he was brought to the scaffold. Edward was much afflicted at the necessity of consenting to his execution, and with equal reluctance consented to the death of a fanatical female, named Joan Bocher, who was sentenced to the flames for heresy. When Cranmer urged Edward to sign the warrant for her execution, he long resisted, and at length, overcome by his importunities, told him, that if it was wrong, the guilt lay with him. After the death of Somerset, Dudley, duke of Northumberland, became all powerful, and through his influence, Edward, in a declining state of health, was induced to set aside the succession of both his sisters, and to settle the crown upon the lady Jane Grey, claiming through his father's younger sister, the duchess of Suffolk. His decease, from a pulmonary complaint, soon after followed, July 6, 1553, in the sixteenth year of his age, and seventh of his reign.

EDWARD, CHARLES, called the *Pretender*, grandson of James II, king of England, son of James Edward and Clementine, daughter of prince Sobiesky, was born in 1720, at Rome, where his father enjoyed the friendship of the popes Clement XI and Innocent XIII. The last scion of the royal house of Stuart, from the very cradle he was inspired with an impulse, that induced him, at the early age of 22, to attempt the recovery of the throne of his ancestors. Supported by the court of Rome, he went to Paris in 1742, disguised as a Spanish courier, and succeeded in gaining over to his views Louis XV. 15,000 men were on the point of sailing from Dunkirk for England, when the

English admiral Norris dispersed the whole French fleet, before it had gained the open sea. This prevented the French court from undertaking a second expedition; all the requests of Edward were in vain, and he now resolved to trust to his own exertions. With borrowed money, and seven trusty officers, he landed like a knight-errant, June 27, 1745, on the north-western coast of Scotland, from a ship of 18 guns, which contained arms for 1500 men. The attempt succeeded, and he found so many adherents among the discontented Scotch nobles, who went over to his party, together with the Highlanders under them, that he was soon at the head of a little army. With this he marched forward, conquered the English troops, which advanced to meet him from Edinburgh, captured Perth, and caused himself to be proclaimed regent of England, Scotland and Ireland. He also took Edinburgh, September 19, 1745, where he was once more proclaimed regent, and surrounded with his ministers and generals. France sent him support. September 21, 1745, he defeated at Preston Pans an army of 4000 English. He set the prisoners at liberty. His force was now 7000 strong. With this he advanced, and laid siege to Carlisle, November 26, which, after three days, surrendered, and supplied him with a great number of arms. He now caused his father to be proclaimed king, and himself regent of England, removed his head-quarters to Manchester, and soon found himself within 100 miles of London, where many of his friends awaited his arrival. The rapid successes of the adventurer made the English government tremble; and a part of the English forces in Germany was recalled. Want of support, disunion and jealousy among the adherents of the house of Stuart, some errors, and the superior force opposed to him, compelled prince Edward to retire in the beginning of 1746. The victory at Falkirk (January 23, 1746) was his last. As a final attempt, he risked the battle of Culloden, against the duke of Cumberland, April 27, 1746, in which his army was defeated, and entirely dispersed. The prince now wandered about for a long time through the wilds of Scotland, often without food, and the price of £30,000 sterling was set upon his head. He was at last discovered by his most faithful friend O'Neil, a Scottish nobleman: they escaped detection by sailing, in a miserable skiff, from island to island, and wandering from valley to valley, pursued by a thousand dangers; for constant search

was made for Charles in every direction. At Lochnanach, he was fortunate enough to meet one of the French frigates, which had been sent for his rescue. September 29, 1746, five months after the defeat of Culloden, he sailed from Scotland, and arrived in France, destitute of every thing. By the interest of madame de Pompadour, prince Edward now received an annual pension of 200,000 livres for life; he had also 12,000 doubloons yearly from Spain. The peace of Aix-la-Chapelle (1748) deprived him of all prospect of recovering the throne of England; and when he heard that his own removal from France was stipulated in the articles of peace, his anger knew no bounds. It became necessary to carry him, under a guard, to the frontiers of Italy. He went to Rome, the residence of his father, James III; but his relations to the Roman court were changed after his father's death, January 1, 1766. His often ridiculous requests in regard to the etiquette to be observed towards him, which he made under the name of count of Albany, rendered his presence troublesome. He went to Florence, till Pius VI recalled him to Rome, by withdrawing his pension. That his family might not become extinct, he married, in the 52d year of his age, April 17, 1772, a princess of Stolberg-Gedern. But his violence led to a separation, in 1780. (See *Albany*.) Edward now became addicted to intoxication. He died January 31, 1788, in the 68th year of his life. Three years before, he sent for his natural daughter from France, legitimated her, and declared her, on his royal authority, his lawful heiress, under the title of countess of Albany. His body was carried to Frascati, and entombed in a style worthy of a king. A sceptre, crown, sword, and the escutcheons of England and Scotland, adorned his coffin, and his only brother then living, the cardinal of York, performed the funeral service for "dead king Charles." The cardinal of York received from England an annual pension of £4000 sterling, from the year 1799, and died at Frascati, July 13, 1807. The Stuarts ruled in Scotland 400 years, and in England 85 years.

EDWARDS, Bryan, historian of the West Indies, was born at Westbury, in Wiltshire, in 1743. On the death of his father, in adverse circumstances, he acquired the protection of his maternal uncle, a person possessed of great property in the island of Jamaica. He inherited not only the large fortune of his uncle, but of a Mr. Hume, of Jamaica, and, becoming an eminent merchant, returned to England, and,

in 1796, took his seat for the borough of Grampound, which he represented until his death, in July, 1800. His first publication was a pamphlet, entitled *Thoughts on the Trade of the West India Islands with the U. States*, 1784; this was followed by his *Speech on the Slave Trade*; but his most distinguished performance is his *History, civil and commercial, of the British Colonies in the West Indies*, 1793, 2 vols. 4to. A new edition of this work, published after his death, in 1801, 3 vols. 8vo., includes a *History of St. Domingo*. Mr. Edwards also published, in 1796, the *Proceedings of the Governor and Assembly of Jamaica, in regard to the Maroon Negroes*, 8vo. All these works are valuable for their information, and are written with ease and elegance.

EDWARDS, Jonathan, the most celebrated of American metaphysicians and theologians, whom Dugald Stewart describes as "indisputably the ablest champion of the scheme of necessity since the time of Collins," was born in East Windsor, Connecticut, October 5, 1703. His father, a minister of the gospel, instructed him in the dead languages. Jonathan entered Yale college, in New Haven, in September 1716, where he was distinguished for good morals, diligence, and proficiency in the collegiate studies. At fourteen, he read with pleasure Locke on the Human Understanding. His habits of application and thought, and his delight and success in metaphysical studies, were extraordinary. Papers, in his hand-writing, show, that at fourteen he conceived the design of composing a complete *Treatise on Natural Philosophy and Natural History, including Chemistry and Geology*. His piety, his devotion to the Bible, and his propensity for theological inquiries, were equally remarkable. In 1720, he took his first degree, and remained nearly two years at Yale, preparing for the ministry. In 1722, he went to New York, where he preached for about eight months, with great distinction. In September, 1723, he was elected a tutor in Yale college, and in the following year began to act in that capacity, but resigned his office in 1726, in order to become the minister of the people of Northampton, where he was ordained February 15, 1727.—The record of his labors as a pastor, divine, and metaphysical writer, is edifying in the highest degree. His various sermons and disquisitions procured for him a wide reputation. His *Treatise on Religious Affections* was immediately republished in England and Scot-

land, and placed him among the first writers of his sect. After more than three years of zealous service in Northampton, a total rupture occurred between him and his congregation, owing to the candor and boldness with which he publicly reproved certain irregularities of some young persons of the principal families connected with his church. An ecclesiastical council dismissed him in June, 1750; and, in the following year, he accepted a call to serve as a missionary among the Indians at Stockbridge, in Massachusetts. Here he remained six years, exerting himself with an apostolical spirit, and, at the same time, prosecuting the deepest investigations in mental philosophy. Here he composed his famous works on the *Freedom of the Will*, and on *Original Sin*.—The first is his masterpiece, and worthy of the powers of a Locke or Leibnitz. It was completed within the space of four months and a half. The date of its first appearance is the early part of 1754. In 1757, he was chosen president of the college at Princeton, New Jersey, and accepted this invitation, though not without reluctance, on account, chiefly, of his desire to accomplish two great literary enterprises, which he had begun long before—a *History of the Work of Redemption*, and a *View of the Harmony of the Old and New Testament*. In January, 1758, he repaired to Princeton, where the small-pox then prevailed. He was inoculated by the physician of the college. "He had the malady favorably, but a secondary fever set in, and, by reason of a number of pustules in his throat, the obstruction was such, that the medicines necessary to check the fever could not be administered. This disorder put an end to his life, March 22, 1758, in the 55th year of his age." This eminent man gave, to the last moment, an admirable example of Christian patience, resignation and hope. He left five daughters and three sons. One of his sons was president of the college at Schenectady, New York, having been, like his father, a tutor in the institution in which he was educated; subsequently dismissed from a parish under his care on account of his religious opinions, settled again in a retired situation, elected to the presidency of a college, and called to leave this world shortly after his inauguration, and nearly at the same age with his father.—The physical constitution of Edwards (the father) was extremely delicate; but his mind was so active and well disciplined, that he was able to produce, besides the works already mentioned, a very large

number of tracts and sermons. Various narratives of his life, and editions of his works, have been printed in Great Britain and the United States. The latest is in ten octavo volumes, published in 1830, at New York, and edited from original materials, by Sereno E. Dwight. The first volume is nearly occupied by the memoir of his life, comprising his resolutions, diary, and a part of his correspondence. The description, which he has furnished, of his own mind, temperament, theological sentiments, and literary projects, deserves particularly to be consulted. He wrote with perspicuity, though not with elegance, and generally in a rugged and negligent style.

EDWY, king of England, son of Edmund I, succeeded his uncle Edred in 955. Taking part with the secular clergy against the monks, he incurred the confirmed enmity of the latter. Having called Dunstan to account for his share in the administration in the preceding reign, the latter refused to attend the summons, and was in consequence banished. His party was, however, so strong, that a rebellion was excited, and Edwy driven from the throne, to make way for his brother Edgar. That his intrigue or marriage with Elgiva, may have given a pretence for his deposition and excommunication is very probable, but there is reason to believe, from his youth and other circumstances, that the story of the fate of Elgiva, as related by *Cæsar* and Hume, is materially incorrect. Edwy died in 959.

EEL; a fish well known from its peculiar form and savory flesh. Many varieties of eels are described by naturalists, some tenants of fresh-water streams, others inhabiting the sea. The latter acquire a vast size, and numerous instances are on record of their having attacked and overpowered boys, and even men, while bathing. Gifted with prodigious strength and agility, and capable of inflicting severe wounds with its powerful jaws, the sea eel, or conger, must prove a most dangerous assailant, when encountered in its native element. Fresh-water eels, inhabiting running streams with gravelly bottoms, are said to be uniformly white upon the belly, and infinitely more delicate than those of muddy waters, which are always yellow, and possess a peculiar smell and flavor, very disagreeable. In the choice of its food, the eel is far from cleanly, feeding indiscriminately upon all kinds of small fish, and decayed animal matter; in consequence of which, many persons refuse to eat them. In the seas of India, there

are large species caught, varied with the most beautiful colors, resembling serpents; and one, in particular, has so much the aspect of one of these reptiles, as to bear the name of *snake eel*. The flesh of eels is sapid and nourishing, but, owing to its fatness, offensive to weak stomachs. Oil is procured from sea eels, which is remarkably clear, and burns very brightly. A curious opinion prevails in this country as to the properties of eel-skins in preventing the cramp, so dangerous to bathers. Boys are frequently seen with one fastened round the ankle for the purpose of averting the attack of this dangerous spasm while in the water. It is needless to observe, that the virtues ascribed to it are very apocryphal. The Romans are said to have fed eels upon human flesh; and one of the most cruel of the emperors caused his slaves to be thrown alive into the fish-ponds for disobedience. A similar tale is related of Vedius Pollio. *Muraena* was the term used to express the male eel, and *myrus* the female. The common eel belongs to the subgenus *muraena* of Lacepede, and may be distinguished thus: dorsal fin commencing very much in the rear of the pectorals; lower jaw shorter; color, olive-green above, silvery or yellowish beneath. In the sea eels, or congers, the dorsal commences near the pectorals, or over them, and the superior jaw is always longest. The conger of our seas attains the length of five or six feet, and the thickness of a man's leg.

A prejudice exists here against the flesh, which in Europe is salted in large quantities. Some kinds of eels occur, in which there are no perceptible fins whatever. Few animals are more tenacious of life; they continue to move for a long while when deprived of the head and skin, preserving the muscular irritability for many hours after death. Great quantities of river eels are consumed for food among the lower classes, and the number taken during a night, in a trap, contrived for the purpose, and sunk upon the bottom, is frequently enormous, amounting to several hundreds. A barrel or box is used, having an aperture cut in the top, to which is attached a stocking or tube of coarse cloth, which hangs down in the interior; the fish enter with ease from without, but find it impossible to return. At day-light, the trap is raised to the surface, and the captives secured. In England, a kind of trident is used, called an *eel-spear*. A fisherman wades to the shallows, and, striking his spear in the mud in every direction around him, the eels, reposing on the bottom, are caught

between the prongs, and shaken into a basket. The respiration of most subgenera of the eel family is conducted through lateral openings at the gills, as in other fishes; but in some a different arrangement is observed. For instance, in the *sphagebranchus*, the apertures are approximated under the throat, and in the *synbranchus*, the external orifice of the gills is a single hole under the throat. A great variety is observable in the form of the air-bladder of these fishes, which is wanting only in a few species. Want of scales is usually mentioned as a characteristic of the family, but nevertheless inaccurately. Scales do exist; but they are very minute, and so imbedded in the skin, as to be imperceptible in the recent animal, though sufficiently evident in the dried skin. Some marvellous accounts are on record of the migrations of eels from one river to another, over intervening portions of dry land. It is sufficiently well known, that such journeys are taken by these fish, but mostly over very small portions of soil, covered with damp grass. Authors relate stories, also, of eels having been rained down from the clouds, which phenomenon is accounted for in the same manner as the raining of frogs, small fishes, &c., frequently mentioned as astonishing matters by the ancient writers. Eels are viviparous, and quite productive.

EFFENDI; a corruption of the Greek word *αδελφός*, which signifies *lord*, or *master*, in the modern dialect, and is pronounced *apthendis*, or *aphendis*. It is a term of modern use in the Turkish language, and has been substituted for the Tartar word *chelebi* (noble), now applied to persons of inferior rank. *Effendi* is particularly applied to the civil, as *aga* is to the military officers of the sultan; and both are used in conversation, commonly joined to the name of their office. Thus the sultan's first physician is called *Hakim effendi*, the priest in the seraglio, *Iman effendi*, &c. The *Reis effendi*, or chancellor of the empire, is also minister of foreign affairs, and negotiates with the ambassadors and interpreters of foreign nations. Greek children are in the habit of calling their fathers *effendi*. The term is often used much in the same way as *sir*, while the Greek *κύριος* may be compared to our *Mr.*

EFFIGY, to execute or degrade in. The word *effigy* is derived from the Latin *effigies*, picture; and the phrase at the head of this article denotes the execution or degradation of a condemned criminal, when he cannot be personally apprehend-

ed, by subjecting his picture to the formalities of an execution; for instance, affixing the picture, with a rope round the neck, to the gallows (hanging in effigy). This practice is still continued sometimes in Prussia, and probably in other countries.

EFFLORESCENCE; a term applied in chemistry to the crystals of certain salts, which, on exposure to the air, part with a portion of their water, and crumble down into a white powder. (See *Crystallization*, under the article *Cohesion*.)

EGALITÉ, Philip, that is, *Philip Equality*; the name adopted, after the abolition of monarchy in France, by Philip Bourbon Capet, duke of Orleans. (q. v.)

EGBERT, considered the first king of all England, was of the royal family of Wessex. Egbert served in the armies of Charlemagne. On the death of Brithric, he succeeded him as king of Wessex, in 800. He reduced the other kingdoms, and rendered them dependent on him, in 827. He was much annoyed by the repeated inroads of the Danes. Egbert died in 838.

EGEDE, John, the apostle of Greenland, was born, 1686, in Denmark, and, in 1707, became a preacher at Wogen, in Norway. Having heard that Christianity had been once established in Greenland, but had become extinct in the country for want of teachers, he was filled with grief. After the most careful inquiry, he heard that the eastern coast of Greenland was inaccessible, on account of the floating ice, and that the southern was inhabited by savages. He resolved to visit the country, and to preach the gospel to the inhabitants. But he was without resources. The merchants in Bergen were unwilling to undertake to trade with Greenland, and the government refused his petition for ships, money and men, because they were involved in a war with Sweden; the bishops of Bergen and Drontheim praised his noble resolution, but were unable to help him. Having collected some money to aid him in his purpose, he resigned his charge, received from the Danish government, after the conclusion of peace with Sweden, the title of royal missionary to Greenland, with a small pension and three ships, one to remain with him, another to bring back the news of his arrival, and a third to engage in the whale fishery. The government encouraged the Bergen merchants to establish a Greenland trading company. May 21, 1721, Egede embarked, with 46 persons under his command. The whaling-vessel was wrecked; the other two reached Greenland, but an extent of 12 leagues of float-

ing ice seemed to make it impossible to land. June 4, they finally succeeded. The appearance of the country was wretched. A house was built, and called the *haven of hope*. The conversion of the Greenlanders was now undertaken, but offered great difficulties; and the whole colony, tired of struggling against misery and wretchedness of every description, were eager to return to Denmark. Egede resolved to adopt that course; but the firmness of his wife prevailed upon them all to remain, and trust to the arrival of a vessel from Denmark with the necessary supplies. June 27, the news was brought, that two ships had arrived from Denmark, with the necessary articles, and letters which contained the assurance of efficient support. In the mean time, Egede had caused his son Paul to paint several scenes from the Bible, perhaps to convey to the Greenlanders some idea of the history, or to excite their curiosity. As this did not succeed, he took up his residence, with his two sons, among the natives, in order to learn their language. He carefully noted down every word of which he discovered the meaning; he often performed long journeys, at the peril of his life, to visit the remotest Greenlanders, for the purpose of gaining their confidence, in which he succeeded by a thousand acts of kindness; he also endeavored to render the trade more profitable to the crown, which sent him a vessel annually with supplies. Though he was unsuccessful in learning the language, his two sons, and especially Paul, attained it with little difficulty. Egede, therefore, sent him to Copenhagen for four years, to study theology, that he might leave him as his successor in Greenland. Egede, the father, after spending 15 years in Greenland, amid innumerable discouragements, returned, in 1736, to Copenhagen, to make new exertions for the support of Christianity in that country. The government appointed him director of the Greenland missions, and established his son Paul in the office of missionary there. When age rendered him incapable of the exercise of his duties, he retired to the island of Falster, where he died, 1758. His writings are in Danish, and have been translated into German. They relate to the natural history of Greenland, and his sufferings and adventures there.—His son *Paul Egede*, born 1708, was his assistant from the time he was 12 years old. He went to Copenhagen, in 1723, carrying with him some Greenlanders, to be instructed in various trades: they all soon died of the

small-pox. Notwithstanding a strong inclination for the naval service, he submitted to the wishes of his father, studied divinity, and took charge of the mission in Greenland. In this undertaking he embarked in 1734, carried out with him new colonists, and remained there till 1740. He then returned to Copenhagen, received the office of chaplain in the hospital dedicated to the Holy Ghost, and was commissioned, also, to direct the affairs of the mission. The next year, he was appointed by the king bishop of Greenland. He died in 1789. We have from him an *Account of Greenland*, extracted from a Journal kept from 1721 to 1788, published at Copenhagen, 1789, 12mo.; moreover, a *Dictionarium Grælandicum*, Copenhagen, 1754; a *Grammatica Grælandica*; a translation of the Gospels, the Pentateuch, several Danish prayers and liturgies, and the Imitation of Christ, by Thomas à Kempis, in the Greenland tongue.

EGERAN. (See *Idocrase*.)

EGERIA; a nymph who received divine honors among the Romans. Numa pretended to have secret conversations with her, and to receive from her the laws which he gave to the Romans. Some say Egeria was the wife of Numa.

EGERTON, Francis (duke of Bridgewater); an English nobleman, very highly distinguished for public spirit, born in 1726. His father, the first person who bore the title of duke of Bridgewater, had obtained, in 1732, an act of parliament, authorizing him to dig a canal from Worsley, one of his estates, containing very valuable coal mines, to Manchester; but the difficulties in the way of executing it deterred him from attempting it. Francis Egerton, by the death of his father and elder brother, coming into possession of the great estates of the family, resolved to complete the plan of his father, and succeeded, by the help of Brindley (q. v.), a self-taught man of remarkable genius. To effect his object, he limited his personal expenses to £400 a year, and devoted all the rest of his income to his great undertaking. The canal, which bears the name of the duke, was completed in five years, after the expenditure of immense sums, and enabled him to supply Manchester and the neighboring towns with coal. He afterwards extended his canal to the Mersey, so as to bring Liverpool into the line of his navigation. The success of his undertaking was so great, that canals were now projected in every direction. Brindley formed the grand idea of

establishing a water communication between London, Bristol, Liverpool and Hull, and completed it in part, as the duke, in 1766, began the *grand trunk navigation*, so called, whereby the rivers Trent and Mersey were united. This canal, which is 90 miles long, was finished in 1777, and connects Liverpool and Hull. The duke of Bridgewater died unmarried, in 1803. (See *Canal*, and *Brindley*.)

Egg. Birds, reptiles, fishes, insects and worms bring forth eggs; birds, indeed, without any exception. The eggs of fishes are called *roe* or *spawn*. They contain the germ of the young animal, and, in this respect, resemble the seeds of plants. Seeds require heat and moisture to develop them; and a great part of their substance serves for the nourishment of the germ. So it is with eggs, which have, in addition, the necessary moisture in themselves, and, therefore, only need external heat for their development. The bird's egg consists (1.) of the shell. Immediately beneath this hard, porous covering lies firmly enclosed (2.) the external membrane, which is also a little porous. Next comes (3.) the white of the egg, and, lastly, (4.) the yolk. In the yolk is seen a small, lens-shaped speck, in which is found a little oval sack, of a grayish color. This is the place where the young animal is developed. The form of the eggs of birds is generally more or less of an oblong round. It is different in other oviparous animals. Amongst reptiles, the crocodile, for instance, has a cone-shaped egg. There is a great variety of shades in the colors of birds' eggs, though they are confined chiefly to white, blue and green. The spots, points, or stripes, with which many are marked, run in countless degrees and shades, from red into gray, ash-colored, &c. The eggs of birds, especially of hens, are a pleasant and nutritive food. Among reptiles, turtles produce eggs which are good for eating. The roe of fishes is also eaten, and caviare is composed wholly of the eggs of fish. The white of hens' eggs is used for applications in complaints of the eyes. It is also made use of for clarifying certain liquors, whey, sugar, &c. (See *Clarification*.) The simple white of eggs also furnishes a shining varnish for many works of art, especially paintings and playing-cards. Mixed with powdered, fresh-burnt lime, with brick-dust, clay, meal, and other substances, according to circumstances, it forms a very strong cement. To preserve eggs for any length of time, they must be kept from the air. They are covered

with varnish or oil, set on the small end, upon a perforated board, or, which is still better, they are placed in layers, upon the small end, in very dry ashes, in chopped straw, &c., enclosed in tubs and boxes, and put in a dry place, protected from severe cold in winter, but at the same time, not too warm.* (See *Hatching*.)

EGG-PLANT (*solanum melongena*); a herbaceous annual, from a foot to 18 inches high, a little branched, and more or less covered with a substance resembling cotton: the leaves are oval, sinuate, and petiolate; the flowers large, white, or purplish, lateral, and frequently solitary; but sometimes two or three are situated upon a common divided peduncle; the calyx and peduncles are furnished with a few short prickles; the fruit is very large, smooth and shining, and generally of a violet color, but sometimes yellow or white. It is cultivated in the warm parts of both continents, and the fruit is much used as an article of food, when cooked, which is done in various ways: in India, it is generally served up with sugar and wine, or simply sugared water; in the south of France, with olive-oil. There are several varieties, one of which bears a white fruit, exactly resembling a pullet's egg, and has been sometimes confounded with another species, which is acrid and poisonous. Egg-plants are now much cultivated in some parts of the U. States, and have become a well known article in the markets.

EGIL SCALLAGRIM; an Icelandic bard or poet of the 10th century, who distinguished himself by his warlike exploits in predatory invasions of Scotland and Northumberland. Having killed in combat the son of Eric Blodox, king of Norway, he was doomed to death on being subsequently taken prisoner by that prince. Egil demanded permission to redeem his life by giving a specimen of his powers as an improvisatore. This was granted, and he immediately composed and recited a poem in praise of Eric, entitled Egil's Ransom, which procured him his life and liberty. This piece is still extant, and a Latin version of it was published by Olaus Wormius, in his *Literatura Danica Antiquissima*, from which doctor Percy translated it into English, and printed it in his *Northern Antiquities*.

EGINA. (See *Egina*.)

EGINETAN STYLE OF ART. (See *Eginetan Style*.)

* It happens not very rarely, that a small egg is found within one of common size. (See *Albumen*.)

EGINHARD (Einard), born in the Odenwalde; at first the companion of Charlemagne, then his private secretary and chaplain, and general superintendent of the emperor's houses. His talents and learning gained him the love and confidence of Charlemagne, in whose court he was educated, and induced him to bestow on Eginhard his daughter Emma, or Imma, in marriage. It is a common story, the truth of which, however, is much doubted, that she once admitted the fair young German to a nightly interview in her own room; that snow fell during the night, and Emma carried her lover from the castle on her shoulders, to save him from detection; the emperor, who had risen early, saw them from the window, and, instead of punishing, united them in marriage. On the death of the emperor, Eginhard left his wife, entered the order of Benedictine monks, and became first abbot of the monastery at Seligenstadt, in Darmstadt, where he died, 839. Eginhard is the oldest German historian; and we have from him a full and well-written history of the life of Charlemagne, which was published by Schmink, 1711, in 4to., with illustrations and a biography. An edition was published by Bredow (Helmst. 1806). Eginhard's *Annals of the Franks*, from 741 to 829, appeared also in 1711, in 4to., at Utrecht. His letters, which are of much importance as contributions to the history of his age (Frankfort, 1714, fol.), are still extant. A plan is likewise ascribed to him of uniting the German ocean with the Mediterranean and the Black seas, by two canals, one of which was to form a connexion between the Moselle and Saone, and the other between the Rhine and the Danube.

EGIS. (See *Ægis*.)

EGISTHUS. (See *Agamemnon*.)

EGLANTINE; one of the names of the sweetbrier (*rosa rubiginosa*); but there is a good deal of confusion in its application, and it is often given indiscriminately to other species of rose.

EGMONT, Lamoral, count of, was born 1522, of an illustrious family of Holland. He entered the military service, and gained a high reputation under Charles V, whom he accompanied to Africa in 1544. He distinguished himself as general of cavalry, under Philip II, in the battles of St. Quentin (1557) and Gravelines (1558). Philip having gone to Spain, Egmont took part in the troubles in the Low Countries; he endeavored, however, to adjust the difficulties between the duchess of Parma, who governed the provinces, and the nobles

confederated against her. He even swore, in the presence of this princess, to support the Roman Catholic faith, to punish the sacrilegious, and to extirpate heretics. Still his connexion with the prince of Orange and his most distinguished adherents, made him an object of suspicion to the court of Aranjuez, and Egmont, with the noble Philip of Montmorency, count Horn, became the victims of hate and fanaticism. The duke of Alva, who was sent, by Philip II, to the Netherlands, to reduce the insurgents, ordered them both to be executed at Brussels, June 5, 1563. Egmont was then in the 46th year of his age. He died with heroic firmness. The French ambassador announced the event to his court with these words: "I have seen that head fall which twice made France tremble." Egmont had before written to Philip II, that "he had never joined in any undertaking against the Catholic religion, nor violated his duties as a loyal subject." But an example was thought necessary to strike terror into others. Philip II expressed himself thus on the subject: "he had caused those two heads to fall, because a pair of such salmon heads was worth more than many thousand frogs." Egmont's line became extinct in Procopius Francis, count of Egmont, general of cavalry to the king of Spain, and brigadier in the French service, who died without children, at Fraga, in Arragon (1707), at the age of 38 years. (See J. J. de Cloet's *Eloge historique du Comte d'Egmont*, &c., Brussels, 1825.) Maximilian von Egmont, count of Büren, general in the service of the emperor Charles V, who distinguished himself in the wars against Francis I, belonged to another line.—A well known drama of Göthe, called *Egmont*, is founded on the above catastrophe; yet we cannot help thinking, that, if poetry often gives to historical characters a fictitious elevation, the reverse has taken place in this instance, and that Egmont in history, the father of a family, is greater than Göthe's Egmont, a lover and imprudent conspirator.

EGMONT ISLAND, in the South Pacific ocean, six miles long and four broad, is low, and full of trees. Lon. 138° 30' W.; lat. 19° 20' S.

EGMONT ISLAND, or NEW GUERNSEY; principal island in the group called *Queen Charlotte's islands*, in the South Pacific ocean. According to the account given of them by captain Carteret, the inhabitants are extremely nimble, vigorous and active, with a bravery undismayed by the fire of musketry. They seem as fit to

live in the water as on land. The country in general is mountainous, covered with woods, and intersected with many valleys and small rivers. This island is about 54 miles in length, and from 20 to 32 in breadth. Lon. 166° E.; lat. 11° S.

EGRA, EGER, or CHEBBE; a town in Bohemia, in Saatz, capital of a district; 76 miles west of Prague; lon. $12^{\circ} 21'$ E.; lat. $50^{\circ} 3'$ N.; population, 8111; houses, 740. It was formerly imperial, and has a castle, seven churches, an hospital, and a Catholic gymnasium. Near it are some medicinal springs, the waters of which are exported in bottles, sealed with the arms of the town. Wallenstein was assassinated here in 1634. The population of the district, 23,000; square miles, 106.

EGRA, or EGER; a river which rises in Bavaria, and runs into the Elbe, near Leitmeritz, in Bohemia.

EGYPT (Mizraim, Kham-Rahab; called by the Arabs, *Mezr*; by the Copts, *Khemi*; and by the Turks, *El Kabil*); formerly a mighty empire, the seat of a high civilization, the land of wonderful creations of human power, and an object of endless curiosity to the philosophic inquirer; now a Turkish viceroyalty, scarcely a fifth part inhabited, governed by a pacha or viceroy, appointed or confirmed by the sultan. This pacha is, at present, Mohammed Ali, a man of great ability. Egypt lies in North Africa, between 22° and 30° N. lat., and 27° and 34° E. lon. It is bounded on the N. by the Mediterranean sea, on the E. by the Red sea and by Arabia, with which it is connected by the isthmus of Suez, on the S. by Nubia, and on the W. by Barca and the great desert. It contains about 200,000 square miles, of which only about 17,000 square miles, in the valley of the Nile (600 miles long, and from 12 to 25 broad), are susceptible of cultivation. The population is differently estimated at from 2,500,000 to 4,000,000. Geographers divide it into Upper Egypt (*Said*), Middle Egypt (*Vostani*), and Lower Egypt (*Bahari*), including the fertile Delta. These are again divided into 12 provinces, each of which is governed by a bey, and which, together, contain about 2500 cities and villages. Three chains of mountains run through the country. The Nile (the Blue river) flows through it in a northerly direction. Besides lake Mæris, celebrated in antiquity, at present called *Birket Karun* (Charon's lake), and almost dried up, there are others, especially the natron or salt lakes. The climate is in general hot, and is mod-

erate in Lower Egypt only. The great heat produces the rankest vegetation. The simoom (*chamsin*), a formidable south wind, which blows at intervals during the first 50 days after the vernal equinox, the plague and ophthalmia are the peculiar torments of Egypt. It has but two seasons—spring and summer: the latter lasts from April to November. During this period, the sky is always clear, and the weather hot. In the spring, the nights are cool and refreshing. The greater part of the land is arid, and covered with burning sands; but wherever the waters of the Nile are conducted in canals beyond the natural limits of their overflow, the earth becomes fertile, and fruits thrive with great luxuriance. Corn, rice, millet, pulse, kitchen vegetables, melons, sugar cane, sweet rush, papyrus (peculiar to the country), flax and hemp, onions, carthamus or saffron, indigo, aloe, jalap, colocintida, saltwort (*salsola soda*), cardamom, cotton, palm-groves, sycamores, tamarinds, cassia, acacias, &c., cover the country. There is not a great variety of garden flowers, but roses are raised in large quantities, especially in the marshy Fayoum, and rose-water forms an important article of export. The soil consists of lime, with numerous shells and petrifactions; it contains marble, alabaster, porphyry, jasper, granite, common salt, natron, saltpetre, alum, &c. The woods and marshes, rivers and plains, furnish a great variety of animals, including horned cattle, buffaloes, asses, horses, camels, sheep with large, fat tails, dogs, cats, lions, tigers, hyænas, jackals, wolves, foxes, gazelles, giraffes, storks, ibises (which devour the snakes in the mud of the Nile), hens (the eggs of which are hatched in ovens), crocodiles, river-horses, ichneumons, &c. The people consist of Copts (embracing, at most, 30,000 families), Arabs (who are the most numerous, and are divided into Fellahs, or peasants, and Bedouins, the wandering tribes of the deserts), and Turks, the ruling people. The Mamelukes have been driven out of the country, and nearly exterminated. Besides these, there are Jews, Greeks, Armenians, &c. The Egyptian generally has a strong, active frame, tawny complexion, gay disposition, and a good heart, and is not devoid of capacity. He is temperate and religious, but superstitious. The prevailing religion is that of Mohammed. The prevailing language is the Arabic. At Cairo, the capital, resides the patriarch of the Eastern Christians. The inhabitants devote themselves to agricul-

ture, the raising of bees and poultry, the preparation of rose-water and sal-ammoniac, the manufacturing of leather, flax, hemp, silk and cotton, of carpets, glass, potters' ware, and carry on an important commerce. Constantinople is supplied with grain from Egypt, which, when a Roman province, was called the granary of Rome. The coasting trade is considerable. Alexandria, Damietta and Suez are the principal harbors, and much inland traffic is carried on, chiefly with Syria, Arabia and Western Africa.—Egypt was once the theatre of enterprise, civilization and science. An ancient astronomical observation authenticates the tradition, that, about 3362 B. C., the Babylonian Hermes (Thoth), the hero of mythological antiquity, went to Ethiopia (as, subsequently, Cecrops from Sais, on the Nile, went to Attica), and founded this state on the model of that to which he himself belonged. The Ethiopians and Babylonians were the first nations enlightened by Indian civilization. The organization of Ethiopia was probably soon followed by the migration of an Ethiopian colony to Upper Egypt, then inhabited by Nomadic, pastoral tribes. Subsequently, the Egyptians became the third among the nations of antiquity, distinguished for a high degree of cultivation. The similarity of the inhabitants and their language increases almost to certainty the probability that Egypt received her first civilized inhabitants from Ethiopia. This agrees with the Mosaic account, that, after the flood, the descendants of Ham settled in Upper Egypt. Even the Israelites, under Joseph, belonged to the Nomades, living on the frontiers, till they migrated again, under the conduct of Moses. Although Egypt had Babylon and Ethiopia for models, society in this country made but slow advances towards perfection. The general division of the people into hereditary castes, and the influence of the priesthood, checked the spirit of the Egyptians. Before the time of the enterprising Sesostris, they had but little commerce, especially by sea, and, consequently, few of the collisions with foreign nations which spring from an active trade. This was another reason of the slow progress of Egypt in intellectual culture. The first important impulse was received when the Egyptians were subdued by foreign nations. Previously to this, however, there were astronomers in the country. The Egyptian solar year contained 12 months and five supplementary days, like the republican calendar of the French.

The form of the earth was known to Egyptian scholars; solar and lunar eclipses were calculated; the moon they regarded as another earth; the fixed stars as burning torches; sun-dials and water-clocks were not unknown among them; the immense ring of Osymandyas seems to have been used for this purpose, and they appear to have been acquainted with the quadrant. They must, therefore, have made considerable progress in arithmetic. The arithmetical figures (the same that we call *Arabic*) they wrote from right to left. The overflowing of the Nile rendered geometry necessary to them; and their acquaintance with mathematics is evident from the instruments for measuring the height of the Nile at Syene, Memphis, and other places on the river, from their use of the water-screw, from their canals, and the sluices of lake Mœris, which presuppose a knowledge of mechanics, hydraulics and hydrostatics. The Egyptian music is the basis of the Hebrew, Greek and Roman. The first musical instrument—the three-stringed lyre (see *Lyre*)—was invented among them by Hermes. But this discovery was soon secluded among the secrets of the priests, and further perfected under their mystic veil. In this circumstance, and in the serious, gloomy character of the nation, is to be found the reason why music was only used at funerals and the public worship of the gods. Besides the lyre above mentioned, they had a dichord, two kinds of flutes, the sistrum, the kettle-drum, the trumpet and the triangular lyre. Musical notation seems not to have been known to them. Their short, simple songs were committed to memory. Their knowledge of natural history was confined to their native country and its productions. They penetrated farther in chemistry and mineralogy: their metallic encaustics, their artificial emerald, the inlaying of silver with a blue color, display science and skill. They probably made much progress in the art of healing. Every disease had its particular physician. Osiris, Isis and Hermes were the gods of health. The *Pastophori* (a class of priests) were the physicians. The king, as well as the lowest peasant, was subjected to the regimen prescribed by them. Their dietetics became celebrated in other countries. Care of the skin, a thorough cleanliness, preserved by frequent bathing, and the practice of circumcision, were their principal prescriptions. From their skill in embalming the dead, we may judge of the anatomical knowledge of the Egyptians. Their nat-

ural philosophy was mystical; they ascribed every thing to the immediate operation of the gods: on this depended their system of magic. In the arts, their proficiency was various. Their sculpture has an insufferable dryness, stiffness and uniformity; their painting was limited to covering stones, wood, cloths, &c., with a single color, or, at the most, to illuminating their hieroglyphics, variegating them with colors laid on without taste. The celestial planispheres on the ceiling of the sepulchre of Osymandyas, and the figures on the ancient tombs of the kings of Thebes, exhibit the utmost stretch of the Egyptian pencil. Their architecture is more remarkable: its characteristic is solidity rather than beauty, as appears from their labyrinths, pyramids, obelisks, temples, mausoleums, &c. (See *Architecture, History of*)* Robert Vaugondy, in his *Essai sur l'Histoire de la Géographie*, says of the geography of the Egyptians, that they made the first maps (in the reign of Sesostris). Gatterer endeavors to prove the existence of geographical delineations in the time of Joshua. Their acquaintance with navigation they owed to the great Sesostris; previously, they hardly dared trust themselves to rafts on the overflowing waters of the Nile; they abhorred the sea; it was the Typhon which devoured the Nile, their national god (Osiris). Their first coasting trade seems to have been caused by a smuggling trade of the Phœnicians, and by Inachus leading an Egyptian colony to Greece, in Phœnician vessels, 1836 B. C. It was confined, however, to the natives of the northern coasts. The inhabitants of the interior were repelled from the sea by superstition. On the other hand, the navigation of the Nile became more important after it was incorporated with the

* Champollion, the famous explorer of Egyptian antiquities, holds the following language at the end of his fifteenth letter, dated Thebes:—"It is evident to me, as it must be to all who have thoroughly examined Egypt, or have an accurate knowledge of the Egyptian monuments existing in Europe, that the arts commenced in Greece by a servile imitation of the arts of Egypt, much more advanced than is vulgarly believed, at the period at which the first Egyptian colonies came in contact with the savage inhabitants of Attica or the Peloponnesus. Without Egypt, Greece would probably never have become the classical land of the fine arts. Such is my entire belief on this great problem. I write these lines almost in the presence of bas-reliefs which the Egyptians executed, with the most elegant delicacy of workmanship, 1700 years before the Christian era. What were the Greeks doing then?"

The sculptures of the monument of El Asaffif are ascertained to be more than 3500 years old.

public worship of their divinities. Sesostris the Great broke down the obstructions of religious prejudice. A splendid ship was consecrated to Osiris, and thus the coöperation of the priesthood was gained. The success of navigation was implored in the public prayers, and the Egyptians now committed themselves to the back of the malicious Typhon. Commerce was thus established, and carried on with various degrees of success and activity, according as the kingdom was more or less flourishing. It prospered most under the Ptolemies. Alexandria became the first emporium; the famous Pharos was erected; and the canal, 1000 stadia in length, joined the Red sea with the Mediterranean. When Egypt became a Roman province, after the death of Cleopatra, it lost its previous commercial distinction. The Egyptians were particularly devoted to agriculture, and their measures for promoting it were bold, both in contrivance and execution. On what principle they conducted mining may be seen from their vast undertakings, in which whole mountains were dug down, and the earth was washed from the ore by entire rivers turned from their channels for this purpose. Gold, silver, copper, lead, tin and iron were the principal metals known to them. The trade of the Egyptians was confined, for a long time, to the sale of their own productions to foreigners who visited Egypt to purchase them. In the time of Psammetichus, they began to export for themselves. The principal traffic by land was carried on by means of caravans. Measures, weights and money, the chief instruments of trade, they were acquainted with, and a good police watched over justice. To industry, this traffic was necessarily lucrative. Their skill in weaving and coloring supplied them with articles of exchange. These, however, they did not carry to as high perfection as they might have done. If we contemplate the ancient Egyptians in their private life and political character, taking into view their manners, customs and laws, we shall find a solution for many perplexities respecting this peculiar people. The gloomy religion of the Egyptians banished gayety from their private circles. Pleasure was a stranger to them. They were serious, devout and superstitious. Songs, dances and sports they disliked; but they, nevertheless, possessed a great degree of industry, good temper, politeness, and, at the same time, a vanity which prepossessed them in favor of whatever originated with them-

selves. As the Greeks and Romans called all foreign nations *barbarians*, so the Egyptians gave this name to all the nations which did not speak their language; but, in spite of their national pride, gratitude for benefits, whatever might be the country of the individual conferring them, was ever one of their national virtues. The government of the state was mostly in the hands of females. Every priest might have, at least, one wife: to the laity, the number was not limited by law. The husband had the charge of the domestic concerns; the wife, of buying and selling, and all affairs that were not of a domestic character. The Egyptian was distinguished for temperance; he never drank wine; his only drink was beer, made of barley; his bread was of spelt; in his kitchen, he used vegetables of all kinds, and increased his numerous poultry, by artificially hatching the eggs; beans and pork were interdicted, by his religion, as impure; and, on the other hand, he was forbidden to touch some other animals, as sacred. His dress was very simple. The respectable matron was distinguished from the maiden and the prostitute by a veil, which the latter were not allowed to wear. The children went naked till of considerable age. Funerals and times of sadness were the only occasions of parade and competition in expense. The sovereign, however, and those who immediately surrounded him, glittered in all the pomp of Oriental magnificence. The power of the Pharaohs (the general name of the earlier kings of Egypt) was unlimited. At their pleasure, they could throw the grand vizier from the summit of his power, and raise to their own side the lowest of their slaves, as the history of Joseph evinces. The spirit of industry inherent in the Egyptian was the support of public virtue, and the police took care that criminals should be constantly employed. As early as the time of Joseph, there was a work-house for imprisoned slaves. The unsocial disposition of the Egyptians, and their fear of offending the gods by intercourse with strangers, checked their improvement, but, at the same time, established their independence, their national character, and their national virtues. When they were brought into closer contact with the Greeks, their industry was somewhat abated, so that Amasis found it necessary to enact a law, which obliged every Egyptian to report annually to the superior authorities his name, and the trade by which he obtained, or hoped to obtain, a subsistence. Disobedience to this law

was punished with death. Justice was administered in a strict and speedy manner. Written laws were handed down by Menes, Tnephactus, Bocchoris and Amasis. All causes were tried before a supreme court of justice. The parties themselves were obliged to conduct them in writing, without the aid of advocates. Perjury and murder (even of a slave) were punished with death, without any chance of pardon. Calumniators and false accusers received the punishment belonging to the crime of which they charged the innocent person. Falsehood was punished by the loss of the tongue; forgery, by the loss of the hands; desertion from the army, or emigration, by infamy; and adultery, by flogging. The king had the power of mitigating any of these punishments. But, notwithstanding the appearance of unlimited sovereignty, the will of the ruler was subject to the power of the priests, who imposed laws, even on the private life of the monarch, and relaxed or contracted them as the interest of their order required. The daily duties of the king's slaves were minutely determined, his bill of fare regulated, nay, the very secrecy of the royal bed-chamber was penetrated by the priests. For this reason, they were his physicians in ordinary. The education of the children was in unison with the rest of the Egyptian system. The children were carefully brought up to the trade of the father, and instructed by the priests, in various public schools. Few were taught reading and writing; yet the Egyptians were the first people who could write, that history mentions, after the Babylonians and Phœnicians. They wrote, at first, on stones and bricks; afterwards, a paper was made of papyrus, which continued to be used for 2000 years, and even after the invention of parchment, by the whole literary world. This art was taught to those only who were educated for merchants, and that in a limited degree; for it was the system of the priests to keep the mass of the people in ignorance. The division of the people into seven castes—priests, soldiers, shepherds, swineherds, mechanics, interpreters and fishermen—sprang partly from local circumstances, many districts affording but one mode of subsistence; partly from the policy of the priests, since it was necessary, for the management of the machine of state, that strict lines of demarcation should be drawn between the various constituent parts of the nation. At the head of them all stood the caste of priests, the first and most influ-

ential. They maintained this rank as teachers of the people and patrons of science. From them all the offices of state were filled; they were the physicians, judges, architects, astronomers, astrologers, &c. But they held their knowledge, which they regarded (with justice) as the talisman of their political importance and mighty influence, strictly within the limits of their order. The religion, mythology and philosophy of the Egyptians varied with the different periods of their political history. Their religion and philosophy were one thing before Moses, another from the time of Moses to that of Herodotus; and thus they continued to deviate from their original character till the times of the Ptolemies and the Romans. Their whole religion and mythology were founded on astronomy; it was natural that the beneficial influences of the celestial bodies should be followed by adoration. Osiris and Isis (the sun and moon) were the two principal deities, and the Nile was thought to be very nearly related to them. We frequently find Osiris and the Nile treated as one deity. The period of 360 days, computed from the regular inundation of the river at the summer solstice, constituted the religious year. The natural solar year consisted of 365 days and 6 hours. The planets, together with the signs of the zodiac, were revered as deities, and rulers of the days of the week and hours of the day. The ruler of the first hours of the day was the patron of the whole day, and communicated to it his name; the physical character and the agricultural relations of each month were likewise adored as divinities, under the 12 signs of the zodiac. Thus was the religious year constituted. The want, subsequently discovered, of five days and six hours, gave rise to seven more deities, and the solar year was introduced. These symbolical beings, however, were regarded as actually existent, the authors and governors of time and the world; Osiris and Isis were considered as beings of unlimited power, exercising an immediate influence over the earth and its inhabitants. To each divinity was assigned a particular order of priests, into which females were never admitted. Pilgrimages and sacrifices were a part of the system of religion. The latter were employed for the expiation of sins. The worshipper placed his hand on the head of the victim, loaded it with imprecations, and its last gasp was the seal of his pardon. Till the reign of Amasis, even human victims were offered. Be-

sides the heavenly bodies, some kinds of animals, also, were worshipped. These were not regarded as mere symbols, but adored as actual gods, like the Apis and Mnevis; this worship arose from the hieroglyphics of the Egyptians. (See *Hieroglyphics*.) The most remarkable phenomenon in the philosophy of the Egyptians is the doctrine of the transmigration of souls (see *Metempsychosis*), which was the immediate offspring of the worship of the stars. Plato has honored the metempsychosis of the Egyptians by adopting it into his system, as a symbol of the moral purification of human nature. The Egyptians, however, did not make so accurate a distinction between the spiritual and corporeal as this philosopher; the idea of the soul, as a pure intelligence, was unknown to them; and it is a very remarkable fact, that the Pythagorean doctrine of the transmigration of souls, as delineated by Aristotle, although different from the Egyptian, is equally devoid of any moral sense.

Political History of Egypt. If we go back beyond the period of tradition, to which belong the fabulous Pharaohs (kings), Menes (2000 years before Christ), Osymandyas, Mæris, Sesostris, Rhampsinitus, &c., we find, on the extreme confines of history, the Pharaoh of Joseph, and the migrations which took place in the storms of revolutions, under Cecrops, Moses and Danaus. In the history of foreign states, Shishak is named, 878 before the Christian era, as the Pharaoh of Egypt, and the ally of Jeroboam; the Tnephactus and Bocchoris of Diodorus, and the Asychis of Herodotus, are famous as legislators. The 40 years' subjection of Egypt to the Ethiopians, the internal anarchy of 33 years, the dodecarchy (reign of twelve), which lasted 15 years, preceded the monarchy founded by Psammetichus, one of the dodecarchs. It lasted from 636 to 525 B. C., and exhibits, besides Psammetichus, the famous names of Necho, Psammis, Apries or Hophra, Amasis and Psammenitus. This period is a bright spot in the history of the civilization of Egypt. The kingdom next became subject to Cambyses, and belonged to the Persian empire, till after its conquest by Alexander, 332 B. C. After the division of the Macedonian empire, begins the splendid period of the Ptolemies (see *Ptolemies*, and the *Alexandrian School*). Ptolemy Lagus or Soter, Ptolemy Philadelphus (under whom the foundation of the future dominion of the Romans was laid), Ptolemy Euergetes I, Ptolemy Philopater, Ptolemy Epiphanes, Ptolemy Phi-

lometor, Euergetes II, Cleopatra Minor (with Ptolemy Soter or Lathyrus, and Ptolemy Alexander I), Ptolemy Alexander II, Berenice, Ptolemy Alexander III, Ptolemy Auletes, Cleopatra Tryphana and Berenice, and Cleopatra with Ptolemy Puer, under the guardianship of Cæsar and Antony, are the names of the rulers of this period, several of whom are famous in the history of science and art. The suicide of Cleopatra, after the victory of Octavius at Actium, transferred the kingdom into the power of the Romans, and it now became a Roman province. This took place 30 years B. C., and Egypt remained 670 years in the hands of the Romans. The Christian religion, during this period, gained footing in this country, and was accompanied by the same enthusiasm, sectarianism and mental gloom, which, in the earlier history of Egypt, had accompanied the pagan mysteries. Anchorites and monks had their origin here. After the division of the great Roman empire, in the time of Theodosius, into the Western and Eastern empires, Egypt became a province of the latter, and sunk deeper and deeper in barbarism and weakness. It was the prey of the Saracens, Amru, their general, under the caliph Omar, taking Alexandria, the capital, by assault. This happened A. D. 640, when Heraclius was the emperor of the East. As a province of the caliphs, it was under the government of the celebrated Abbasides—Harun-al-Raschid and Al-Mamon—and that of the heroic sultan Saladin. The last dynasty was, however, overthrown by the Mamelukes (1250), and under these formidable despots the last shadow of former greatness and civilization disappeared. Selim, sultan of the Turks, eventually (1516 to 1517) conquered the last Mameluke sultan, Tumanbai, and Egypt became altogether a Turkish province, governed by a pacha. It has since been the theatre of continual internal wars of the Mameluke beys against the Turkish dominion, which has been several times, especially under Ali Bey (1766), nearly extinguished in this country. From 1798 to 1801, Egypt was occupied by the French (*see the latter part of the present article*). This country has subsequently, more than ever, engaged the attention of the statesman and scholar. We behold a prince, who has divested himself of many prejudices of his nation, and has taken European models for imitation, in order to establish anew the kingdom of the Ptolemies. This prince, Mohammed Ali Pacha (*see Mohammed Ali*

Pacha), is, indeed, merely a viceroy; but, excepting the usual tribute, accompanied with presents, and his participation in the war, by sea and land, against the Greeks, in which he was induced to engage (1823) by the gift of Yemen, Cyprus, Candia and the Morea, he has evinced no particular signs of submission towards the Turkish sultan. In fact, he governs the province with unlimited sway. His policy is continually becoming more fully established, but rests on despotism and monopoly. The abilities of the tyrant are the sole support of the system. Mohammed Pacha is particularly attentive to the public security; he takes, therefore, all Franks under his immediate protection, and permits no abuse of the Greeks. When the Morea was conquered by his arms (1825), he caused all the Christian population to be transplanted to the countries on the Nile. He is attempting to introduce a quarantine system, to guard against the plague, and also promotes vaccination. An agent of the pacha, by name *Ismael Gibraltar*, travelled, some years ago, in Europe, to induce mechanics to remove to Egypt, and contract a commercial treaty with Sweden. The pacha has done much for the commerce and industry, as well as for the civilization of Egypt. He is the greatest merchant of the country, and no others can deal with foreign countries without his consent. The income of the pacha is more than \$30,000,000, arising from poll and land taxes, customs of the ports of Cairo, Suez, Damietta, Alexandria, &c.; branches of revenue farmed out, including various fisheries; from the mint, from the sale of the cotton, indigo, silk, sugar, rice, saffron, wool, ivory, frankincense, &c., which he monopolizes, purchasing them at a low rate from his subjects, &c. The number of vessels, which arrived at Alexandria in the year 1829, was 909; in 1828, the arrivals were 891; in 1827, they were 605. Of the arrivals in 1829, 361 were Austrian vessels, 1 American from Smyrna, 4 Danish, 44 French, 200 English and Ionian, 8 Dutch, 32 Papal, 1 Russian, 135 Sardinian, 19 Sicilian, 5 Spanish, 13 Swedish, and 26 Tuscan. Most of the voyages were from the Archipelago, or from Turkish ports. Some years since, Ibrahim, the pacha's son, forced the Wahabites (q. v.) to withdraw to their deserts, and his second son, Ismael Pacha, undertook an expedition into Nubia, in order to extend the authority of his father there. Ismael penetrated (1820) from Syene to Dongola, on the left bank of the Nile,

defeated the residue of the Mamelukes, and reduced Dongola to an Egyptian province. At the same time, Mohammed completed the new canal of Alexandria, called by him, in honor of the sultan, *Mahmudie canal*; a vast undertaking, commenced Jan. 8, 1819, under the superintendence of six European engineers, with about 100,000 laborers; and their number, though more than 7000 men died of contagious diseases, was gradually increased to 290,000, each of whom received about 17 cents, or 10*d.* sterling, per diem. The canal was completed on the 13th September. It extends from below Saone, on the Nile, to Pompey's pillar, and is 47½ miles long, 90 feet wide, and 18 feet deep. This is the first essay towards the execution of his plan of restoring the ancient commerce of Alexandria with Arabia and the Indies. Within a short time, he has established a line of telegraphs, a printing-press at Boulac near Cairo,* a military school, and a higher institution for education, principally to form dragomans (i. e., interpreters) and other public officers. The teachers consist of French and Italian officers. In 1826, he sent several young Egyptians to France, to receive a European education. Under the government of Mohammed, all the European travellers, whom the love of discovery now draws in greater numbers than ever to those sepulchres and monuments of departed civilization, find protection and support. But it is impossible to remove all the obstacles that suspicion, the hatred of foreigners, and the avarice prevailing among the Bedouin sheiks, throw in the way of the European. Passing over the earlier travels of Brown, an Englishman, and of Hornemann and Burckhardt, Germans (the two first of whom were unable to discover any traces of the temple of Jupiter Ammon), we will mention some of the latest. Among these, the travels of the Italian Belzoni, in 1819, deserve especial notice. The Italian chevalier Frediani (see *Frediani*) has published a pompous description of the ruins of the temple of Jupiter Ammon, in his letters from Schiwah, dated March 30, 1820; but Gau, a Prussian architect from Cologne (see *Gau*), contradicts the accounts of Frediani; so also does Drovetti, late consul-general of France in Egypt. These ruins the French Cailliaud asserts he has examined and meas-

* Several works have already been issued from this press; among others, a *Dizionario Italiano et Arabiano*, Bolacco, della stamp. reale, 1822, 2 tomi.

ured. He also discovered the old emerald mines in the mountain Zabarah, and found them in the very state in which they had been left by the engineers of Ptolemy, with all their implements, from which we can, in some degree, deduce the mode of mining among the ancients. In 1820, Cailliaud accompanied the son of the viceroy on the above-mentioned expedition to Dongola. The travels of Cailliaud to the Oasis of Thebes, and the deserts to the east and west of it, were published by Jomard. The travels of Henry Light (a British captain of artillery) to Egypt, Nubia and the Holy Land, are not to be compared with those of Burckhardt, but they are not without interest, as far as respects the pacha of Egypt, Jerusalem, and the Druses. The four months' journey of lieutenant Fitz-Clarence (aid to the marquis of Hastings, governor-general of India), from Bombay through India and Egypt to London (1818), are more interesting. We ought to mention the travels of two Englishmen (Waddington and Hanbury), who accompanied the pacha on his expedition from Egypt to Nubia (1820). They pretend to have examined, minutely, Dongola and Darshegga, and to have discovered the ancient Saba, subsequently called *Meröe*. In 1824, captain N. F. Gordon, of the English navy, undertook to travel up the Nile, to discover the sources of the Behr-el-Abiad. He only reached Villel-Medinet (a day's journey from Sennaar), where he died. Several Germans, also, have, within a short time, undertaken scientific expeditions to the East and Egypt; e. g., Seetzen (q. v.), Sieber (q. v.), whose book of travels describes Crete, Cairo and Jerusalem; and Rüppel, from Frankfort on the Maine. (See *Africa*.) With the same view, the Prussian general Menu von Minutoli undertook such a course of travels in August, 1820. Ehrenberg, who accompanied him, has published, in Berlin, his discoveries in natural history. They were supported in the enterprise by the Prussian government. The general returned to Germany in September, 1821, and published an interesting work respecting his collections and discoveries. The travels in Egypt, however, which have lately excited most interest, are those of Champollion (q. v.), who has already, by various publications, greatly increased our knowledge respecting this country, and from whose work, now publishing, we have reason to expect much additional information. We also hope for interest-

ing results from the expedition which the grand-duke of Tuscany sent to Egypt, and which has recently returned, enriched with many treasures of art and science. (For a general account of what the late discoveries have taught of the ancient history of Egypt, and for a popular account of Egyptian antiquities, we must refer the reader to the marquis Spineto's *Lectures on the Elements of Hieroglyphics and Egyptian Antiquities* (London, 1829). For information respecting the Egyptian language, we refer to *A Compendious Grammar of the Egyptian Language, as contained in the Coptic and Sahidic Dialects, with Observations on the Bashmuric, together with Alphabets and Numerals in the Hieroglyphic and Enchorial Characters*, by Henry Tattam; with an Appendix, consisting of the Rudiments of a Dictionary of the ancient Egyptian Language, in the Enchorial Character, by Thomas Young (London, 1830); also an *Account of Egyptian Antiquities*, by Doctor Th. Young (London, 1823); the *Two Letters of Champollion the Younger to the Duke Blacas D'Aulps* (Paris, 1826), his works mentioned under the article *Champollion*, and his new work, which, according to the latest information, will soon be published, and give the results of his indefatigable researches, during his stay in Egypt. See the articles *Hieroglyphics* (in which the reader will find an account, also, of Egyptian mythology), *Mummies*, *Pyramids*, *Nile*, *Esneh*, *Denderah*, *Rosetta Stone*, &c.; also the note at the end of *Constitution*. Respecting the present state of the Egyptian institutions, which are founded, in part, on the ancient division into castes, L. Reynier, who served in Egypt under Bonaparte, has published an instructive statistical work, which does not, however, treat of the ancient history of the country—*De l'Economie publique et rurale des Egyptiens et des Carthaginois* (Paris, 1823). For information concerning the modern history and administration of Egypt, see Felix Mengin's *Histoire de l'Egypte sous le Gouvernement de Mohammed Aly*; Paris, 1823, 2 vols., with engravings and maps.)

Landing and Campaign of the French in Egypt. By the two campaigns of 1796 and 1797, general Bonaparte had compelled the continental powers of Europe to make peace with France—a result ardently desired by the French, to allow their country time to recover from the deep wounds which she had suffered during the convulsions of the revolution, and from the worthless administrations that had preceded it. The next object

was to force England, also, to a peace, as she inflexibly opposed the general wish of Europe, and Bonaparte was appointed commander in chief of an army destined for the invasion of England. In February, 1798, he visited in person the coasts of the Channel, and all Europe was expecting the commencement of the expedition, when, in May of the same year, the general appeared as commander in chief at Toulon, where an expedition had been fitting out, of the destination of which the public knew nothing—a circumstance highly remarkable, as so many persons, military and civil, were acquainted with it. It was the expedition to Egypt. It also appears, from a letter written by general Bonaparte to the minister Talleyrand, dated Passeriano, 27th Fructidor, year V (September 13, 1797), that one of the main objects of this great undertaking was to put the French in possession of part of the East India trade, then entirely in the hands of England, by the conquest of Egypt—a plan by no means chimerical. It was intended to establish French colonies on the Nile, and thus to recompense the republic for the loss of St. Domingo, and of the sugar islands, and to open a channel for the French manufactures into Africa, Arabia and Syria, where they might be exchanged for commodities wanted in France. Napoleon's views were, in fact, similar to those which, it is said, have now led the French to undertake the conquest and colonization of Algiers—an object which seems to be generally applauded. It seems, also, to have been intended to make Egypt a military position, from which a French army could march into India, raise the Mahrattas against the English, and injure the power of the latter there. On this point, we refer the reader to the count St. Leu's (Louis Bonaparte's) *Réponse à Sir Walter Scott*, Paris, 1829, page 33. The directory probably encouraged the enterprise with the further object of getting rid of a general whose victories and rapidly increasing popularity it feared. It has, indeed, been said, that it was, at first, decidedly opposed to the plan; but this is very improbable. March 5, Bonaparte received the decree of the directory, relative to the expedition against Egypt.* He had full

* Leibnitz endeavored to turn Louis XIV's attention to the conquest of Egypt, in order to deliver Germany and Holland from his attacks. Under Louis XV, this project was again discussed, at the time when all the French possessions in America were in danger; and it was again renewed, when the alliance of Joseph II and Catharine II threatened the partition of Prussia.

power to conduct the business as he saw fit. The ministers in all the departments, were ordered to give him whatever assistance he should require; and he had full powers to act according to his discretion in Egypt, to return whenever he saw fit, and to appoint his successor. Napoleon now collected all the information necessary for his own direction; engaged some of the most distinguished *savants* and artists of France to accompany him, drew up questions and problems to be resolved in Egypt, and informed himself accurately respecting the commercial connexions which it was proposed to establish. In fact, he seems to have always viewed this expedition in the double light of a military and a scientific enterprise. The beginning of his proclamation, before landing in Egypt, is remarkable: "Bonaparte, member of the national institute of France, and general in chief of the army of Egypt." His brother Joseph (count de Survilliers) still possesses the papers of general Bonaparte relating to these preparations; and we hope that such important and interesting documents will not be forever withheld from the public, as they must give a great insight into Napoleon's views. The number of these papers is very great. Bonaparte was to leave Paris in April, for the purpose of embarking; but despatches from Rastadt, and from the French ambassador at Vienna, Bernadotte, made a new rupture with Austria probable. Bonaparte, however, left Paris May 3, and went on board of the *Orient* the 19th. The fleet set sail the same day, commanded by admiral Brueys.* Bonaparte's proclamation issued before sailing, and several others, either prove how much he himself was animated by the military fame of ancient Rome, or that he thought it the strongest stimulus to the French soldiers. Reports had been carefully spread to divert the attention of the English to other points; and the admiral, lord St. Vincent, sent rear-admiral Nelson, with only three vessels of the line, four frigates and one corvette, to watch the gulf of Lyons, and to prevent the French from leaving it. But Nelson arrived too late. He also suffered severely from a gale, so that the

* The fleet consisted of 10 74's, with 1 ship of 120 and 2 of 80 guns, 2 Venetian vessels of 64 guns, 14 frigates, 72 corvettes, &c., and 400 transports, from Toulon, Genoa, Ajaccio, Civita Vecchia,—one of the greatest naval armaments that ever sailed, containing 40,000 soldiers, and 10,000 sailors. The fleet which sailed for Algiers in April, 1830, consisted of 11 ships of the line, 12 frigates of 60, and as many of 50 guns, with corvettes, &c.; in the whole, 97 men-of-war,

French fleet was not molested. Bonaparte had an assurance from the directory, that the minister of foreign affairs should go to Constantinople, still retaining his office, for the purpose of negotiating with the Porte, and preventing it from interfering in favor of the Mamelukes. Talleyrand, however, never went. This omission, and the defeat at Aboukir, proved fatal to the expedition. About 2000 *savants*, artists, physicians, surgeons, mechanics and laborers of all descriptions, accompanied the army. The flower of the troops was that Italian army, whose valor had effected the peace of Campo-Formio. The principal officers were Berthier (who was averse to going to Egypt, because in love with the marchioness Visconti), Desaix, Regnier, Menou, Kleber, Dumas, Caffarelli, Murat, Junot, Marmont, Belliard, Davoust, Lannes, Duroc, Louis Bonaparte, Eugene Beauharnois, and others. June 9, the armament appeared before Malta. Bonaparte solicited of baron von Hompesch, the grand master, permission to procure a supply of fresh water from the island. His refusal afforded a pretext for the conquest of the island, which had been long contemplated. The next morning, the French had landed on all points, and at evening, notwithstanding a brisk cannonade, were masters of the island, which was surrendered at midnight, with all its fortresses. The victors left a garrison of 4000 men, and, on the 19th, sailed for Alexandria. July 1, the minarets of Alexandria were seen, and Bonaparte issued an order on board the fleet, in which he exhorted his army to endure with patience the difficulties before them, to respect the religion of Mohammed, and the customs of the Egyptians, not to plunder, to imitate the Roman legions in protecting all religions. Nelson had been here a short time before in search of the French. The apprehension that he might soon return induced the general to hasten the disembarkation of the troops. This was accomplished, without interruption, July 2, at Marabout, an anchorage to the east of Alexandria, notwithstanding the wind and waves were unfavorable. The French army marched, without cannons or horses, towards Alexandria. Bonaparte was himself on foot. Some Arabs attacked the French; general Kleber was severely wounded. On the 5th, Alexandria was taken, and immediately fortified. Rosetta was taken at the same time, by general Marmont, and, July 6, the whole fleet was moored in the roads before Aboukir.

Garrisons were left in Alexandria (where Kleber was made governor), Rosetta and Aboukir, and the army, now 30,000 strong, marched in 5 divisions towards Cairo, the capital of Egypt. Not far from it, near the pyramids of Gizeh, a decisive battle was fought. Murad Bey had entrenched himself there, with about 20,000 Mameluke infantry, several thousand Mameluke cavalry, and 40 pieces of cannon. The well-directed fire of the French, and the resolution with which they used their bayonets, frustrated all the attacks of the Mamelukes, who fled to the contiguous deserts, as soon as the camp and village of Embabey were taken by storm. All the cannon and 400 camels fell into the hands of the French; 3000 of the enemy lay dead on the field; the French lost few men in comparison. This happened on the 23d, and Bonaparte entered Cairo on the 24th; for Ibrahim Bey, who was to cover it, after the unfortunate issue of the battle of the pyramids, was driven by Desaix over the deserts to Upper Egypt. Napoleon established a government here, consisting of seven members, summoned the sheiks, mollahs and sheriffs, who promised to acknowledge the French republic, and, on his side, pledged himself to respect the Mohammedan religion, and the property of the inhabitants. July 25, general Bonaparte left Cairo to pursue the Mamelukes, and, after many combats with them, returned to the capital, leaving Regnier as commandant of the province of Charquich. On his return to Cairo, an aid of Kleber brought him the news of the defeat of the French fleet at Aboukir (q. v.) by Nelson. The defeat was in part owing to the negligence of admiral Brueys and vice-admiral Villeneuve, who allowed themselves to be surprised, when the whole fleet was taking in water, and not ready for battle, and who have always been said to have acted against the express orders of general Bonaparte, who had directed them to enter the harbor of Alexandria, or to sail for Corfu, before he left the shore to penetrate into the country. Bourienne, however, in his *Mémoires* (Paris, 1829), asserts that Bonaparte never gave such orders.* General Bonaparte saw his communication with France threatened, and himself exposed to the greatest of all enemies, want. Exasperated by the transformation of so important a dependency as Egypt into a French

* Bonaparte wrote an affectionate letter to the widow of admiral Brueys, who had been killed in the battle of Aboukir, gave her a pension after he became consul, and educated her sons.

province, the Porte declared war against France, September 2, 1798, and menaced an attack from the side of Asia. The inhabitants of Cairo rebelled. Many of the French, especially the *savants*, artists and mechanics, were murdered; but, after a bloody conflict in the city, September 23 and 25, the insurgents, who had fled to the principal mosque, were compelled to surrender unconditionally. After the restoration of quiet, Bonaparte, having organized a system of government for Egypt, on French principles, marched, February 27, 1799, with about 18,000 men, from Cairo to Syria, took the fort of El-Arish, in the desert, then Jaffa, and, having conquered the inhabitants of Naplous, at Zeta, procured there a supply of provisions, which he greatly needed, in order to be able to undertake the siege of St. Jean d'Acre, and was again victorious at Jafet. In the mean while, the English, who had appeared before St. Jean d'Acre under sir Sidney Smith, had succeeded in reinforcing the Turkish garrison of this place with several hundred infantry and artillery, and introducing ammunition. This enabled the Turks to repel several assaults, and, notwithstanding the most violent fire from the French batteries, to sustain the attack so long, that Bonaparte was obliged to raise the siege. During this siege, general Bonaparte marched, with 25,000 men, towards the plain of Fiuli, where 40,000 of the enemy had assembled. On the 16th and 17th of April, they were beaten in the memorable battle of mount Tabor, near the Jordan. It was on the retreat from St. Jean d'Acre, that the Turkish prisoners were said to have been put to death at Jaffa, and the French soldiers, sick of the plague in the hospitals, poisoned. (For some remarks on this subject, see the article *Jaffa*.) A third of the army had become the victims of war and the plague. After a fatiguing march of 26 days, the troops arrived at Cairo. A Turkish fleet soon after landed 18,000 men at Aboukir, who took the fort there. Bonaparte quickly led his best troops thither, stationed himself near the fountain between Alexandria and Aboukir, and offered battle to the Turks, July 25. Mustapha Pacha, with all his retinue and artillery, was taken; 2000 Turks perished in the waves or in battle, and the remainder of the army, which had thrown itself into the fort of Aboukir, was compelled to surrender unconditionally Aug. 2. By this victory, general Bonaparte's power in Egypt was again confirmed. At this period, the French had experienced consid-

erable reverses in Europe. The battle of the Trebia had been lost, the French had evacuated the Genoese territory, Massena, in Switzerland, was in great danger. General Bonaparte saw the danger of his country, and the loss of his conquests in Italy, and resolved to return, having from the beginning permission to do so whenever he chose. But how could he have known the state of things in Europe? It has been often asserted, that he obtained his information from English papers, which the French officers had received from the English, when engaged in the exchange of prisoners. But would the general have undertaken so important a step merely on the authority of the English papers, which were known to contain many misrepresentations? The fact is, that his brother Joseph sent a Greek of Cephalonia, named Bombachi, to induce him to return. The order which gave the command to Kleber was dated August 22, 1799, and contained wise directions respecting the army and country. The instructions contain two keys of ciphers, one to be used in communications to the directory, and the other in those made to himself. The conclusion, also, shows, that it did not escape him how necessary it might become, in some future time, to have the army personally attached to him. By the time his departure was known to the army, Bonaparte's frigate had weighed anchor. August 23, he left Aboukir in the *Muiron*, a Venetian vessel, commanded by rear-admiral Gantheaume. The situation of the troops under Kleber's command became more critical every day. General Verdier repelled a new disembarkation of the Turks, in November, 1799; but, for an army that could not be recruited, the smallest loss was serious. The advices from Europe were not encouraging; and, at this juncture, Kleber, having been informed that the grand vizier was marching from Syria to Egypt, with a large army, concluded, January 24, 1800, the treaty of El-Arish, with the vizier and sir Sidney Smith. By this treaty it was provided, that a truce should be granted to the French for three months, till the ratification of the treaty, when they should evacuate Egypt. But the letter of Kleber to the directory, in which he set forth the miserable state of the army, and urged the ratification of the treaty, fell into the hands of the English admiral Keith, and was sent to England. It was now demanded that the whole French army should be made prisoners of war,

Kleber immediately resumed his arms, and defeated the vizier at Heliopolis, March 18, exacted a tax for the payment of his soldiers, formed new regiments of the Copts and Greeks, gave security to the coasts, and founded magazines. In the midst of his untiring activity, he was murdered in Cairo by a Turk, June 14, and the command devolved on Abdallah Menou. Meantime the English government had resolved to wrest Egypt from the French. March 1, the English fleet arrived before Alexandria, and, on the 13th, the disembarkation was accomplished at Aboukir. The French, about 4000 men strong, gave battle on the next day, but were forced to retire. Aboukir surrendered on the 18th, and the English entrenched themselves there. On the 21st, Menou commenced an attack, with 10,000 men, was beaten, and threw himself into Alexandria. But the English general Abercrombie was mortally wounded, and died on the 28th; Hutchinson succeeded him in the command. On the 28th, reinforcements were brought by a Turkish fleet, and the vizier was now approaching from Syria. On the 19th of April, Rosetta surrendered to the combined forces of the English and Turks. A French corps of 4000 men was defeated at Ramanieh, by 8000 English and 6000 Turks. 5000 French were obliged to retreat, at Elmenayer, May 16, by the vizier, who was pressing forward to Cairo, with 20,000 men; and the whole French army was now blocked up in Cairo and Alexandria. June 20, the siege of Cairo was formally commenced. There were but 7000 men to defend the city against 40,000. It capitulated, June 27, to the English and Turks, on condition that general Belliard and his troops should evacuate the city and country, should be transported to France at the expense of England, and that the native Egyptians should be permitted to accompany him. August 17, they embarked at Rosetta, and arrived at Toulon in September, 1801, about 13,000 in number, of whom hardly 4000 were armed. General Menou still remained in Alexandria. Admiral Gantheaume had sailed, before Belliard's arrival, with several ships of the line, and from 3 to 4000 troops, from France, and arrived before Alexandria, but was compelled to hasten back to Toulon, with a loss of 4 corvettes. On the other hand, the English had received 5000 fresh troops from England, and now attacked Alexandria. They were already masters of castle Marabout, when Menou requested a truce; to which

he was impelled by a want of provisions, and a new reinforcement which had joined the British, consisting of 6000 men under general Baird, from the East Indies. Menou capitulated September 2. Alexandria, with all the artillery and ammunition, 6 French ships of war, and many merchantmen, together with all the Arabian manuscripts, all the maps of Egypt, and other collections made for the French republic, were given up. The French army was transported, with its arms and baggage, to a French harbor, which they reached at the end of November. The garrison of Alexandria had comprised above 8000 soldiers, and 1307 marines. Three years and six months had elapsed since the first embarkation at Toulon. Four weeks after the loss of Egypt, the preliminaries of peace were signed at London, October 1, 1801.*—This expedition to the valley of the Nile, as far as Philæ, on the frontiers of Nubia—the island which served as the extreme frontier post of the Roman empire in the south (a German, named Waldeck, however, pretends to have discovered a pillar, erected by Vespasian's warriors, at the foot of the Mountains of the Moon)—was attended with important consequences for the higher interests of humanity; because science and art, in this expedition, went hand in hand with war. Those who say that Napoleon was not a friend to the arts and sciences will find it difficult to name any expedition, in which such ample provision was made for their advancement. These campaigns revealed to scientific Europe treasures which had been too long concealed by tyranny and barbarism. The ancient Denderah, Thebes, Latopolis and Edfu were disclosed, with their temples, palaces, ruins, obelisks and catacombs, to the view of the learned men who accompanied the expedition to Egypt. Secrets which neither Herodotus, Strabo nor Diodorus had been able entirely to penetrate, and

which had remained closely hidden from the view of all modern travellers, were now unfolded. The so long misunderstood Egyptian architecture was now displayed in all its grandeur; and the veil was raised, which had formerly covered a great portion of the history, the manners, the science and geography of this country. In one and the same spirit, this people inscribed on the walls of its palaces, temples and sepulchres, the images of its gods and kings, the forms of its celestial observations, of its sacred usages and domestic life. These monuments of stone are the oldest traces of the human mind, showing to us the customs of nations in the ages reputed fabulous. The study of antiquities and legislation, as well as the history of Egypt, teaches anew the great truth, that all progress in the arts and sciences has an intimate connexion with the spirit of the political constitution and government of a country, and the necessity of a careful observance of justice and right. We now know, that, of all civilized nations, the Egyptians were the first to observe the course of the stars; since Europe has become acquainted, by means of the French, with the sculpture and architecture in which the Egyptians imbodyed in stone their astronomical knowledge. Thus the zodiac of Denderah (see *Denderah*), now in Paris, and other monuments, show the progress which this people had made in astronomy. Previously, no one suspected the existence of the store of papyrus manuscripts, which were found in the catacombs of Thebes. The rich decorations of these catacombs, including paintings almost uninjured by time, give us a glimpse of the habits and domestic life of the generation by whom they were built; and the discovery of the famous stone of Rosetta has done much towards affording the long-desired clue to the hieroglyphics. (See *Spohn*.) The monuments of Egypt witnessed the rise and fall of Tyre, Carthage, Athens and Rome, and yet exist. When Plato lived, they were venerable for their antiquity, and will command the admiration of future generations, when, perhaps, every trace of our cities shall have vanished. In the Egyptian nation, every thing that concerned religion and government partook of the character of eternity, in a climate where all animal and vegetable life rises speedily to perfection, and as speedily decays. The permanence of the institutions of the country was certainly influenced by the sight of the public monuments, on which time had tried its cor-

* In R. R. Madden's *Travels in Egypt, Nubia, Turkey and Palestine*, in the years 1824, 25, 26 and 27, London, 1829, reprinted in Philadelphia, it is stated, that the French were much regretted by the Egyptians, and extolled as benefactors; that, "for the short period they remained, they left manifold traces of amelioration;" and that, if they could have established their power, Egypt would now be comparatively civilized. This reminds us of the regret which most intelligent Spaniards now express at the failure of the French to establish their power in Spain; and we have heard Hessians lament the loss of many institutions established in the kingdom of Westphalia, though nobody can deny that Jerome's government was defective in a high degree.

roding power in vain. While beholding these stupendous works, we reflect with awe on the generations that have passed away since they arose, and the ages that must elapse before the pyramids shall bow their heads to the dust. Every thing that zeal in the cause of science, combined with the most extensive knowledge, has been able to collect, in a land rich as Egypt is in monuments of every kind, and in the rarest curiosities, is comprised in a work, compiled at the cost of the French government, by the committee for Egyptian antiquities. This work corresponds, in the grandeur of its proportions, to the edifices which it describes. The *Description de l'Égypte, ou Recueil des Observations et des Recherches pendant l'Expédition de l'Armée Française*, 25 vols., with more than 900 engravings and 3000 sketches (the last number appeared in 1826), contains all the transactions of the institute of Cairo. The first of the three great divisions contains the antiquities, the second the modern condition, and the third the natural history of Egypt. In compliance with the wishes of Napoleon, only a few copies were printed. Of these, a small number were sent to foreign courts. None of the essays were received till after a previous examination by a committee consisting of the *savants* and artists who had accompanied the army under Bonaparte to Egypt. Among these were Berthollet, Costar, Degenettes, Fourier, Girard, Monge, Conté and Laurent. The place of the two last, who died during the progress of the work, was supplied by Jomard and Jollois, to whom were afterwards added Delille and Devilliers. Louis XVIII and Charles X caused the publication of this valuable work to be continued, and, in 1821, Panckoucke, a bookseller in Paris, was permitted to undertake a new edition, and make use of the valuable copperplates of the former edition. Jacotin's splendid map of Egypt, constructed by the French engineers on the spot, is annexed to the Atlas of Egypt. The discoveries of Champollion (q. v.), and the prevalent zeal for investigating the "country of wonders," may be said to have had their origin in the French expedition to Egypt. The chapter on this expedition, in sir Walter Scott's *Life of Napoleon Bonaparte*, is very deficient and incorrect. The account of this expedition and of the motives which prompted it, given in the third and eighth chapters of the second volume of Buchholz's *Geschichte Napoleon Bonaparte's* (History of N. Bonaparte),

Berlin, 1829, 3 vols., is better. See also the memoirs of the duke of Rovigo (Savary). There has been published, quite recently, the first *livraison* of *L'Histoire scientifique et militaire de l'Expédition Française en Égypte* (Paris, 1830), under the direction of X. B. Saintine, with an atlas, preceded by a history of Egypt from the earliest times, and with an account of the administration of Ali Pacha, and likewise *Campagne d'Égypte, suite de l'Histoire de France, par Anquetil*, 3d vol. by F. Fayot, Paris, 1830.

EGYPTIAN MYTHOLOGY. (See *Cemetery, Charon, and Hieroglyphics*.)

EHRENBREITSTEIN; an important fortress, on a rock upon the Rhine, opposite Coblenz, in the former archbishopric of Treves. The French continued to blockade it in 1798 and 1799, during the negotiations for peace, till at length it was obliged to surrender for want of provisions, January 29, and, in 1801, was blown up. At the bottom of the rock, near the little town of Thal-Ehrenbreitstein, is the castle of the elector, which, however, was in great part destroyed during the siege. In 1802, the dilapidated fortress, the village, and the jurisdiction appertaining to it, were bestowed upon the prince of Nassau-Weilberg, by way of indemnity. They were subsequently ceded to Prussia, and now belong to the Prussian grand-duchy of the Lower Rhine (the province of Cleves-Berg). The fortress has been lately rebuilt, on the newest and most approved principles, so that it is considered one of the finest fortresses in the world. (See *Coblenz*.)

EHRENSTRÖM; a Swedish officer, one of the principal persons engaged in the conspiracy against the regency, 1793. At the death of Gustavus III, from whom he had received several marks of honor and trust, he joined a conspiracy, headed by baron Armfelt (q. v.), to overturn the regency, and raise the young king to the throne, before the time appointed by law, and the will of Gustavus III. The plot was accidentally discovered. Armfelt escaped, and the whole weight of vengeance fell upon his accomplices. Ehrenström defended himself with eloquence and ability on his trial, but was sentenced to die. He went with calmness and resolution to the scaffold; and the executioner was on the point of giving the death stroke, when it was announced that his sentence was commuted to perpetual imprisonment. On the accession of Gustavus IV, he was released, and withdrew into retirement, with a pension from the king.

EICHHORN, John Godfrey, one of the

greatest scholars of Germany in Oriental literature, biblical criticism, and literary and general history, born 1752, at Dorrenzimmern, in the principality Hohenlohe-Ohringen, was at first rector of the school at Ohrdruf, in the principality of Gotha; in 1775, was made professor at Jena, where he remained till 1788, when he became professor in Göttingen. He gave the first evidence of his knowledge of Oriental literature and history in his *History of the Commerce of the East Indies before Mohammed* (Gotha, 1775). At Göttingen, he devoted himself chiefly to biblical criticism. The results of his inquiries were published in his *Allgemeine Bibliothek der biblischen Literatur*, from 1788 to 1801, closing with the tenth volume. This work is connected with a previous work published by him, from 1777 to 1786, in 18 parts, called *Repertorium für biblische und morgenländische Literatur*. He also published an *Introduction to the Old and New Testaments* (the former went through a fourth edition in 1824); also, the *Apocryphal Writings*. These last works were published afterwards together, under the title of *Critical Writings*, in a revised edition (Leipsic, 7 vols., 1804—1814). These works contributed much to spread a sound criticism of the Scriptures, grounded on a knowledge of sacred antiquities, and the Oriental modes of thinking. To these works may be added his *Primitive History* (*Urgeschichte*), published at Nuremberg, 1790—93, with an introduction and notes, by Gabler, in which he critically examines the Mosaic records. Eichhorn afterwards turned his attention to history. He formed the plan of a history of the arts and sciences, from their revival to the end of the 18th century, of which particular parts have appeared under different titles (e. g., *The History of Poetry and Eloquence*, by Bouterwek; *The History of Military Science*, by Hoyer), and form separate works. Eichhorn wrote, with this view, two volumes of a *General History of European Civilization and Literature in modern Times*. He did not finish it, and afterwards gave up the direction of this undertaking. He began, in 1799, a survey of the whole history of literature, but did not finish the 2d volume till 1814 (containing the history of literature for the three last centuries). He has composed several valuable historical works, of which, among others, his *Ancient History of the Greeks and Romans*, consisting entirely of extracts from the original historians, are in high repute (*Antiqua Historia ex ipsis veterum Script. Ro-*

man. Narrationibus contexta, Göttingen, 1811, 2 vols.; *Antiqua Historia ex ipsis vet. Script. Graec. Narrat. contexta*, Leipsic, 1812, 4 vols.). In 1804, he published the first edition of his *History of the three last Centuries*, considered in a general view, and in relation to the changes that have occurred in the particular countries of Europe, Asia, Africa and America. In 1818 appeared a 3d edition in six volumes, which brings down the history to the latest period. His last historical work is the *Early History of the Illustrious House of the Guelphs* (Hanover, 1817), in which he traces back the history of that family to the earliest times which afford any notices of it. Several separate treatises of his are to be found in the commentaries of the Göttingen society of science, and in the *Fundgruben des Orients*. Since 1813, he has conducted the *Göttingen Literary Gazette*.

EICHHORN, Frederic Charles, a distinguished student of German history and law, son of the preceding, was born at Jena, 1781. He studied at Göttingen, was an instructor there a considerable time, and, in 1805, was appointed professor of law in Frankfort on the Oder; after that, at Berlin, 1811, where he remained till 1817, when he removed to the same office in Göttingen. He distinguished himself in the campaign of 1813 against the French, and received the iron cross. His *History of the German Politics and Jurisprudence* first appeared 1808—18; 3d edition, Göttingen, 1821—23, 4 vols. In company with Savigny and Göschen, he has published, since 1816, *A Historical Journal of Jurisprudence*, in which is to be found his treatise on the origin of the German cities, which serves as a further exposition of his views given in the work mentioned above.

EICHSTAEDT, Henry Charles Abraham, a distinguished philologist of modern times, was born Aug. 8, 1770, at Oschatz, where he was partly educated by his father, a clergyman. He is now professor in the university of Jena, and editor of the *Jenaische Allgemeine Literatur-Zeitung* (Jena Universal Literary Gazette). His works are some editions of the classics (*Diodorus Siculus*, Halle, 1800—2, 2 vols., and *Lucretius*, Leipsic, 1801), critical treatises, illustrating the genuine principles of interpretation (*De dramate Graecorum comico-satyrico*, Leipsic, 1793, and on *Tibullus*, *Phaedrus*, &c.), also translations of histories, relating principally to Greek or Roman antiquity, e. g. Mitford's *History of Greece*, from the English, Leipsic, 1802—8, 6 vols.

Eichstaedt is distinguished for the elegance, force and ease of his Latin style.

EIDER DUCK (*anas mollissima*, Lin., Wilson; *fuligula*, Bon.) This valuable bird is found from 45° north to the highest latitudes yet visited, both in Europe and America. Its favorite haunts are solitary rocky shores and islands. In Greenland and Iceland, they occur in great quantities. In particular spots, their nests are so abundant, that a person can scarcely walk without treading on them. The eider duck is about twice the size of the common duck. Their nests are usually formed of drift grass, dry sea-weed, lined with a large quantity of down, which the female plucks from her own breast. In this soft bed she lays five eggs, which she covers over with a layer of down; then the natives, who watch her operations, take away both the eggs and the down: the duck lays a second time, and again has recourse to the feathers of her body to protect her offspring: even this, with the eggs, is generally taken away; and it is said, that, in this extremity, her own stock being exhausted, the drake furnishes the third quantity of down: if the robbery should be repeated, however, they abandon the place. One female generally furnishes about half a pound of down, which is worth about two dollars. This down, from its superior warmth, lightness and elasticity, is preferred by the luxurious, to every other article for beds and coverlets; and, from the great demand for it, those districts in Norway and Iceland, where these birds abound, are regarded as the most valuable property, and are guarded with the greatest vigilance. Each proprietor endeavors, by every means in his power, to draw those birds from his neighbor's ground to his own, and when they settle in an island off the shore, the cattle and herdsman are removed to allow them to breed undisturbed. Very little of the eider down remains in the countries where it is collected. As found in commerce, this down is in balls of the size of a man's fist, and weighing from three to four pounds. It is so fine and elastic, that when a ball is opened, and the down cautiously held over hot coals to expand, it will completely fill a quilt five feet square. The down from dead birds is little esteemed, having lost its elasticity. The length of this duck is two feet three inches, extent of the wings three feet, weight from six to seven pounds: the head is large, and the bill of singular structure, being three inches in length, forked in a remarkable manner, running high up in the forehead, between which

the plumage descends nearly to the nostrils: the whole of the bill is of a dull yellowish horn color, somewhat dusky in the middle. The male is black, head and back white, with a black crown. The female is wholly reddish drab, spotted with black, with two white bands across the wings. The young of both sexes are the same, being covered with a kind of hairy down, throat and breast whitish, and a cinereous line from the bill through the eyes to the hind head. These birds associate in flocks, generally in deep water, diving to great depths for shell fish, which constitute their principal food. They frequently retire to the rocky shores to rest, particularly on the appearance of an approaching storm. Their flesh is eaten by the Greenlanders, but tastes strongly of fish. The eggs, however, are esteemed. These and the down are both frequently obtained at the hazard of life by people let down by ropes from craggy steepes. With five pounds of the best eider down, a whole bed may be well filled. The Greenlanders likewise use the skin, taken off, feathers and all, for their under dresses. The down is divided into two sorts; sea-weed down, and grass down. The former kind is the heaviest; but the labor of cleaning is greater. Much of the down is lost in cleaning. Iceland furnishes annually from 200 to 300 pounds cleaned, and from 1500 to 2000 pounds impure.

EIFEL; a district rich in monuments of the Romans, and of the middle ages, lying between the Moselle, the Rhine and the Roer. Schannat's *Eiflia illustrata* was published by Barsch in Latin, with annotations (Cologne, 1824, 2 vols.).

EISENACH (anciently *Isenacum*); a town in Germany, and capital of a principality of the same name, belonging to the grand-duchy of Saxe-Weimar, on the Nesse; 26 miles west Erfurt, 40 west Weimar; lon. 10° 20' E.; lat. 50° 59' N; population, 7845. It is a well built town, and contains five churches, a gymnasium with a library, and has some manufactures, chiefly of coarse woollen. It is most agreeably situated, near the mountains of Thuringia. Half a league from this town lies the Wartburg, an ancient mountain castle, to which the elector, Frederic the Wise, of Saxony, ordered Luther to be carried, after the latter had been placed under the ban of the empire, by the diet at Worms. Luther lived here as the chevalier George, from May 4, 1521, to March 6, 1522, and labored zealously in the translation of the Bible. The view from this castle over an ocean of leaves is charming. In 1817,

many German students assembled here, and celebrated the anniversary of the battle of Leipsic (Oct. 18, 1813). The zeal which they evinced for the union of their divided and lacerated country, together with the burning of various books, the political character of which was offensive to them, displeased the German governments, and gave rise to the prosecution of many students supposed to be disaffected. The War on the Wartburg is an ancient German poem, of great interest in the history of German literature. Mr. Zeune published it in 1818.

EJECTMENT, in law, is an action by which a person ousted from the possession of an estate for years, in lands or tenements, may recover that possession. But though the action is intended only for the recovery of a term for years, it is, in fact, used, in England and the state of New York, to try the title to an estate of inheritance or for life. In the early periods of the English law, the tenant, or person dispossessed of his estate for years, could not recover the possession of it, in this action, in the courts of law; he could only recover damages for the injury sustained by being driven from the possession; but the dispossessor kept possession of the term, just as is the case at present in the action of trover and conversion, in respect to a chattel, in which the owner does not recover the chattel itself, but damages for being deprived of it. But the court of equity, in this case, as in many others, led the way in ameliorating the law, and enlarged the remedy, so that the plaintiff might recover the term itself; and the courts of law, following those of equity, as early as Edward IV, adopted the same remedy, and awarded execution for putting the plaintiff into repossession of his estate, though no such thing was warranted by the writ, or prayed for by the declaration. After taking this step, the next one was to adopt the same form of action for trying the title to the lands. This application of the action of ejectment was made as early as the time of Henry VII. To do this, the person who claimed an estate of inheritance, of which another was in possession, entered upon it, and then made a lease, and the lessee took possession, and remained upon the land in virtue of the lease, until the person claiming under an adverse title put him out; or, if no such person appeared to expel him from the land, he pretended to be driven off by the first person who happened to pass that way, and who was thence called the *casual ejector*, who was, in fact, no ejector at

all. Being thus ejected in fact, or by fiction, he brought his action of ejectment, or the party claiming the title brought it in his name, and in this suit the title was necessarily brought into question; for, in order to get possession, he must prove that he had a good and valid lease, which he would endeavor to do by showing that the lessor had the right to make such a lease, that is, that he had the title and right of possession. Besides proving the title of his lessor, he must also prove the lease, his entry under it, and his ouster, or being driven out of possession. When the object was to try the title, the lease, entry and ouster were a mere ceremony, and might as well be supposed or imagined as actually to take place. The courts, accordingly, allowed a fiction of the lease, entry and ouster; the plaintiff stated them to have taken place, though there had, in fact, been no such thing, nor was there any such person as the one named as being the lessee, who, in England, is always John Doe, and in New York, Jackson. Thus the action of Doe or Jackson *ex dem.* [demisso] Johnson, against Sampson, means the action of Doe or Jackson, the lessee of Johnson, against Sampson. If the nominal plaintiff, Doe or Jackson, were liable to be called upon to show himself to the court, there would be an end of the suit, as there would be no such person to be found. Nor would the demandant succeed any better, were he called upon to prove that there had been any such lease, entry or ouster; as all this is a fiction. Formerly, the defendant also, the casual ejector, as well as the plaintiff, was a man of straw, or little better; for he was frequently a person who accidentally came in sight at the time of making the lease, if there was any in fact made, and who would not be disposed to trouble himself to prevent the demandant from getting possession of land, in which he himself had no interest or concern; or he might be a friend of the demandant, who had come upon the land at his request, to act as ejector, and would be very willing that the demandant should recover it. The tenant, therefore, who is in actual possession of the estate, unless his right is defended by some other person than the indifferent defendant whose name appears on the docket of the court, is likely to lose his inheritance. To prevent this, the court allows him to appear himself, and defend against the claim and the court: always requires that notice shall be served upon him, to give him an opportunity to appear. But before the court will permit him to appear for this purpose, they re-

quire of him to admit all these fictions of a lease to John Doe, his entry and ouster, which he is willing to do rather than lose his land. These being admitted by him, he may then proceed to defend the action, and try the question, whether he has a better right to continue in possession, than this supposed John Doe has to recover the possession, upon his supposed lease. The titles of the demandant and tenant are thus brought into comparison, and decided upon. But when the object is, in fact, to recover a term for years, of which the demandant has been dispossessed, the lease, entry and ouster are of importance, and must be proved.

EL, or AL; the only article of the Arabian language. It is contained in many geographical names; for instance, *Al-djezair* (Algiers), the islands; *El-Arisch*, the cradle. This syllable has remained in many names of places in Spain and Portugal, as *Alcantara*, the bridge; *Alcazar*, the palace; *Algarve*, the west.

ELAIN; the oily principle of fat, obtained by submitting fat to the action of boiling alcohol, allowing the stearin to crystallize, and then evaporating the alcoholic solution; or, by the simple process of pressing any oily or fatty substance between folds of bibulous paper, the oily matter or elain is absorbed, while the stearin remains. The paper being then soaked in water, and pressed, yields up the elain. It possesses much the appearance and properties of vegetable oil, is liquid at the temperature of 60° Fahr., and has an odor derived from the solid fats from which it has been extracted. It is readily soluble in alcohol, and forms soaps with alkalis; in doing which, however, it undergoes decomposition, and is converted, according to Chevreul, into a peculiar acid, called by him *oleic acid*, which combines with the alkali employed. This acid is obtained by submitting the soap formed by the action of potash on hog's lard to the action of boiling water; the solution, on cooling, deposits a sediment, consisting of the margarate of potash, while the oleate of potash remains in solution. The oleate of potash is decomposed by tartaric acid, again combined with potash, and again decomposed by tartaric acid, when the oleic acid rises to the top in the condition of an oily-like fluid. It is insoluble in water, soluble in alcohol, reddens litmus, and combines with the different salifiable bases, forming compounds somewhat analogous to soaps. At a temperature of 35° Fahr., it congeals into crystalline needles.

ELASTIC GUM. (See *Caoutchouc*.)

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ELALIA; a town of Africa, in Tunis, near the eastern coast, in a large extent of ruins, on the borders of a fertile plain; 90 S. S. E. Tunis; lon. 11° 2' E.; lat. 35° 6' N. Besides such ruins as it has in common with other places, there are several cisterns with large paved areas built over them, in order to receive the rain water, that, in the rainy season, is to fill and replenish them. Several conveniences of the like nature are dispersed all over this dry country. Elalia seems to be the *Acolla* or *Acilla* of the ancients.

ELASTICITY; the peculiar property of bodies, by virtue of which, the particles of which they are composed, when moved out of their positions by an external force, or pressed into a narrower space, tend to return to their former position, as soon as the external force ceases to act. A bow, bent by the tension of the string, recovers its previous form when the tension is relaxed. Let an ivory ball fall upon a plate of marble, it is partially flattened by the impulse, but becomes immediately round again as soon as the force of the blow is destroyed. Here we see the cause of its rebounding from the hard surface. Feathers are in a high degree elastic. This property of elasticity is particularly observable in atmospheric air. If it is enclosed in a vessel, and pressed with a piston, as soon as the force is removed from the piston, the air throws it up violently. This is the principle of the air-gun. There is an important difference between the elasticity of solids and fluids; the former tend to recover their previous form; the latter to expand into a greater space, whence the term *expansibility* is applied to them. For the sake of distinction, the elasticity of solid bodies may be termed *attractive*, and that of fluids, *expansive*. The degree of it is very different in different bodies, and in many it is increased by art. Those bodies in which it cannot be perceived at all are called *unelastic*. The elasticity of a solid body is greater the more its particles are expanded. If all the particles of a body are so far expanded that their elasticity is just equal to the expansive power, the expansion can be carried no further without separating the particles. The weights, necessary to produce a given degree of extension, must be proportionate to the extension already existing. If three cords, of the same size and substance, stretched in proportion to the numbers 1, 2, 3, are to receive each a given amount of additional extension, the weights necessary to produce this extension are as 1, 2, 3. The laws of elasticity in fluids are

different from those in solids. In heavy elastic fluids, the inferior layers support the weight of the superior; in a cylindrical vessel, therefore, the bottom suffers the pressure of the whole mass of elastic fluid, and the lower strata are sensibly denser than the upper. A difference is made, too, between absolute and specific elasticity. By the former is understood the peculiar property of bodies to repel a pressing force, in itself, and without regard to temperature and density. This must be always equal to the pressing force. But as different kinds of matter may press with equal force under unequal densities and temperatures, that is called specifically most elastic, which with a less density presses with a force equally strong, and with an equal density stronger. In all elastic fluids, the specific elasticity increases with the temperature; it is likewise augmented by greater density: if air is confined, and made more dense, its specific elasticity is greater in proportion to its increase of density.

ELATER; the name of an insect remarkable for a singular apparatus between the thorax and abdomen, by which it is enabled to throw itself to a considerable height in the air, when placed on its back. It thus regains its proper position when accidentally overturned. The arrangement by which this is effected is so curious, that we cannot suppose it intended solely for this purpose, and deem it most probable that other and more valuable services are rendered to the insect by it. A spine is produced from the centre of the breast or sternum, and enters a socket in the antepectus or breast. The force and elasticity with which the spine enters its appropriate receptacle, aided by the form of the thorax, produces a jar or concussion sufficient to throw the insect several inches into the air. When alarmed, the elater draws its limbs close to the body, and, falling to the earth quite motionless, counterfeits death. Flowers, grass, and decaying wood, are the proper habitations of these animals, which are almost always found singly, and not in numbers collected together, as in the case of many other beetles. One species is accused of depredations on the roots of wheat—the *E. striatus* of Fabricius, an inhabitant of Europe. The *elater noctilucus* possesses luminous properties, which are unlike those of the glow-worm, &c., being seated near the head. In South America, where they abound, the natives term them *cucuyos*, and the Spanish residents, *cucujo*. Color, dark brown, with an ash-colored down; tho-

rax on each side, with a convex round spot, from which the light is emitted; elytra with lines of impressed punctures. The light emitted by several of these insects, enclosed in a glass vase, is sufficient to read by without much difficulty. As ornaments for the hair and evening dresses of the Spanish ladies, they are said to be in great request; but it is probable that the feeble light which they produce would be entirely eclipsed by the glare of artificial light. It has been asserted, that the luminous quality of the *cucujo* is not confined to the spots upon the thorax, but that the whole interior of the animal possesses the property of affording light. This is considered doubtful. Some years since, numbers of this insect were taken in Philadelphia, having been imported in vessels from South America. In confinement, they were beautifully luminous, and the character of the light was observed to be similar to that of the glow-worm. They survived but a short time in captivity, for want of proper nourishment. The luminous phenomena exhibited by certain insects are exceedingly curious and beautiful. Every one is acquainted with the lightning-bug, so common in this country, and the female *lampyris*, or glow-worm. (q. v.) The light is a pale, greenish-yellow, phosphorescent emanation, subject to the will of the animal, who kindles or extinguishes it at pleasure. In day-light, the luminous organs are simply yellow.

ELBA (anciently *Ilva*); a small island in the Mediterranean, near the coast of Tuscany, to which, at present, it belongs, and from which it is separated by the channel of Piombino. The island is about eight miles in length, and two in breadth; was known to the Greeks by the name of *Aithalai*, and to the Romans by that of *Ilva*, or *Elva*, and has been renowned for its mines from a period beyond the reach of history. Pliny gives it a circuit of 100 miles; late geographers allow only 60 to its circuit. The difference might be accounted for by the encroachments of the sea, and by the tumbling in of rocks, which are in many places of a mouldering contexture. Being extremely mountainous, Elba affords but scanty room for cultivation, and produces little more than six months' provision of corn for its inhabitants. The climate is much milder than that of the adjacent continent. Elba contains two grand ports—Porto Ferraio, with 3000 inhabitants, and Porto Longone, with 1500 inhabitants, both defended by fortifications and garrisons. Lon. 10° 26' E.; lat. 42°

53° N.; population, 13,750; square miles, 153. It produces annually near 36000 cwt. of iron ore, which yield, at least, 50 per cent. of metal. It is rich in silver, marble and loadstone; 600,000 bags of salt are annually produced. In 1814, Elba was granted to Napoleon, with all the rights of sovereignty. He took possession of it May 4, and left it February 26, 1815, to undertake his memorable march to Paris.

ELBE (anciently *Albis*); one of the largest rivers of Germany, which rises in the Riesengebirge mountains, about 4260 feet above the level of the sea; takes a southerly course through a part of Bohemia to Pardubitz, where it turns towards the W. and N. W. At Melneck, having received the Moldau, it becomes navigable; after which it enters Saxony, passes by Königsstein, Pirnau, Dresden, Meissen, Belgern, enters Prussia, and passes Torgau, Wittenberg, Coswick, Dessau, Barby, Magdeburg, Tangermunde, runs between Mecklenburg and Hanover, passes Lauenburg, Hamburg, Glückstadt, &c., and runs into the German ocean, about lon. 8° E., lat. 54° 3' N., near Cuxhaven, after a course of more than 500 miles. In a military point of view, the Elbe is of the highest importance, and has always been a line of operation. In regard to commerce, it gives to Hamburg its command of the navigation far into the interior, which is surpassed only by the situation of New York. The circumstance, however, that this noble river passes through so many kingdoms, dukedoms, and petty states, has rendered the navigation of it a point of much contest, which, in spite of the promise of the congress of Vienna to make the navigation of all the German rivers free, has not yet been settled.

ELBÉE, Gigot d', generalissimo of the Vendean royalists, a man of distinguished courage and character, was born at Dresden, 1752. He served in the electoral army of Saxony, and entered the French army as lieutenant of cavalry. At the beginning of the revolution, he retired to his estate in Anjou, where the insurgent peasants of La Vendée, in 1793, chose him their leader. He alternately conquered and was conquered; and was at last wounded and taken prisoner, in the island of Noirmoutier, brought before a court-martial, and shot, January 2, 1794.

ELBERFELD; a commercial city, and capital of the district of Dusseldorf, in the Prussian province of Cleves-Berg, containing 1941 houses, and 24,500 inhabitants. Two centuries ago, the population was scarcely 800. The pure mountain stream

of the Wupper, particularly adapted to bleaching, first led to the establishment of linen bleacheries there. The undressed yarn comes from Hesse, Brunswick, Hildesheim and Hanover. The manufactures of linen and woollen ribands, and of lace, were the first established. France, Italy, Spain, Russia, America, &c., consume vast quantities of these goods. Fringes, bed-tickings, thread, thread-lace, &c. employ a large number of workmen.—When the English process of spinning yarn became known, the manufacture of cotton articles was highly improved. Dyeing with Turkish red has been another very important branch of business in Elberfeld since 1780. The silk manufacture, since 1760, has been of great importance. The annual amount of the silk stuffs made in the province of Berg is upwards of \$2,000,000, and the amount of all the manufactures in Elberfeld and Barmen is about \$9,000,000. Large quantities of manufactures from this place are sent, by way of Hamburg and Antwerp, to Mexico, Buenos Ayres, Chile, Peru and the East Indies. Here is the seat of the Rhenish East India company. In 1824, a mining company was established in Elberfeld, with a capital of \$375,000, to work mines in Mexico.

ELBEUF, or ELBOEUF; a town in France, important for its cloth manufactories, in the department of the Lower Seine, four leagues S. S. W. of Rouen.—It has 9090 inhabitants; 7000 of whom manufacture annually from 28 to 30,000 pieces of cloth, most of which is consumed in France; the rest is sent to Spain, Italy, and the Levant.

ELBING; a town in West Prussia, on the river Elbing, near its entrance into the Frische-Haff; 30 miles S. E. of Dantzic; lon. 19° 22' E.; lat. 54° 8' N.; population, 19,434; houses, 2040. It is divided into the old and new towns, exclusive of the suburbs, and contains five Lutheran churches, one Reformed, one Catholic, and one Mennonist, five hospitals, and a gymnasium. In former times, it was an important commercial place for the exportation of grain, but it has since sunk very much.

ELDER; a name given to the different species of the genus *sambucus*. These are small trees or shrubs, with opposite and pinnated leaves, bearing small white flowers, in large and conspicuous corymbs.—The berries are small, and of a black or red color. The leaves are bitter and nauseous to the taste, and possess purgative and emetic properties. The bark, flowers and berries are sometimes used in medi-

cine, particularly in cases of dropsy. The wood of the young shoots contains a very large proportion of pith. Two species inhabit North America—*S. Canadensis*, a common plant, from the 49th to the 30th parallel of latitude, and found even among the Rocky mountains, the berries of which are black, and have a sweet taste; and *S. pubescens*, which bears red berries, and inhabits Canada, the northern parts of New England, and the Alleghany mountains. The species called *sambucus nigra*, common in England, is a wild shrub, distinguishable by its winged leaves, with serrated and somewhat oval leaflets; its clusters of small white flowers, divided into five principal branches, and the small black berries, by which these are succeeded. The uses of the elder are more numerous than those of most other shrubs. There is scarcely any part of it which has not been advantageously employed in some way or other. The wood is yellow, and, in old trees, becomes so hard, that it will receive a polish almost as well as box, and indeed is often used as a substitute for box-wood. Its toughness also is such that it is made into skewers for butchers, tops for fishing rods, and needles for the weaving of nets. It is likewise employed by turners. Sir J. E. Smith has remarked that this tree is, as it were, a whole magazine of physic to rustic practitioners, and that it is not quite neglected even by professional men. Ointments have been made of the green inner bark, and of the leaves. The dried flowers, infused in water, are used in fomentations or as tea, and, mixed with buttermilk, have sometimes been used as a wash for the face. An infusion of the leaves is sometimes sprinkled by gardeners over the buds of such flowers as they wish to preserve from caterpillars. Elder flowers have an agreeable flavor, which they impart in distillation to water; they are likewise used to give a flavor to vinegar. The berries are poisonous to poultry, but their juice, properly fermented, makes a pleasant and wholesome wine; and, in Germany, a very pure and strong spirit is distilled from them. The juice of elder berries is sometimes employed to give a red color to raisin or other sweet wine. The young shoots of this shrub are filled with an exceedingly light pith, which is cut into balls, for electrical experiments; and is also made into toys for the amusement of children. The elder will thrive in almost any soil and situation; and every part of it has an unpleasant narcotic smell, which ought to render people cautious not to

sleep under its shade, since, in such case, it might prove of serious injury to them.

ELDERS. We find among almost all nations, in the infancy of civilization, that the oldest men of the tribe, being considered as the most experienced, and the least liable to be influenced by passion, administer justice, discuss the welfare of the people, &c. Many names for the highest officers, in various countries, convey the idea of old age, as *senator*, which is connected with *senex*. With the ancient Jews, the *elders* were persons the most considerable for age, wisdom and experience. Of this sort were the 70 men whom Moses associated with himself in the government. In the modern Presbyterian churches, *elders* are officers, who, with the pastors or ministers, and deacons, compose the consistories or kirk-sessions, with authority to inspect and regulate matters of religion and discipline. In the first churches of New England, the pastors or ministers were called *elders*, or *teaching elders*.

ELDON, John Scott, earl of, born 1750, at Newcastle upon Tyne, in Northumberland, is the third son of a respectable proprietor of coal mines near that town, whose second son was William Scott, the present lord Stowell, better known as sir William Scott. In 1767, John Scott was entered at Oxford. His marriage, in 1772, with a lady with whom he eloped to Scotland, prevented his promotion in the university. Both families were offended at this rash step; and, after consultation with his brother William, it was determined that the *lost young man*, as his brother called him, should enter as a student of the Middle Temple, where he lived in very straitened circumstances. After travelling three years in the northern circuit without a single brief, he made his *debut* at York, with great success. He then returned, however, to London, and devoted himself to the business of the equity courts. Lord Thurlow, who had just assumed the presidency of the chancery court, became favorable to him, and his success now seemed certain. In 1793, he became attorney-general and sir John Scott. At this critical time, he had to bring numerous charges of high treason against the London corresponding society, and the acquittal of the accused brought great odium upon the accuser. Just before this period, he had been elected member of parliament for Weobly. Within three years, he succeeded sir James Eyre, as lord chief justice of the common pleas. He was now made a peer, with the title of

baron Eldon; and in two years more (1801), he succeeded the earl of Rosslyn as lord chancellor. Five years after, Pitt died, and Fox obliged him to surrender the great seal to lord Erskine; and, when the latter retired, in 1807, in consequence of the change of the ministry, he became once more lord high chancellor, and retained this post until the administration of Canning (q. v.), when he joined the opposition, and was one of the warmest opponents of the Catholic emancipation bill. (See *Catholic Emancipation*.) He was succeeded by lord Lyndhurst. (See *Copley*.) Opinions are divided respecting him. He is accused of unnecessary delay in giving his decisions, of obstinate adherence to old forms, and of having thereby retarded the improvement of the law. His reading is, undoubtedly, very extensive; but he has not distinguished himself by that philosophical spirit, which discovers general principles in individual cases, and rests on the broad and immutable grounds of general truth. His decisions, however, are greatly respected, and he is one of the ablest lawyers that ever sat on the woolsack. In politics, he is a thorough tory, and one of the most distinguished leaders of his party. His long continuance in office is not to be ascribed solely to his talents, but is owing, in part, to the accommodating spirit which has led him to adapt himself to the measures of successive administrations.

ELDORADO; a fabulous country, in which gold and precious stones are as common as rocks or sand in other countries. Francis Orellana, a companion of Pizarro, first spread the account of this fabulous region in Europe; and an Englishman even published, at the end of the 16th century, a description of this favored country, with a map. The German *Schlaraffenland*, where roasted pigeons fly into one's mouth, or where, as Göthe has it, the vines are tied by sausages to the stocks, is something similar, as is likewise the French *pays de cocagne*. (See *Cocagne*.)

ELEATIC. A Grecian philosophical sect, so called because three of its most celebrated teachers, Parmenides, Zeno and Leucippus, were natives of *Elcia* (in Latin, *Velia*) a town in Magna Græcia, built by a colony of Phocæans, in the time of Cyrus. The founder was Xenophanes. (q. v.) The sect included two parties, one approving the other rejecting appeals to observation and experiment. The latter class maintained the eternity and immutability of the world, that all which existed was only

one being, without generation or corruption, and this was God. The apparent changes in the universe they considered as mere illusions of sense. Some learned men have supposed that they understood, by the one being, not the material world, but the originating principle of all things, or the true God, whom they expressly affirm to be incorporeal. The other branch of the Eleatic sect were the Atomic philosophers, who formed their system from attention to the phenomena of nature. Accordingly, Xenophanes maintained that the earth consisted of air and fire; that all things were produced out of the earth, and the sun and stars out of the clouds; and that there were four elements. (For further information, see Cudworth's *Intellectual System*, and Brucker's *History of Philosophy*, translated by Enfield.)

ELECAMPANE (*inula helenium*); a plant, inhabiting the Eastern continent, and now naturalized and frequent in some parts of the U. States, where it grows along road sides, in waste places, &c. It belongs to the natural order *compositæ*. The stem is three or four feet high, thick, pubescent, and branching above; the radical leaves are often two feet and more in length; the flowers are large and yellow; the root is perennial, possesses a bitter aromatic and somewhat acrimonious taste, and has been celebrated in disorders of the breast and lungs; it is useful to promote expectoration, and is also sudorific.

ELECTION, in politics. To give an accurate description of the elections of public officers, as they have existed in the various periods of history, would almost be to give the history of politics, for which many valuable materials exist, but which, it is much to be regretted, has never yet been fully treated. The subject is worthy of the deepest study of a philosophical mind; and an enlightened citizen of the U. States would have many advantages were he to undertake the execution of it. It would far exceed our limits, if we should venture to give only a sketch of the various forms of election which have existed; and we are obliged to limit ourselves to an account of those of the most important modern governments. (For the manner of election of the officers, in the ancient states, we refer to the separate articles: for instance, the article *Consul* describes how that magistrate was elected in Rome.)

Elections are one of the vital elements of all free nations; they have, therefore, always occupied much of the attention of lawgivers, and may, to a certain degree, be considered as a standard to measure

the degree of national liberty. The forms of election may be divided into two kinds: 1. those which have grown up, in the course of time, under the various influences which have contributed to modify the political constitution of the country, such as civil war, or internal troubles, conquest, particular laws, &c., as in the case of England; and, 2. those established by a written constitution, of a certain date, as in the U. States and in France. Elections, also, may be divided, like constitutions (q. v.), into aristocratic and democratic; in the former, the person elected representing a much larger number and more classes of citizens than are comprised in the body of his immediate electors; in the latter, representing his constituents only. Elections, also, may be direct or indirect; in the latter case, the people at large choose electors, who elect the representative or magistrate, as is the form of elections in Bavaria. The election of the president of the U. States is, in form, indirect, but is not practically so, because the candidates for the presidency are before the nation, and electors known to be in favor of a particular candidate are chosen by his partisans, and give their vote accordingly. The principal advantage gained, therefore, in this case, by intermediate electors, is that of order and convenience in balloting. In England, the election of the members of the house of commons is a subject of the greatest interest to the people. The qualifications of electors are very different in different parts of the kingdom. Even the county elections, which have been established in England by a uniform law, are attended with great inequalities of representation; thus the two members of the county of York represent more than a million of people, whilst the two members for Rutland represent hardly 20,000. Besides, the number of freeholders is so small in some counties (the land being owned by a few families, and cultivated by their tenants), and the influence of the great landholders so predominant, that the election depends almost entirely upon the richest families in the county. In order to avoid the expenses of a contested election, the families and the other voters sometimes make a compromise;—one member being chosen by the most influential family, the other by the other freeholders; or, where two very influential families exist, they divide the election between them. Thus, in Buckinghamshire, one member is returned by the duke of Portland, the other by the marquis of Buckingham; in Cambridgeshire, the

duke of Rutland and the earl of Hardwicke return the two members. 12 counties are considered quite independent; the other 28 are more or less influenced by the rich families. In what manner this influence is sometimes exerted, was recently shown, by the duke of Newcastle's turning out all his tenants in Newark, for no other reason, than that they would not elect a Mr. Sadler, the duke's candidate. The public was indignant at this degree of *borough-mongering*, as it was called, though an almost overwhelming influence is exercised, wherever the most powerful families exist. The case alluded to can be found in all the principal newspapers of England, published in October, 1829; among others, in the *Atlas*, October 11, 1829. In some cases, a great influence is exerted by families who do not belong to the class of princely landholders, but who, having been long settled in the county, and comprising numerous branches, collectively possess much wealth and official consequence, and combine to effect a common end. Very often, indeed, the whole election contest is to determine which family shall carry its candidate. The qualifications of electors, in cities, differ according to their charters; and it is well known that, whilst hundreds of boroughs, where there are only a few families, or none at all (see *Rotten Boroughs*), send members to parliament, populous places, like Manchester, Birmingham, &c., have no representative. Each county sends two members, the universities of Oxford and Cambridge each two, London, including Westminster and Southwark, eight, and other places return one or two. The members are distributed in the whole United Kingdom as follows:

For England,	489	members.
Ireland,	100	"
Scotland,	45	"
Wales,	24	"
<hr/>		
Total	658,	

of whom 186 are returned from 117 counties, 60 from 32 cities, 396 (called *burgesses*) from 222 boroughs and 3 universities, 16 from 8 cinque ports, &c. (called *barons*),—total 658.

If the corruption of the elections in Great Britain is so great, how is it that the English nation is yet the freest in Europe? The cause is one of superior efficacy to any formal constitution—the public spirit diffused through the nation; a spirit which, in the instance of other countries, has often set limits to the power

of monarchs nominally absolute. Bribery in elections is extremely common and open in England, notwithstanding the laws against it, which have sometimes been enforced. The laws intended to prevent government from influencing the elections are well meant, but ridiculous, when we see hundreds of boroughs bought by government. Any person who gives or promises any thing to any voter, in order to influence his vote, as well as every voter who accepts a bribe, is subject to a fine of £500, and is for ever disabled from voting, and holding any office in any corporation, unless, before conviction, he discover some other offender, when he escapes the punishment of his own offence. No officer of the excise, customs, stamps, or certain branches of revenue, is allowed to interfere in elections, by persuading any voter, or dissuading him, under penalty of £100, and incapacity for office.

All persons are eligible to the house of commons, who are not, 1. aliens nor minors; 2. among the 12 judges; 3. clergymen; 4. sheriffs, mayors, and bailiffs of boroughs (these are not eligible in their respective jurisdictions; all members ought, in strictness, to be inhabitants of the places for which they are chosen; but this rule has always been disregarded, and was entirely abolished under George III). 5. No person is eligible, who is concerned in the management of any duties or taxes levied since 1692, except the commissioners of the treasury, nor any excise officers, army and navy agents, governors of plantations, &c., nor any person who holds any office under the crown, created since 1705. 6. No person having a pension under the crown, during pleasure, or for any term of years, is capable of being elected. If any member accepts an office under the crown, except an officer in the army or navy accepting a new commission, his seat is vacated; but such member is capable of being re-elected. Every member returned by a county, or *knight of a shire*, as he is styled, must have a clear freehold estate of the value of £600 per annum, and every member returned by a city or borough must have one of the value of £300, except the eldest sons of peers, and of persons qualified to be knights of the shire, and except the members of the two universities. The mode of election is as follows:—The crown in chancery issues writs to the sheriff of every county, for the election of all the members of the county, and of the cities and boroughs therein. Within

three days, the sheriffs must summon the different places to elect the members. The election must begin within eight days. The election of members for the county is conducted under the presidency of the sheriff himself. Soldiers must be removed, at least one day before the election, to the distance of at least two miles from the place of election. The lord-warden of the cinque-ports, lord-lieutenants of counties, and the lords of parliament, are prohibited by statute from interfering with the elections. We have already shown how all the most essential of these laws are openly disregarded. Any native English subject, who possesses a freehold of 40 shillings a year, has a right to vote for the members to be chosen by his county. We have before stated that the elective franchise differs in different cities and boroughs, according to their charters.

In France, before the revolution, the members of the general representative body of the realm were chosen by the three estates—the clergy, nobility (including all possessors of noble fiefs), and the third estate (including all possessors of taxable estates). The number was determined by the government, but was not important, because the representatives of the different estates voted separately, and each body had only an aggregate vote. When the states general were convoked, in 1789, the old rule was followed, with few exceptions. The three estates of each *bailage principal*, or *sénéchaussée principale*, formed the general assembly of the bailliwick, whose duty it was to elect the deputies of the states general of the kingdom, and to draw up the *cahier de doléances*, or *libellus gravaminum et desideriorum* (the list of grievances and wants). But, even in the letters by which the last assembly of the states was convened, it was intimated, that the form of election should be better adapted to the wants of the nation. In 1791, 1792, and 1795, the principle became more and more settled, that the whole people have the elective right, excepting those who were immediately dependent on some other persons. When Bonaparte became first consul, the nation at large only chose names for lists, from which government selected officers, and even the deputies and senators composing the legislative body. The *charte constitutionnelle* (q. v.) conferred the right of election on the electoral colleges (article 35), but with very considerable limitations. The *charte* (art. 40) allows only those Frenchmen (30 years old), who pay annually at least 300 francs direct taxes, to be

electors. In 1820, it was estimated, that there were not more than 90,000 persons having the qualifications of electors; and since that time, the number has been diminished by the reduction of direct taxes. There are not at present more than 80,000 electors; and, according to the most recent computation (January 1, 1829), France is believed to contain 32,000,000 inhabitants. A citizen, to be eligible, must be as much as 40 years of age, and pay 1000 francs direct taxes a year, either in his own person, or by delegation for his mother, grandmother, or mother-in-law. If, however, there are not 50 persons of this description in a department, the 50 who pay the highest taxes under 1000 francs are eligible. Each elector receives a *carte électorale* from the prefect; but it is the inscription on the list of voters which gives the right of voting, and decides in case of any dispute. The presidents of the electoral colleges are, *ex officio*, members of the college, but cannot vote, unless they have the legal qualifications of voters. They are appointed by government. No armed force is allowed to be near the place of session, unless the president requires it. No one except an elector, whatever may be his station, can demand admission into a meeting of an electoral college. The electoral college is provisionally organized by the president, who names the members of the *bureau provisoire*, that is, the four inspectors (*scrutateurs*) and the secretary. This is merely preparatory to the final organization (*bureau définitif*) of the college by the voters, who elect four inspectors and a secretary. Absolute secrecy in voting is required by the law of June 29, 1820. Previously to voting, each elector separately takes the following oath: "I swear allegiance to the king, obedience to the constitutional charter, and to the laws of the kingdom" (ordinance of October 11, 1820). The *bureau définitif* being organized, the college proceeds to the election of the deputy. On the first and second ballots, the candidate who has a majority of all the votes given in (provided it be one more than one third of the whole number of electors of the college) is declared chosen. If no choice is made on the second ballot, a list is made by the *bureau* (of double the number of deputies to be chosen), from the candidates who had the greatest number of votes on the second ballot, and the electors cannot vote for any candidate whose name is not on the list. After the second ballot, only a plurality of votes is necessary to a choice.

If any candidates have an equal number of votes, the oldest is considered as elected. After the election is terminated, the journal of proceedings (*procès-verbal*) is read in the presence of the electors, that any error may be corrected. These *procès-verbaux* are remitted to the chamber of deputies, which decides on the right of its members to a seat. The electors must then separate on the command of the president, who is previously obliged to destroy all the ballots in their presence. Since 1815, the laws of election have been changed three times—in 1817, under Decazes (q. v.), when it was thought necessary to counterbalance the influence of the emigrants; in 1820, when the murder of the duke of Berri was seized upon by the ultras, as a pretext to overthrow the party of Decazes, and the law of June 29, 1820, increased the number of deputies from 258 to 430: the old number were to be chosen as before, by all the voters of the department; the other 172 by the richest electors (one quarter of all the voters, consisting of those who pay the highest taxes), who, after having voted with the whole body of electors of the department, elect separately the number of deputies assigned to their department, out of the additional 172. (See *Constant, Benjamin*.) By the law of June 9, 1824, the deputies, instead of being elected for 5 years, one fifth of the chamber being renewed every year (as was provided by the *charte*, art. 34), are elected for 7 years, the whole chamber at once. The prefect of the department directs the election, the government appoints the president of the electoral colleges, and, in this way, as well as by the eligibility of its officers, it exercises a very great influence on the character of the representative bodies. This influence has been exerted several times: for instance, under Villèle, in a revolting way; he turned out every officer who did not vote for his candidates, and allowed people to vote who had no right to. The law also directs that the votes should be given in such a way that the name of the voter should not be known; but, under Villèle's administration, it was contrived that people should vote openly, which induced many, in a dependent situation, or of timid character, to vote for the government. In fact, the elections are so much in the hands of the government, that it costs the nation the greatest effort to elect deputies of their own choice, whenever they are opposed to the ministers. The ordinance of the king of France, of May 17, 1830, by

which the chamber was dissolved, and the election of a new one ordered, is a highly interesting document, because it contains the dates of all the most important laws of election in France. We have seen how much French politics are influenced by the circumstance of the richest tax-payers being liberal or ultra; and the celebrated statistical writer, M. C. Dupin, has lately made the following calculation, with the purpose of showing the state and distribution of the electoral franchise. From his statements, the liberal party in France seem to have a very great majority in numbers, as well as superiority in wealth. M. Dupin divides the departments into three classes. The first class includes the departments which return liberal members; they contain together 45,000 electors, and pay taxes to the amount of 151,500,000 francs. The second class includes the departments which return absolutists, or ministerialists; these contain 31,900 electors, and pay in taxes 46,000,000 francs. The third class, designated neutral, comprises those departments which return deputies, part of whom are of the liberal side, and part of the ministerial. The amount of taxes paid by these departments is 19,200,000 francs. By this exposition it would seem, that the liberals possess two thirds of the heritable property, and in numbers exceed the ministerial party about as 4 to 3.

In the U. States, the democratic principle of election by the majority of polls is carried to a great extent, though generally slightly modified by qualifications required of the electors. The municipal and state elections, as they recur more frequently, and have a more immediate bearing upon the interests of the citizens, are, perhaps, of more practical importance than the federal elections, particularly in those portions of the union where each town is a little democracy. In the federal elections, the choice is indirect, as in that of the president; or made by the state legislatures, as in that of the senate; or made by a large district, as in that of the federal representatives. In the other elections, the voters decide upon individuals with whose character they are, in general, personally acquainted. (See *Constitutions*.) Of the two houses of the federal congress, the senate is chosen by the state legislatures, and the house of representatives by the people. Each state, without regard to difference of extent, population or wealth, chooses two senators, who hold their places for six years. The senate is divided into three classes, one of which is re-

newed every second year. Whether the choice shall be made by a joint or concurrent vote of the branches of the state legislatures, is not decided by the constitution, and the usage differs in different states. The representatives are chosen biennially, by the people of the several states, who are qualified electors of the most numerous branch of the legislature of the state to which they belong. The qualifications, therefore, of electors of the federal representatives, differ in different states; but, in general, they are, that they be of the age of 21 years, free resident citizens of the state in which they vote, and that they have paid taxes; in some states, they are required to possess property, and to be free white citizens. This description is so comprehensive, that the house of representatives may be considered to represent the whole body of the people. Some of the state constitutions prescribe certain qualifications as to property in the elected, and some require a religious test. But the federal constitution only provides, that no person shall be a representative who has not attained to the age of 25 years, and been 7 years a citizen of the U. States, and who is not, at the time of the election, an inhabitant of the state in which he is chosen. The representatives are apportioned among the states according to numbers, which are determined by adding to the number of free persons three fifths of the slaves. The constitution provides, that there shall not be more than one representative for every 30,000 persons, but that every state shall have at least one. By the act of March 7, 1822, the apportionment was one for every 40,000 persons (based on the 4th census), and the whole number was 213, which, with the 3 delegates, compose the present house of representatives. After the ratio of apportionment is determined, each state is divided into districts, equal in number to the representatives to which it is entitled, and each district chooses one representative; or the representatives are chosen by a general ticket. The only qualifications required by the constitution for a president of the U. States, are, that he should be a natural born citizen, have attained the age of 35 years, and have been 14 years a resident within the U. States. The election of a supreme executive magistrate has hitherto, in other countries, been a scene of intrigue, corruption and violence. To avoid the excitement of popular passions, the election of president has been confided, by the constitution, to a college of electors,

appointed in each state, under the direction of the legislature. Congress has the power to determine the time of choosing the electors, and the day on which they shall vote; this day, however, must be the same throughout the U. States. The number of electors in each state must be equal to the whole number of senators and representatives of the state in congress; there are now, therefore, 261 electors, in 24 colleges. As the manner of choosing the electors is left to the discretion of the state legislatures, it differs in the different states, and at different times in the same state. The choice is sometimes made by the legislatures, sometimes the whole college is chosen through the state at large, by a general ticket, and sometimes the election is made in such a way, that each representative district chooses one elector, and the other electors are chosen by a general vote. To prevent the person in office at the time of the election from exercising any influence by executive patronage, the constitution provides that no member of congress, nor any person holding any office under the U. States, shall be an elector. The colleges assemble in the respective states, on the first Wednesday in December, in every fourth year succeeding the last election, and vote by ballot for the president and vice-president, one of whom shall not be an inhabitant of the same state with the electors. A list of persons voted for, with the number of votes for each, is made out by each college, and sent to the seat of government, directed to the president of the senate, to whom, by the law of March 1, 1792, it must be delivered before the first Wednesday in the next January. On the second Wednesday in February, that officer opens the votes in the presence of the two houses of congress. The constitution does not declare by whom the votes shall be counted, but it is done by the president of the senate. A majority of the whole number of votes is necessary to constitute a choice. If no person have such majority, then the house of representatives proceeds to choose by ballot one of the three persons having the highest number of votes. In this case, the vote is taken by states, the representation from each state having one vote. A quorum for this purpose must consist of a member or members from two thirds of the states, and a majority of all the states is necessary to a choice. If no choice is made before the fourth day of March, the vice-president acts as president. According to the original plan of

the constitution, the votes of the electors were given in for two persons; the person having the majority of all the votes was president, and the person having the next greatest number after him was vice-president. The present plan was substituted, in consequence of the contested election of 1800, when, the number of votes given in for Jefferson and Burr being equal, the choice devolved on the house. After six days of balloting, Mr. Jefferson was elected on the 36th ballot. The number of states was then 16; necessary to a choice, 9. The first ballot gave Mr. Jefferson 8, Mr. Burr 6, 2 divided. The 36th ballot gave Mr. Jefferson 8, and the 2 divided states went for him by blank votes. The following is a table of the votes since the retirement of Washington.

On the old system, in

1796 Adams	71	Jefferson	68
1800 Jefferson	73	Burr	73

On the present system:

1804 Jefferson	162	Pinckney	14
1808 Madison	122	Pinckney	47
1812 Madison	128	Clinton	89
1816 Monroe	183	King	34
1820 Monroe	231	1 vote in opposition.	

1824 Adams	84	Jackson	99
		Crawford	41
		Clay	37

The election, therefore, devolved on the house of representatives, and Adams had 13 states, Jackson 7, and Crawford 4.

1828 Jackson	178	Adams	83
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(For more information respecting the election of the former German emperor, see *Elector*; of the pope, see *Cardinal*, and *Conclave*; of the former king of Poland, see *Poland*.)

ELECTIVE AFFINITY. (See *Affinity*.)

ELECTOR (Latin); he who chooses, or has the right to choose; a title given to certain members of the German empire, called, in German, *Kurfürsten*, from *Fürst*, prince, and *Kur*, an old word for *election*. When we hear the ancient German empire called an *elective government*, we must not connect with this phrase the idea of election, such as it exists in modern governments. The election to the sovereignty of the German empire was, as indeed might easily be supposed, ill-defined, during the middle ages, until the right of election was arrogated by a few members of the empire. This elective constitution was a thousand times more injurious to the empire than a hereditary succession would have been, because the main object of the electors seemed to be,

to extort concessions from the emperor, and diminish his authority as much as possible, by the unfortunate, to use the mildest term, elective capitulation (*Wahlcapitulation*; see *Capitulation*). In fact, it is chiefly owing to the defective constitution of the empire, that, whilst France and England rose in power by the union of their several parts under one government, the German empire sunk in authority, being split into a host of sovereignties of every degree of consequence, some very important, others very insignificant.

In the most ancient times of the German empire, under the Carolingian race, the empire was hereditary; but with Conrad I (chosen in 911) it became elective. The elections, however, became almost confined to one powerful family; and the glory which the German empire acquired was owing, in no small measure, to this circumstance, that the imperial authority remained for generations within the same family. Unity, strength, and internal peace, are essential to the beneficial operation of any political constitution; and if they cannot be attained by good laws, and the spirit of the nation, as is the case, for instance, in the U. States, it is much better that they should be secured by a hereditary monarchy, than that the main objects of a political organization should be lost in the confusion of anarchy, and the struggles of petty ambition. With the fall of the Hohenstaufen family, the ancient great duchies of Bavaria, Saxony, Suabia, Franconia and Lorraine were divided into parts, yet their claims were not extinguished. Thus originated, from 1245 to 1256, the 7 electors, who are found taking part in the election of the emperor Richard of Cornwall, in 1258. The 7 electors were those of, 1. Mentz; 2. Treves; 3. Cologne (who were archbishops, and chancellors of the empire, and therefore called *spiritual electors*); 4. the Palatinate; 5. Brandenburg; 6. Saxony; and 7. Bohemia, which received its electoral authority, in 1290, from Bavaria, which had not appeared in the diet for several elections, having been represented by Bohemia. The other members of the empire, indeed, protested against this authority arrogated by the electors, which was, however, at last, acknowledged, in 1338, by the emperor Louis the Bavarian, and confirmed by Charles IV (who died in 1378), by the law called the *golden bull*. Frederic V, elector of the Palatinate (who died in 1632), was declared an outlaw by the empire, and his electoral privilege conferred on Bavaria; and when it was attempted, in the peace of

Westphalia, to settle the contests in the empire, an eighth electorate was created, and given to the Palatinate. Leopold I, in 1692, made Brunswick-Lüneburg the ninth electorate, which, after much opposition on the part of the states of the empire, and the body of electors, was acknowledged as such in 1710. When, in 1777, the house of Bavaria became extinct, and the dukedom fell to the Palatinate, the Bavarian electorship expired likewise, and the number of electors was again 8; of whom Mentz, Treves and Cologne were ecclesiastical, and elective by the chapter of their archbishopric; the others secular and hereditary. There were 5 Catholic and 3 Protestant electors; Saxony was a Protestant electorate, though the ruling house was Catholic. The chief privileges, common to all the electors, were, 1. the right to elect the emperor; 2. to draw up the elective capitulation (see *Capitulation*); 3. to possess the great offices of the empire; 4. to form a separate college in the diets; 5. to hold electoral diets (*Kurtag*), for the election of the emperor, and for consulting on the affairs of the empire, &c.; 6. the exemption of their courts from the appellate jurisdiction of the imperial courts (*privilegium de non appellando*); 7. to possess the regal dignity, yet not the title of majesty; 8. to possess several electorates at once; 9. to acquire imperial fiefs, and allodial estates in the empire, without the special permission of the emperor. With each electorate there were also special privileges connected, too many to be enumerated here at length. The elector of Mentz, for instance, was president of the electoral college, director of the diet, and in the *corpus Catholicorum* (q. v.), with the right to crown the emperor, which right, however, was exercised by him alternately with the elector of Treves, after 1656, who was arch-chancellor in Gaul and Arles (a nominal dignity). The elector of Cologne was arch-chancellor in Italy, and *legatus natus*, that is, *ex officio*, representative of the pope. The elector of Bohemia was arch-cupbearer, and the first of the secular electors. The elector of the Palatinate was arch-sewer, vicar of the empire on the Rhine, and had more than one voice in the diet. The elector of Saxony was arch-marshal, imperial vicar of the empire, in the countries under the Saxon law, and director of the *corpus evangelicorum*. The elector of Brandenburg was arch-chamberlain, and had several votes in the imperial colleges. The elector of Brunswick-Lüneburg was arch-

treasurer, alternately with the bishop of Osnabrück. By the peace of Luneville, in 1801, the left bank of the Rhine was ceded to France, and the ecclesiastical electors lost their territory. Several changes took place. In 1802, the elector of Mentz was declared elector-arch-chancellor, the two other ecclesiastical electors set aside, and Baden, Würtemberg, Hesse-Cassel and Salzburg declared electorates; so that there then existed 10 electors. August 6, 1806, the emperor abdicated the imperial dignity, and the electors gradually adopted other titles. The elector of Hesse-Cassel fled from his domains, against the advice of Louis Bonaparte (see his *Réponse*, 1829), and was declared by Napoleon to have abdicated his authority. When the elector, after the peace of Paris, in 1814, again took possession of his country, he retained the title of elector, which, however, in the new constitution of the German confederacy, has no meaning.

ELECTRA; daughter of Agamemnon and Clytemnestra. Her step-father, Ægisthus, wished her not to marry any of the princes who were her suitors, lest her children should avenge the death of Agamemnon; he married her, however, to a man of humble rank in Argos, who left her a virgin. At the time of her father's death, she saved her brother Orestes; and when, afterwards, he was tortured by the furies, on account of the murder of his mother, to which his sister had instigated him, and she was informed by the oracle of Delphi that he was slain in Tauria, by a priestess of Diana, she was upon the point of killing with a fire-brand her sister Iphigenia, who had just entered the temple as a priestess of Diana, when Orestes came and prevented the deed. Electra afterwards married Pylades, the intimate friend of her brother Orestes.

ELECTRIC CALAMINE. (See *Zinc*.)

ELECTRICAL EEL. A fish possessing the extraordinary property of communicating a sensation similar to an electrical shock, when touched with the hand, or an electric conductor. Body nearly of equal thickness throughout; head and tail obtuse; length five or six feet. The seat of the organs which produce this curious effect is along the under side of the tail. They are composed of four bundles of parallel membranaceous laminae, placed very near each other, and nearly horizontally, extending from the skin to the central medial plane of the body, connected together by numerous vertical laminae, arranged transversely. The little cells, or rather the small pris-

matic and transverse canals, intercepted by these two kinds of laminae, are, according to Cuvier, filled with a gelatinous substance; and the whole apparatus is abundantly supplied with nerves. Electrical eels are of several species, the most famous of which is the *gymnotus electricus*, found in the rivers of South America. It is said to possess power, when in full vigor, sufficient to knock down a man, and benumb the limb affected, in the most painful manner, for several hours after communicating the shock. By frequent use of this faculty it becomes impaired, and a considerable interval of rest is required to recruit its electrical properties. Through the medium of water, it is able to destroy small fishes at a considerable distance, directing the power at pleasure. Some authors aver, that the *gymnotus* is found so large and powerful as to benumb a horse, and to drown men while bathing, by the violence of the shock. A specimen of the *gymnotus*, which was conveyed alive to England some years since, afforded the curious an opportunity of verifying the reports of travellers as to its electric property. Since that period, numerous specimens have been examined, and the preceding observations confirmed. The property of communicating electrical shocks is common to some other fishes, of the same subdivision. Specimens of the *gymnotus electricus* are reported to attain the length of six or seven feet, but ordinarily they are about three and a half or four feet long. The flesh is eatable, and, in appearance and flavor, said to resemble that of an eel.

ELECTRICITY; a branch of natural philosophy, which investigates the attractions and repulsions, the production of light, and the elevation of temperature, as well as the explosions and other phenomena attending the friction of vitreous, resinous and metallic surfaces, and the heating, cooling, evaporation and mutual contact of a great number of bodies. Its name is derived from the Greek word *ἤλεκτρον*, (*amber*), in which substance its phenomena were first observed. The knowledge which the ancients were possessed of concerning this interesting and now very extensive branch of science, consisted in little more than the fact, that amber acquired the power of attracting to itself light bodies, on being rubbed, ascribed, by Thales of Miletus, to an inherent soul or essence, which, awakened by friction, went forth, and brought back the light particles floating around. In the year 1600, Dr. Gilbert, an English physician,

published a treatise upon the magnet, in which he remarked, that several other bodies besides amber can, by friction, be made to attract light bodies. The observations of Boyle, Otto von Guericke, Newton, and a few other philosophers of the same period, contributed somewhat to the extension of our knowledge of electricity; but it was not before the commencement of the 18th century, that the most important discoveries and generalizations of the phenomena before known upon this subject were made. (See Priestley's *History of Electricity*.)

The order we shall adopt in the present article will be the following: 1. *A general statement of electrical phenomena, independent of all theory.* 2. *The theories which have been proposed for explaining these phenomena.* 3. *Electrical machines.* 4. *Effects of electrical attraction and repulsion.* 5. *Distribution of electricity.* 6. *Transference of electricity.* 7. *Laws of Induction.* 8. *Motion of electricity.* 9. *Chemical effects of electricity.* 10. *Effects of electricity upon living bodies.* 11. *Electricity developed by changes of temperature and of form, from contact, compression and other changes in bodies.* 12. *Electricity of the atmosphere.*

I. A dry glass rod, a piece of amber or sealing-wax, when rubbed briskly with a dry woollen cloth, and immediately presented to light bodies, such as fragments of paper, thread, cork, straw, cotton or gold leaf, will first attract and then repel them. The bodies which have thus acquired this attractive and repulsive power are said to be excited. All substances, however, are not capable of becoming excited; hence the distinction of bodies into classes—electrics, or such as become excited by friction, and non-electrics, or those which, when rubbed, do not display electric phenomena. The principal electric substances in nature are the following: viz. amber, gum-lac, resin, sulphur, glass, the precious stones, silk, the fur of most quadrupeds, and almost all vegetable substances which have been thoroughly deprived of moisture, as baked wood, and dry paper. If the light bodies which have been repelled from an excited electric be again presented to it, they will, provided they have touched no other body, continue to be driven off. Some substances remain in contact with the electric longer than others; fibres of cotton adhere some time, while metallic bodies are repelled the instant after contact. Two bodies, which have both been in contact with the same electric, mutually repel each other.

If a glass tube of considerable diameter, and two or three feet in length, be employed for the experiment, we notice in a dark room, during the friction, flashes of light, of a bluish tinge, extending over every part of the tube; and sparks, attended with a sharp snapping sound, will be seen to dart out in every direction. If we present to it, after vigorous rubbing, a round metallic ball, sparks will be obtained as the ball approaches the tube; and if the knuckle be presented instead of the ball, the same effect takes place, accompanied with a pricking sensation. If a metallic ball be suspended in the air by silk, thread, or fibres of worsted or hair, or a rod of glass, and rubbed while in this situation by an electric, it will exhibit the same properties of attraction and repulsion, as if it had been itself an electric.—That the ball should thus be cut off from contact with any substance, except the air and the electric which sustains it, is essential to the success of the experiment. If an excited electric be placed near a rush-pith ball suspended by silk, the ball will in the first place approach the electric, but after contact will recede from it. If now, uncovering the electric, we present to the ball which has thus touched it a second ball, similarly suspended, but which has had no previous communication with any electric, we shall find that these two balls will attract one another, and come into immediate contact. The same results are repeated between this second ball and a third, which may be presented to it, and so on in succession, with a continued diminution, however, in the rapidity of the movements, indicative of a diminished power, in consequence, as it would seem, of its being distributed among a number of bodies. From these facts we infer that the electric imparts to the balls, suspended as above, properties exactly similar to those which had been excited in itself by friction. By repeated contact with a number of bodies, an excited electric is found to lose its electrical powers, in the same degree as these powers have been acquired by the bodies themselves; and fresh excitation alone can renew them. It is evident, therefore, that electricity is capable of being transferred, in the same sense as caloric, of which we speak, as being communicable, and, like caloric, it is weakened by diffusion among a number of bodies. If an electrified ball be touched with the finger or by a rod of metal, it will be deprived of the whole of its electricity, which will pass to the finger or rod touching it; the ball being left in its original or

natural state, and again becoming susceptible of being attracted, either by an excited electric, or by another body, to which electricity has previously been communicated. If a rod of glass be applied instead of the finger or metallic rod as above, the body touched remains unaffected, notwithstanding the contact. We are thus led to conclude that some substances, such as glass, are incapable of conducting electricity; while others, such as metals and the human body, readily conduct it. And it is found that all *electrics* are *non-conductors*, while, on the contrary, *conductors* are *non-electrics*. The permanence of electricity in metallic bodies, suspended in the air by silken thread, proves that the air, as well as silk, is a non-conductor; from which circumstance bodies surrounded by it, except on one side, and this side being in contact with a non-conductor, are said to be *insulated*. If this condition be not observed, that is, if a body be in contact with conducting substances which communicate with the earth, its electricity will escape through them to the earth, which may be regarded as the great reservoir, both for the absorption and supply of this fluid. The insulating power of the atmosphere depends upon its density and its dryness. In proportion as the air is rarefied by the removal of the superincumbent pressure, its power of confining electricity diminishes, till, at length, when the rarefaction is very great, it opposes scarcely any resistance to the passage of electricity. The presence of moisture in the air also diminishes its insulating power. Water is a good conductor of electricity; accordingly, any portion of it suspended in the air tends to carry off electricity from bodies charged with it, and which are immersed in such an atmosphere. Moisture also easily attaches itself to glass and other electrics, depriving them of the power of insulation. Hence we discover the reason why experiments which succeed in a clear, dry day, will often fail in damp weather; and the utility of drying all the instruments employed in electrical experiments, in order to exclude, as much as possible, the interference arising from the presence of condensed moisture. The conducting powers of most bodies are influenced by changes of temperature, and also of form. Thus water, in its liquid state, is a good conductor; but when in the state of ice, at a temperature of 13° Fahr., it is a non-conductor, and capable of being excited by friction like any other electric. Reducing substances to powder has an effect upon their powers

of conducting electricity. Snow conducts less readily than ice at the same temperature; but glass, as well as sulphur, on the contrary, acquire some conducting power by being pulverized. Vegetable and animal substances lose their conducting powers when made thoroughly dry. No substance with which we are acquainted can be said to be wholly impervious to electricity; nor, on the other hand, is there any body which opposes no resistance to the transmission of electricity. The following table presents a view of the principal classes of bodies, arranged in a series, beginning with those possessed of the greatest conducting power, and terminating with those that have the least. The order in which they possess the power of insulating, is, of course, the reverse of this:—

The perfect, or least	Metallic ores.
oxidable metals.	Animal fluids.
The more oxidable	Water.
metals.	Snow.
Charcoal prepared	Living vegetables.
from the harder	Living animals.
woods, and recently	Smoke.
ignited.	Steam.
Plumbago.	Rarefied air.
The concentrated	Earths and stones in
mineral acids.	their natural state.
Dilute acids.	Pulverized glass.
Solutions of metallic	Flowers of sulphur.
salts.	
<hr/>	
Dry metallic oxides.	and other gases.
Oils.	White sugar.
Vegetable ashes.	Dry parchment.
Animal ashes.	Cotton.
Ice below 13° Fahr.	Feathers.
Phosphorus.	Hair, especially that
Lime.	of a living cat.
Dry chalk.	Silk.
Caoutchouc.	Transparent gems.
Camphor.	Diamond.
Silicious and argillaceous	Glass.
stones, in proportion to their	Fat.
hardness.	Wax.
Porcelain.	Sulphur.
Baked wood.	Resins.
Dry atmospheric air,	Amber.
	Gum-lac.

Although the exact point in the above scale, which forms the separation between conducting and insulating bodies, cannot be precisely marked, yet we have indicated it by a division. The laws which regulate the gradual dissipation of electricity from imperfectly insulated bodies, have been carefully investigated by M. Coulomb.—The causes which operate in these cir-

cumstances, are, 1. the imperfection of the insulating property in the solids by which they are supported; 2. the contact of successive portions of air, every particle of which carries off a certain quantity of electricity; 3. the deposition of moisture upon the surface of the insulating bodies, which establishes communications between their opposite ends, and may be considered as virtually increasing their conducting power. Still another circumstance, which materially affects the dissipation of electricity, is the shape of the body in which it is accumulated. The form most favorable for its retention is that of a sphere; next, a cylinder terminated at both extremities by a hemisphere. On the other hand, electricity escapes most readily from bodies of a pointed figure, especially if the point projects to a distance from the surface. In such bodies, it is scarcely possible to retain any accumulation of the electric fluid; whereas, pointed bodies receive electricity more readily than those of any other form.—Electric excitation in different bodies exhibits different phenomena. We have seen that light substances excited by glass repel one another, and are likewise repelled by the excited glass. The same thing also happens with respect to bodies which have received their electricity from excited sulphur, or sealing-wax. But on examining the action of any of the bodies of the former class upon any of those belonging to the latter, we find that, instead of repelling, they attract each other; and what is still more remarkable, the instant these bodies come in contact, provided they have both been electrified in an equal degree, they cease at once to exhibit any signs of electrical excitement; the electricity in the one appearing to neutralize that in the other. Thus we seem to have evidence of two kinds of electricity; and as these were first noticed, the one in glass and the other in resinous bodies, they were named *vitreous* and *resinous* electricity. Their mode of action on matter has been expressed by the following general law, viz.: *Bodies charged with either species of electricity, repel bodies charged with the same species, but attract bodies charged with the other species; and at equal distances, the attractive power in the one case is exactly equal to the repulsive power in the other.* Accordingly, we learn the kind of electricity with which a given body is charged, by approaching it to an insulated pith ball, which has previously been touched either with excited glass, or with excited sealing-wax. It is known,

moreover, that, when two electrics are rubbed against one another, the one acquires, always, one kind of electricity, the other the opposite; and both are produced in equal degrees. Thus, when glass is rubbed by silk or flannel, just as much resinous electricity is produced in the silk or flannel, as there is vitreous electricity produced in the glass; and, consequently, as they are endowed with opposite electricities, there should be an attraction existing between the excited surfaces of the bodies rubbed. This fact is easily proved by the simple and familiar experiment of the ribbons. If a white and a black ribbon, of two or three feet long, and perfectly dry, be applied to each other by their smooth surfaces, and are then drawn repeatedly between the finger and thumb, so as to rub against each other, they will be found to adhere together, and, if pulled asunder at one end, will rush together with great quickness; while united, they exhibit no sign of electricity, because the operation of the one is just the reverse of that of the other, and their power is neutralized and inoperative. If completely separated, however, each will manifest a strong electrical power, the one attracting those bodies which the other repels. The causes that determine the species of electricity excited in the respective bodies, of which the surfaces are made to rub against each other, have not been satisfactorily ascertained. The mechanical configuration of the surfaces appears to have more influence in the result, than the nature of the substances themselves. Thus smooth glass acquires vitreous electricity by friction with almost every substance, except the back of a cat, which induces the resinous electricity; but roughened glass, if rubbed with the same substances, becomes charged with resinous electricity, while the rubbing bodies acquire the vitreous. Silk, rubbed by resin, takes the vitreous, but with polished glass, the resinous electricity. The following is a list of several substances, which acquire vitreous electricity, when rubbed with any of those which follow it, in the order in which they are set down; and resinous electricity, if rubbed with any of those which precede:—

The back of a cat.	Paper.
Polished glass.	Silk.
Woollen cloth.	Gum-lac.
Feathers.	Roughened glass.
Wood.	

In the experiment above mentioned of the silk ribbons, the black ribbon exhibited the vitreous, and the white one the res-

inous electricity. But when the ribbons are differently excited, as the one being drawn lengthwise and at right angles over a part of the other, the one which has suffered friction in its whole length acquires vitreous, and the other resinous electricity. Indeed, the slightest difference in the conditions of these and similar experiments, or the species of electricity arising from friction, will be often sufficient to produce opposite results. Another important observation, with regard to electrical phenomena, requires to be stated previous to our conclusion of the present head. Whenever a body is charged with electricity, although it be perfectly insulated, it tends to produce an opposite electrical state in all the bodies in its vicinity, and this with greater energy in proportion as the distance is smaller. This effect is termed the *induction* of electricity. In consequence of this law, if an electrified body, charged with either species of electricity, be presented to an unelectrified or neutral body, the electrical condition of the different parts of the neutral body is disturbed. The electrified body induces a state of electricity contrary to its own, in that part of the neutral body which is nearest to it, and consequently a state of electricity similar to its own in the remote part. Hence the neutrality of the second body is destroyed by the action of the first; and the adjacent parts of the two bodies, having now opposite electricities, will attract each other. It thus appears, that the attraction which is observed to take place between electrified bodies and those that are unelectrified, is merely a consequence of the altered state of those bodies, resulting directly from the law of induction.

II. The hypothesis which naturally suggests itself for the explanation of the phenomena above stated, is that of a very subtle, imponderable and highly elastic fluid, pervading all material bodies, and capable of moving with various degrees of facility through the pores or actual substance of different kinds of matter. In some, as in those we call *conductors* or *non-electrics*, it moves without any apparent obstruction; while in others, as in those we call *non-conductors* or *electrics*, it moves with difficulty. Moreover, as the phenomena appear to indicate the agency of two kinds of fluid, we shall, for the present, assume the existence of two species, and shall speak of these under the names of the *vitreous* and the *resinous electricities*. They must each have, when separate, the same general properties as have already been enumerated above;

while, in relation to each other, there must be a complete contrariety in their nature, so that, when combined together, their action on the bodies in their immediate vicinity shall cease. And it is when existing in this state of union or neutrality, that bodies are said to be in their natural state as respects electricity. We shall now proceed to compare the suppositions we have made with the facts, as presented to us by nature, and developed by experiment.—*a.* Facts connected with *excitation*. From various causes (of which the friction of surfaces is one), the state of union in which the two electricities naturally exist in bodies is disturbed: the vitreous electricity is impelled in one direction, while the resinous is transferred to the opposite; and each manifests its peculiar powers. When accumulated in any body, each fluid acts in proportion to its relative quantity, i. e., to the quantity which is in excess above that which is still retained, in a state of inactivity, by its union with electricity of the opposite kind. Thus, when glass is rubbed with a metallic amalgam, a portion only of the electricities at the two surfaces is decomposed: the vitreous electricity resulting from this decomposition attaches itself to the glass; the resinous to the amalgam. What remains in each surface undecomposed, continues to be quite inert.—*b.* Facts connected with *distribution*. Both of these fluids, being highly elastic, their particles repel one another with a force which increases in proportion as their distance is less; and this force acts at all distances, and is not impeded by the interposition of bodies of any kind, provided they are not themselves in an active electrical state. It has been deduced, from the most careful analysis, that this force follows the same law with that of gravitation: viz. that its intensity is inversely as the square of the distance. The mode in which the electricity imparted to a conducting body, or to a system of conductors, is distributed among their different parts, is in exact conformity with the results of this law, as deduced by mathematical investigation. While the particles of each fluid repel those of the same kind, they exert an equally strong attraction for the particles of the other species of electric fluid. This attraction, in like manner, increases with a diminution of distance, and follows the same law as to its intensity: viz. that of the inverse ratio of the square of the distance. This force, also, is not affected by the presence of any intervening body.—*c.* Facts connected with *transference*. Since the

two electricities have this powerful attraction for each other, they would always flow towards one another, and coalesce, were it not for the obstacles thrown in their way by non-conductors. When, instead of these, conducting substances are interposed, they enter into union with great velocity, producing, in their transit and confluence, several remarkable effects. When once united, their powers remain dormant, until again called into action by the renewed separation of the fluids.—*d.* Facts relating to *attraction and repulsion*. The repulsion which is observed to take place between bodies that are insulated, and charged with any one species of electricity, and other bodies similarly charged, is derived from the repulsive power which the particles of this fluid exert towards those of their own species; and the attractions between bodies differently electrified, is derived from the attractive power of the vitreous particles for those of the opposite kind. In all cases, the movements of electrified bodies represent the forces themselves which actuate the particles of the developed electricities they contain.—*e.* Facts relating to *induction*. Wherever one of the electricities exists in an active state, it must repel all the particles of the same electricity in all surrounding bodies, and attract those of the opposite species. Thus the law of induction is seen to be a direct consequence of the hypothesis we are considering.—Thus far we have proceeded upon the hypothesis of two distinct electric fluids. It was, however, discovered by Franklin, that it is equally easy to account for all the phenomena, on the supposition of their resulting from the agency of a single electric fluid. This theory supposes, that the single agent in question, and which we shall call the *electric fluid*, is highly elastic or repulsive of its own particles,—the repulsion taking place with a force varying inversely as the square of the distance; that its particles attract and are attracted by the particles of all other matter, following the same law of the inverse square of the distance; that this fluid is dispersed through the pores of bodies, and moves through them with various degrees of facility, according as they are conductors or non-conductors. Bodies are said to be in their natural state, with regard to this fluid, when the repulsion of the fluid they contain of a particle of fluid at a distance, is exactly balanced by the attraction of the matter in the body for the same particle; and, under these circumstances, they exhibit no electrical phenomena.—

But if subjected to certain operations, as friction, the equilibrium is destroyed, and they acquire more or less than when in their natural state. Whenever they acquire a quantity of fluid greater than in their natural state, they are said to be *positively* electrified, or to be electrified *plus*, and present the phenomena ascribed to what was called *vitreous* electricity.—When, on the other hand, there is a quantity less than what is required in order to be in their natural state, they are said to be *negatively* electrified, or to be electrified *minus*; in which case they correspond with the state of resinous electricity. The state of positive electricity, then, consists in a redundancy of the electric fluid, or in matter over-saturated with this fluid; that of negative electricity, in a deficiency of fluid, or in matter under-saturated, or, what may be considered the same thing, in redundant matter. In considering the mutual electrical actions of bodies, the portions in which the matter and the fluid mutually saturate each other, need not be taken into account, since their actions, as we have seen, are perfectly neutralized; and we need only attend to those of the redundant fluid and the redundant matter. When a body contains more than its natural proportion of electric fluid, the surplus will, by the repulsive tendency of its particles, overflow and escape, unless prevented by insulation, until the body is reduced to its neutral state. When under-saturated, the redundant matter will attract fluid from all quarters, from which it can receive, until it is again brought to its natural state. The mutual recession of two positively electrified bodies is a direct consequence of the redundancy of the electric fluid contained in each, this fluid being attracted to the matter by its attraction for it in both bodies; and the fluid in one being repulsive of the fluid in the other, the bodies are necessarily impelled in the direction of the repulsion. In the same manner, the mutual attraction between two bodies, one of which is electrified plus, and the other minus, is the immediate effect of the attraction of the redundant fluid in one for the redundant matter in the other, and *vice versa*; for this attraction is mutual. The mutual recession of two bodies, negatively electrified, does not appear to be accounted for upon the Franklinian theory. In order to do this, therefore, it has been found necessary to append to it the following provision: that particles of simple matter, or bodies unsaturated with the electric fluid, are mutually

repulsive. Without this provision, indeed, we are unable to explain the want of action between two neutral bodies; for, the repulsion of the fluids in both bodies being balanced by the attraction of the fluid in the one for the matter in the other, the remaining attraction of the fluid in the second body for the matter in the first, would be uncompensated by any repulsion; and the forces would not be held in equilibrium, as we find they really are.—The law of electrical induction is an immediate consequence of the Franklinian theory. When a body charged with electricity is presented to a neutral body, the redundant fluid of the former exerts a repulsive action on the fluid in the latter body; and if this happens to be a conductor, it impels a certain portion of that fluid to the remote end of this body, which becomes at that part positively electrified; while its nearer end, which the same fluid has quitted, is consequently in the state of negative electricity. If the first body had been negatively electrified, its unsaturated matter would have exerted an attractive force on the fluid in the second body, and would have drawn it nearer to itself, producing an accumulation or redundancy of fluid at the adjacent end, and a corresponding deficiency at the remote end; that is, the former would have been rendered positive, and the latter negative. All this is exactly conformable to observation. The facts with respect to transference are easily explicable upon this hypothesis, and they arise from the destruction of the equilibrium of forces, which confined the fluid to a particular situation or mode of distribution. Indeed, there is no fact which is explained on the hypothesis of two fluids, which is not equally explicable on the Franklinian theory; and the explanations by the first are easily converted into those of the second by substituting the expressions of *positive* and *negative* for those of *vitreous* and *resinous electricities*. The principal advantage of Franklin's system is, its superior simplicity. On the other hand, the phenomena of galvanism prove that the two electricities, whatever may be their nature, exert very different chemical agencies, and hence, whichever theory we may choose to adopt, it is necessary, in their chemical history, always to preserve the distinction between them. When viewed, however, as a mere hypothesis, calculated to facilitate our comprehension of the phenomena and of their connexions, it is a matter of indifference which we employ, since they will either of them answer the purpose. For the future, however, we shall more

generally employ the language of the Franklinian theory, on account of its greater convenience.

III. *Electrical Machines.* The essential parts of an instrument for procuring large supplies of electricity for the purposes of experiment, are the electric, the rubber, the prime conductor, the insulator, and the machinery for setting the electric in motion. The electric, by the excitation of which the electricity is to be developed, may be made of various substances. Polished glass has, however, received the preference. Its form is that of a hollow cylinder, or of a flat circular plate, revolving upon a horizontal axis. The cushion is usually made of soft leather, generally basil skin, stuffed with hair or wool, so as to be as hard as the bottom of a chair, but yet sufficiently yielding to accommodate itself, without much pressure, to the surface of the glass to which it is applied. The prime conductor is a cylindrical tube, each end terminating in a hemisphere. There is no advantage in its being made solid, for the electricity is only contained at the surfaces. It may be made of thin sheet brass or copper, or tin, or of pasteboard covered with gold leaf or tin foil. Care must be taken that its surface be free from all points and asperities; and the perforations which are made in it, and which should be about the size of a quill, for the purpose of attaching wires and other kinds of fixtures, should have their edges well rounded and smoothed off. In order to render the arrangement of these parts more intelligible, we will describe one of the simplest and best of the cylindric machines. The glass cylinder is from 8 to 16 inches in diameter, and from 1 to 2 feet long, supported, for the purpose of insulation, on two upright pillars of glass, which are fixed to a firm wooden stand. Two hollow metallic conductors, equal in length to the cylinder, and about one fourth of its diameter, are placed parallel to it, one on each side, upon two insulating pillars of glass, which are cemented into two separate pieces of wood, that slide across the base so as to allow of their being brought within different distances from the cylinder. To one of these conductors the cushion is attached, which is of the same length with the conductor. Its pressure against the cylinder is regulated by an adjusting screw adapted to the wooden base, on which the glass pillar that supports the conductor is fixed. From the upper edge of the cushion there proceeds a flap of thin oiled silk, which is sewed on the

cushion about a quarter of an inch from its upper edge. It extends over the upper surface of the glass cylinder to within an inch of a row of metallic points, proceeding, like the teeth of a rake, from a horizontal rod, which is fixed to the adjacent side of the opposite conductor. The motion of the cylinder, which is given by a single handle or by a multiplying wheel, must always be given in the direction of the silk flap. That part of the cushion which comes in contact with the glass cylinder, should be coated with an amalgam of tin, zinc and mercury, applied by means of hog's lard. The amalgam should be placed uniformly over the cushion, until level with the line formed by the seam which joins the silk flap to the face of the cushion. No amalgam should be placed over this line, nor on the silk flap; and it is even requisite to wipe the silk flap clean whenever the continued motion of the machine should have soiled it by depositing dust or amalgam on its surface. The best amalgam is formed by melting together one ounce of tin and two ounces of zinc, which are to be mixed, while fluid, with six ounces of mercury, and agitated in an iron or thick wooden box until cold. It is then to be reduced to very fine powder in a mortar, and mixed with a sufficient quantity of hog's lard to form it into a paste. The mode in which the electrical machine just described acts, will readily be understood. The friction of the cushion against the glass cylinder produces a transfer of electric fluid from the former to the latter; that is, the cushion becomes negatively and the glass positively electrified. The fluid, which thus adheres to the glass, is carried round by the revolution of the cylinder, and its escape is at first prevented by the silk flap which covers the cylinder, until it comes to the immediate vicinity of the metallic points, which, being placed at a small distance from the cylinder, absorb nearly the whole of the electricity as it passes near them, and transfers it to the prime conductor. Positive electricity is thus accumulated in the prime conductor, while the conductor connected with the cushion, being deprived of this electricity, is negatively electrified. If both these conductors are insulated, this action will soon have reached its limit; for when the cushion and its conductor have been exhausted of their fluid to a certain degree, they cannot, by the same force of excitation, supply any further quantity to the glass. In order to enable it to do so, we must replenish it, or restore to it a quantity equal to what it

has lost. This is done by destroying the insulation of the cushion through the means of a metallic chain or wire, extending from it to the earth, which is the great reservoir of the electric fluid. The prime conductor will now be supplied with a constant stream of positive electricity. If it be our object, on the other hand, to accumulate negative electricity by the same instrument, we have only to insulate the conductor to which the cushion is attached, and to connect the prime conductor with the ground, in order to allow the fluid to escape from it as soon as it is collected from the cylinder. The fluid will thus continue to be drawn, without interruption, from the negative conductor, as it now meets with no impediment to its discharge on the opposite side of the machine. That the quantity of positive electricity produced in one conductor is exactly equal to that of the negative electricity in the other, is proved by the fact, that, if the two conductors are connected by a wire, no signs of electricity are obtained in any of the conductors on turning the machine. A person standing on a stool with glass legs is thereby insulated; and if, in this situation, he touch the prime conductor, either with his hand or through the medium of a metallic rod or chain, he may be considered as forming part of the same system of conductors. When the machine is worked, therefore, he will partake, with the conductor, of its charge of electricity, and sparks may be drawn from any part of his body by the knuckle of any other person who is in communication with the ground.

IV. The effects of electrical attraction and repulsion may now be exhibited much more distinctly with the aid of those considerable accumulations of electricity which we are enabled to form by the electrical machine. A pith ball, or a fragment of gold leaf, is very strongly and immediately attracted by the electrified conductor; and the instant after it has come into contact with it, it is repelled; but it is now attracted by the other bodies in its neighborhood, to which it communicates its own electricity, and then is again in a state to be influenced by the conductor, and to be again attracted; and this alternation of effects will continue as long as the conductor remains charged. This alternation of attractions and repulsions accompanying the transferring electricity by movable conductors, is also illustrated by the motions of a ball suspended by a silk thread, and placed between two bells, of which the one is electrified, and the other

communicates with the ground. The alternate motion of the ball between the two bells will keep up a continual ringing. This amusing experiment has been applied to give notice of changes taking place in the electrical state of the atmosphere. The mutual repulsion of bodies that are similarly electrified gives rise to many interesting experiments. A small figure in the shape of a human head covered with hair, when placed upon the conductor and electrified, will exhibit the appearance of terror from the bristling up and divergence of the hair. Advantage is taken of the repulsive property of electrified bodies for the construction of an instrument adapted to measure the intensity of the electricity they may contain. This instrument is called an *electrometer*. That invented by Henley consists of a slender rod of very light wood, serving as an index, terminated by a small pith ball, and suspended from the upper part of a stem of wood, which is fitted to a hole in the upper surface of the conductor. An ivory semicircle or quadrant is affixed to the stem, having its centre coinciding with the axis of motion of the rod, for the purpose of measuring the angle of deviation from the perpendicular, which the repulsion of the ball from the stem produces in the movable rod. The number of degrees which is described by the index affords some evidence of the quantity of electricity with which the apparatus is charged, though the instrument cannot be viewed as affording an exact measure of its intensity. The *gold leaf electrometer* of Bennet, or rather *electroscope*, which is one of the most delicate instruments ever invented for detecting the presence of electricity, consists of two narrow slips of gold leaf suspended parallel to each other, in a glass cylinder (which secures them from disturbance by the air), and attached to the end of a small metallic tube, terminating above either in a flat surface of metal or a metallic ball. Two slips of tin-foil are pasted to the inside of the cylinder, on opposite sides, in a vertical position, and so placed as that the gold leaves may come in contact with these, when their mutual repulsion is sufficiently powerful to make them diverge to that extent. These slips of tin-foil terminate in the foot of the instrument, and thus are in communication with the earth. A very minute charge of electricity, communicated to the upper end of the tube, is immediately transmitted to the gold leaves, which are thus made to repel each other; but if the repulsion is such as to make them

strike against the tin-foil, their insulation ceases, and their electricity is carried off, and becoming neutral, they resume their original position. The most perfect electrometer, however, is that invented by Coulomb, and called by him the *torsion balance*. It consists of a cylindrical glass jar, covered at the top by a circular glass plate, with a hole in its centre, through which descends nearly to the bottom of the jar, a single fibre of the web of the silkworm, with a needle of gum-lac or a piece of straw coated by sealing-wax, affixed to its lower extremity. The needle is terminated at one end by a small pith ball, and at the other by a disc of varnished paper, to serve as a counterpoise to the ball. The upper end of the silk fibre is attached to a kind of button, having a small index, and capable of being turned round upon a circular plate divided into degrees. One side of the jar is perforated towards its bottom to allow of the insertion of a short horizontal bar, having a small metallic sphere at each of its ends, the one being within, and the other upon the outside of the jar; and the former being so situated as just to allow the ball of the suspended needle to come in contact with it in the course of its revolution. By turning the button or the index, the needle may be brought into this or any other required position with regard to the ball. It is found by experiment, that the angle of torsion of the silk fibre is, within a certain range of distance, very nearly in the direct ratio of the force which acts in producing the torsion; and, therefore, if the two balls be placed in contact by turning the button, and then similarly electrified, the distance to which they are repelled by the angular motion of the suspended ball affords a measure of the repulsive force exerted. In like manner, the distance which the suspended ball is made to move, when it is attracted by the fixed ball, when the two have opposite electricities, gives accurate measures of the attractive forces.

V. It had long been observed, that the quantity of electricity which bodies are capable of receiving, does not follow the proportion of their bulk, but depends chiefly upon the extent of their surface. It was found, for example, that a metallic conductor, in the form of a globe or cylinder, contains just as much electricity when hollow, as it does when solid; from which it was inferred, that electricity does not extend throughout the mass of a body, but resides altogether at its surface. By the application of mathematical calcula-

tions to the theory, the most exact information with regard to the distribution of the electric fluid in bodies of different shapes has been obtained; and whenever a comparison has been instituted, even in the cases of the most complicated kind, between the results of experiment and of theory, the most perfect agreement has been observed between them. For the purpose of measuring the proportional quantities of electricity, with which different parts of the same or of different bodies are charged, no instrument is so well fitted as the balance of Coulomb. Such is its extreme sensibility, that a force only equal to the 270th of a grain is sufficient to make the needle perform an entire revolution; the 360th part of this force, therefore, or less than the 100,000th of a grain, is capable of being estimated by each degree of its angular motion. It would be inconsistent with the limits of the present article to go into a detail of the delicate methods of research adopted in the investigation of this subject. The following are among some of the most interesting results deduced from them. In a solid body, having the form of a perfect sphere, and charged with positive electricity, the whole of the fluid is, in consequence of the repulsion of its own particles, which is every where directed from the centre outwards, accumulated in a thin stratum, at the very surface of the sphere. If the body be charged with negative electricity, the deficiency of fluid will take place only in the superficial stratum of matter. If, instead of being spherical, the body have any other form, the electricity will be chiefly confined to the surface; and if it have an elongated form, there will be a greater charge in the remoter parts than in those nearer to the middle. This result of theory, respecting the limitation of electricity to the mere surface, is confirmed, in the most decisive manner, by the experiments of Coulomb. A conducting body, of a spheroidal shape, with small pits in various parts of its surface, half an inch in diameter, and one tenth of an inch in depth, was electrified, and examined by the torsion balance. The bottoms of these pits afforded no indications of having received any electricity, while the even surface exhibited strong electrical excitement. We may conclude, both from theory and experiment, therefore, that although, strictly speaking, the electricity must reside within the substance of conducting bodies, it extends, in fact, to a depth so small as to be inappreciable by

any known methods of observation. The effect of an expansion of surface, in lessening the intensity of electricity, while its absolute quantity remains the same, is illustrated by the following experiment: around an insulated cylinder, movable on a horizontal axis, and turned by an insulating handle, is wound a thin lamina of any metal, the end of which is semi-circular, and has attached to it a silk thread. The whole apparatus communicates with an electrometer, formed of two linen threads, each terminating in a pith ball. On communicating a charge of electricity to the cylinder, the threads and balls of the electrometer attached to it, diverge. Upon taking hold of the silk thread, and unrolling the metallic lamina from the cylinder, the balls gradually collapse, thus indicating a diminution in the intensity of electrical repulsion. But, on winding up the lamina, by turning the insulating handle, the electricity is restored, and the balls diverge to the same extent as before, allowance being made for the small dissipation of electricity, from the contact of the air during the experiment. In the case of a long and slender lamina of conducting matter, charged with electricity, Coulomb found that its intensity continued nearly uniform, from the middle of the lamina to within a short distance from the ends; at that part it rapidly increased; and at the very extremity, it became twice as much as at the middle part. He also found, that in a cylinder 30 inches long and 2 in diameter, the intensity of the electricity at the ends was to its intensity in the middle, or at any part more than 2 inches from the extremity, as 2.3 to 1. From which instances we infer, that if a conducting substance be drawn out into a point, the intensity of the electricity at that point will be exceedingly great; and that the point will, accordingly, absorb and draw into itself nearly the whole of the electricity that is contained in the body. This great concentration of electricity is found actually to take place in all points that project beyond the general surface. The pressure excited by the electric fluid against a non-conducting medium, such as the air, which opposes an obstacle to its escape, is in a ratio compounded of the repulsive force of its own particles at the surface of the stratum of fluid, and of the thickness of that stratum; but as one of these elements is always proportional to the other, the total pressure must, in every point, be proportional to the square of the thickness. If this pressure be less

than the resistance, or *coercive force*, as it has been called, of the air, the electricity is retained; but the moment it exceeds that force, in any one point, the electricity suddenly escapes, just as a fluid confined in a vessel would rush out, if it were to burst open a hole in the side of the vessel. The irruption of the electric fluid is marked by several very striking phenomena. A sharp snap is heard, accompanied by a vivid spark, and there are evidences of an intense heat being evolved in the line which the electricity takes. Its passage through a perfect conductor is unattended with light. Light appears only where there are obstacles in its path, by the interposition of imperfect conductors; and such is the velocity with which it is transmitted, that the sparks appear to take place at the very same instant, along the whole line of its course. Thus, if a row of small fragments of tin-foil be pasted so as to be nearly in contact, on a piece of glass, and electricity be sent through them, by connecting one of its ends with the conductor of an electrical machine, while the other end communicates with the ground, it will not be possible to detect any difference of time in the occurrence of the light in the different parts. If the tin-foil be arranged so as to represent a chain, it will appear luminous at each link, while conveying a charge of electricity. The longest and most vivid sparks are obtained between two conductors having a rounded form, as may be exemplified in a common electrical machine, by presenting a metallic ball to that side of the prime conductor which is furthest from the cylinder of the machine; a spark is immediately seen, of considerable length, resembling a long streak of fire, extending from the conductor to the ball. Often, when the spark is very long, it is seen to have an angular or zigzag course, exactly like that of a flash of lightning. This irregularity is probably occasioned by the fluid darting obliquely in its course to minute conducting particles, as those of moisture, that are floating in the air, a little removed from the direct line of passage. Electrical light differs in no respect from the light obtained from other sources. Its brilliancy depends upon the conducting power of the bodies between which it passes. When dry wood is employed, it appears in the form of faint red streams; but metals afford a light of greater brilliancy. Its color is subject to variations, from a great number of different circumstances. Sparks passed through balls of

wood or ivory are of a crimson color; but this depends upon their position with regard to the surface. Electric sparks, passing from one polished metallic surface to another, are white; but if the finger be presented to an electrified conductor, the sparks obtained are violet. They are green, when taken from the surface of silvered leather; yellow, when taken from finely powdered charcoal; and of a purple color, when taken from the greater number of imperfect conductors. In exceedingly rarefied air, the color of the spark is green; in denser air, it acquires a blue tint, and passes to a violet and purple as the condensation of the air is increased. In making these experiments, it is found that in proportion as the medium is more rare, its conducting power increases, and a smaller intensity of electricity is required for the production of light. In the ordinary vacuum of the air-pump, the passage of electricity is rendered sensible by streams or columns of diffused light occasionally varying in their breadth and intensity, and exhibiting movements which give them a marked resemblance to the coruscations of the aurora borealis. It was at first imagined, that the light which appears during the passage of electricity was actually the electric fluid itself, become luminous from its high degree of accumulation. But, since we know that common atmospheric air becomes luminous by violent compression, and we must also presume that electricity exerts a very sudden and powerful pressure upon the air, by its passage through that resisting medium, we are certainly justified in drawing the inference, that the same phenomena proceed, in both cases, from the same cause. The sound, which accompanies the various modes of transference, is subject to modifications dependent upon the degree and suddenness of the impulses given to the air. The full, short and undivided spark is attended with a loud explosion; the more lengthened spark, with a sharper snap, which becomes more broken and rattling in proportion to the distance it has to traverse. The great increase of intensity which the electric fluid acquires at the extremities of all elongated conducting bodies, and especially the indefinite augmentation of this intensity at the apex of all projecting points, has been alluded to above. This intensity will necessarily be accompanied with a powerful disposition in the fluid to escape—a circumstance which furnishes a natural and exact explanation of the rapid dissipation of electricity, which

takes place from all bodies of a slender and pointed form. The illustration of these positions is seen in bringing metallic rods of different forms near the prime conductor of a machine charged with either species of electricity, the conductor being furnished with a pair of pith balls, suspended by a fine wire, whose divergence indicates the presence and degree of the electricity in the conductor: if the metallic rod have a bell at the end which is brought near the charged conductor, the pith balls will be but slightly affected; whereas, if it terminate in a sharp point, and the point be presented to the conductor at the same distance as the ball was in the former case, the divergence of the balls will immediately cease, showing that the electrical charge has wholly disappeared. Currents of air always accompany the discharge of electricity from pointed bodies; for each particle of air, as soon as it has received its electricity from the point, is immediately repelled by the body. Many amusing experiments are founded on this principle. Let two cross wires, bent at right angles near the ends, which terminate in points, and pointing in a similar direction with respect to the axis, be supported at their centre upon a fine point, and electrified by being placed upon the prime conductor of a machine; each of the points will give off a stream of electricity, and the wires will revolve backward with considerable rapidity. An apparatus consisting of wires terminating in points, and having balls annexed to them, to represent the planets, may be constructed so as to revolve when electrified, and thus to imitate the planetary motions. Such an apparatus has been called an *electrical orrery*. When the transfer of electricity takes place between smooth surfaces of a certain extent, no difference can be perceived in the nature and appearance of the spark, whichever be the position of the negative surface. But in the passage of electricity through points, the effect is considerably modified by the species of electricity with which the bodies are charged; or, in other words, by the direction in which the fluid moves. When the electric fluid is escaping out of a pointed conductor, the luminous appearance is that of diverging streams, forming what is termed a *pencil of light*, and resembling the filaments of a brush. When, on the contrary, the electric fluid is entering into the pointed body, the light is much more concentrated at the point itself, having a resemblance to a star, in

which, if any streams appear, they are disposed like radii, and equally so in all directions. This difference in these two appearances may be employed, on many occasions, as a useful criterion of the species of electricity, at least, which is passing from one conductor to another, if not of the absolute direction of its motion. For if a needle be presented to an electrified body, the appearance of a star on the needle will show that the electricity of that body is positive; while, on the contrary, a luminous brush on the needle will indicate that the body is negative. These observations seem to indicate the emanation of some material fluid from the positive, and its reception by the negative point. It has, accordingly, been urged, as an argument in favor of the Franklinian theory. The diverging lines on one side, and their inflections on the other, represent exactly the paths of particles flowing out as from a pipe, and urged forward by a force which gives them such a projectile velocity as to prevent their spreading out beyond a certain distance from the direct line of projection. But this very velocity will carry the particles, that happen to have deviated most, somewhat beyond the point to which they are attracted; while the attraction to this latter point will tend to deflect them from the line of their path, and gradually turn them back, so that they will arrive at the point of attraction by very different paths, and some even by a retrograde motion. Hence, while, in the first case, they form a diverging cone of rays, in the latter they must be distributed on all sides of the point, like the rays of a star.

VI. Active electricity, existing in any substance, tends always to induce the opposite electrical state in the bodies that are near it. Now, it is impossible to induce one electrical state in any body, without, at the same time, producing the opposite state in the same body, or in the one which is immediately contiguous. It follows, therefore, that if the bodies subjected to the inductive influence are non-conductors, although the tendency to produce the opposite electricity exists, yet, in consequence of the immobility of the fluid, it can produce no visible change. In proportion as the body opposes less resistance to the passage of electricity, the operation of the disturbing force becomes sensible. For example, in the case of a positively charged electric, acting by induction on an insulated conducting body, the redundant fluid in the former must tend to repel all the fluid contained

in the latter; a portion of this fluid must, therefore, be driven from the side adjacent to the first body, towards the remoter side. The adjacent side will thus be rendered negative; the remoter side, positive. But this will take place to a certain extent only; for there is a limit at which the repulsion of the fluid accumulated at the remote end will just balance the repulsion of the fluid in the electric, added to the attraction of the under-saturated matter, in the near end; and when the limit has been attained, the flow of electric fluid from the near to the remote end of the body will cease, and an equilibrium will be established. Experiment fully confirms this theory, as may be seen by bringing a cylinder of metal of some length, with rounded ends, near an electrified globe of glass, taking care that it be not sufficiently near to receive any quantity of electricity by transference. By means of the electrometer of Coulomb, we perceive that the part of the conductor nearest to the electric is negative, and the part most remote is positive; while, about the middle of the cylinder, the body is in a neutral state. The electricity is found to diminish as we proceed from either extremity towards this point of neutrality. These remarkable effects are solely the result of the action of electricity at a distance; for they take place in an equal degree, whatever non-conducting substance may be interposed between the bodies exerting this influence on one another. But in an experiment, where the acting body, instead of being an electric, is a conducting body, the electrical state which the globe induces on the cylinder must react upon its own electricity. The negative electricity, that is, the under-saturated matter at the nearer end of the cylinder, must exert a tendency to induce positive electricity in the globe, and more especially upon the side next the cylinder; that is, it will tend, by its attraction for the fluid, to draw it to that side, and thus render it still more highly positive than it was before. This can only be done at the expense of the other side, from which the fluid must be taken, and which is therefore rendered less charged with fluid, that is, less positive than before. But this new distribution of the electric fluid in the globe, by increasing the positive state of the side next the cylinder, tends to augment its inductive influence on the fluid in the cylinder; that is, to drive an additional quantity of fluid from the negative to the positive end. This must be followed in

turn by a corresponding reaction on the globe, and so on, constituting a series of smaller adjustments, until a perfect equilibrium is established in every part. This reasoning is fully established by experiment. All that is required for its illustration is simply to furnish the metallic globe, insulated and charged with positive electricity, with electroscopes upon its opposite surfaces. No sooner do we bring near to it a conducting body, than the balls of the electroscope, at the side most distant from that body, begin to collapse, while those at the nearer side diverge to a greater degree than before; thus showing the nature of the reflex operation of the induced electricity of the conductor upon the body from which the induction originated. In all the changes thus alluded to, there has been no transfer of electricity from either of the bodies to the other, as is most satisfactorily proved from the circumstance, that the mere removal of the bodies to a distance from one another is sufficient to restore each of them to their original state. The globe remains as perfectly electrified as before; the cylinder returns to its condition of perfect neutrality; and the experiment may be repeated as often as we please, without any variation in the phenomena. This would not be the case, however, if the cylinder were divided in the middle, and one or both of the parts were removed separately, while they still remained under the influence of the globe. The return of the electric fluid from the positive to the negative end being thus prevented, each part will retain, after its separation, the electricity which had been induced upon it; the nearer portion will remain negative, the remoter one positive. If the division had been in three parts, the middle part only would have been neutral. It is found by experiment, that the effects of induction on a conductor are augmented by increasing its length; and they become as great as possible, by placing the conductor in communication with the earth, which carries off all the fluid the electrified body is capable of expelling from the nearest end. A conductor under the influence of induction, between which and the earth a communication has been made, by touching the remote end with a metallic rod held in the hand, possesses but one kind of electricity, namely, the one opposite to that of the electrified body which is acting upon it. The part touched is brought into a state in which it appears to be neutral, as long as it remains in the vicin-

ity of the electrified body; but it really contains less fluid than its natural share; and this will immediately become apparent, if the conductor that has been touched be again insulated, and then removed from the influence of the body producing the induction. This peculiar condition of a body, in which its parts are really undercharged or overcharged with fluid, although, from the action of electric forces derived from bodies in its vicinity, a state of equilibrium is established, and no visible effect results, has been denominated by Biot, *disguised electricity*. We have hitherto supposed the acting body to be positively electrified; but precisely the same effects would happen with regard to the degree, although opposite as to the species of electricity, if it had been negatively electrified. Our knowledge of the induction of electricity enables us to understand why bodies, between which it takes place, should attract one another. For the action of the adjacent sides, which are brought into opposite electrical states, is greater than the action of those sides which are in the same electrical states, and which are more distant; hence the attractive force always exceeds the repulsive. The most convenient mode of obtaining an accumulation of electricity arising from induction, is by the employment of coated glass, that is, of a plate of glass, on each side of which is pasted a sheet or coating of tin-foil. Care must be taken to leave a sufficient margin of glass uncovered by the metal, for preventing the transfer of electricity from one coating to the other, round the edge of the glass; and all sharp angles, or ragged edges in the coatings, should be avoided, as they have a great tendency to dissipate the charge. The form of coated glass best adapted to experiments is that of a cylindric jar; this is coated, within and without, nearly to the top. The cover consists of baked wood, and is inserted with sealing-wax, to exclude moisture and dust. A metallic rod, rising two or three inches above the jar, and terminated at the top in a brass knob, is made to descend through the cover till it touches the interior coating. The name of the *Leyden phial*, or *jar*, is applied to this instrument. It is used in the following manner: the outer coating being made to communicate with the ground, by holding it in the hand, the knob of the jar is presented to the prime conductor when the machine is in motion; a succession of sparks will pass between them, while, at the same time, nearly an equal quantity

of electricity will be passing out from the exterior coating, through the body of the person who holds it, to the ground. The jar, on being removed, is said to be charged; and if a communication is made between the two coatings, by a metallic wire, extending from the external one to the knob, the electric fluid which was accumulated in the positive coating rushes, with a sudden and violent impetus, along the conductor, and passes into the negative coating; thus at once restoring an almost complete equilibrium. This sudden transfer of a large quantity of accumulated electricity is a real explosion; and it gives rise to a vivid flash of light, corresponding in intensity to the magnitude of the charge. The effect of its transmission is much greater than that of the simple charge of the prime conductor of the machine; and it imparts a sensation, when passing through any part of the body, of a peculiar kind, which is called the *electric shock*. In the construction of the Leyden jar, the thickness of the glass is an important consideration. The thinner the glass, the greater will be the power of taking a charge; but the power of retaining it will be less, on account of the diminished resistance which the glass will oppose to the electricity through it. If the charge be higher than what the jar will bear, the glass will be broken by the violence with which the electric fluid forces a passage through its substance. Another limit to the charge which a jar is capable of retaining, arises from the liability of the electricity to pass from one coating to the other, round the edges of the glass. The deposition of moisture, also, on the glass, will occasion a spontaneous discharge, since it forms a chain of conducting particles, in the very line which the electricity has a tendency to take. Hence, in order to preserve the uncoated part of the glass in as dry a state as possible, it is usually covered with a layer of sealing-wax, or some other resinous varnish. By uniting together a sufficient number of jars, we are able to accumulate an enormous quantity of electricity: for this purpose, all the interior coatings of the jars must be made to communicate by metallic rods, and a similar union must be established among the exterior coatings. When thus arranged, the whole series may be charged, as if they formed but one jar; and the whole of the accumulated electricity may be transferred from one system of coatings to the other, by a general and simultaneous discharge. Such a combination

of jars is called an *electrical battery*. For the purpose of making the direct communication between the inner and outer coating of a jar or battery, by which a discharge is effected, an instrument called the *discharging rod* is employed. It consists of two bent metallic rods, terminated at one end by brass balls, and connected at the other by a joint, which is fixed to the end of a glass handle, and which, acting like a pair of compasses, allows of the balls being separated at different distances. When opened to the proper degree, one of the balls is made to touch the exterior coating, and the other ball is then quickly brought into contact with the knob of the jar, and thus a discharge is effected, while the glass handle secures the person holding it from the effects of the shock. If we wish to send the whole charge of electricity through any particular substance, which may be the subject of experiment, we must so arrange the connecting conductors, as that the substance shall form a necessary part of the *circuit of the electricity*, as it is termed. With this view, we must place it between two good conductors, one of which is in communication with the outer coating; and the circuit may then be completed by connecting the other conductor with the inner coating, by means of a discharging rod, to one branch of which, if necessary, a flexible chain may be added.

VII. In forming arrangements for directing the passage of accumulated electricity, it should be borne in mind, that the electric fluid will, on these occasions, always pass through the best conductors, although they may be more circuitous, in preference to those which are more direct, but have inferior conducting power; and it must also be recollected, that when different paths are open for its transmission along conductors of equal power, the electricity will always take that which is the shortest. Thus, if a person, holding a wire between his hands, discharges a jar by means of it, the whole of the fluid will pass through the wire, without affecting him; but if a piece of dry wood be substituted for the wire, he will feel a shock; for, the wood being a worse conductor than his own body, the charge will pass through the latter, as being the easiest, although the longest circuit. During its transit through the human body, in like manner, the shock is felt only in the parts situated in the direct line of communication; and if the charge be made to pass through a number of persons, who take one another by the hand, and form

part of the circuit between the inner and outer coatings of the jar, each will feel the electric shock in the same manner, and at the same instant; the sensation reaching from hand to hand, directly across the breast. By varying the points of contact, however, the shock may be made to pass in other directions, and may either be confined to a small part of a limb, or be made to traverse the whole length of the body, from head to foot. By accurate experiments it appears, that the force of the electric shock is weakened, i. e. its effects are diminished, by employing a conductor of great length for making the discharge. But it is difficult to assign a limit to the number of persons through whom even a small charge of electricity may be sent, so that all shall experience the shock; or to the distance along which it may be conveyed by good conductors. The abbé Nollet passed an electrical shock through 180 of the French guards, in the presence of the king; and the sensation was felt at the same moment by all the persons composing the circuit. An experiment was made near London, at a time when the ground was remarkably dry, to ascertain if any loss of time accompanied the passage of the fluid, when transmitted through considerable distances. It was made to perform a circuit of four miles; being conducted for two miles along wires supported on baked sticks, and for the remaining distance through the dry ground. As far as could be ascertained by the most careful observation, the time in which the discharge was transmitted along that immense circuit was perfectly instantaneous. A retardation in the passage of electricity, however, does take place, if the conductor be not of a sufficient size; and when this is the case, as well as in those instances where the conductor is not a good one, the discharge will not be effected so instantaneously or so completely. Under these circumstances, also, there is a tendency in the fluid to diverge from the direct line of its course, and to fly off to different objects in the vicinity, as is often exemplified in the case of lightning, which, on striking a building, is apt to take a very irregular and seemingly capricious route, darting towards conducting bodies which may happen to attract it, although at some distance from the immediate direction it was pursuing. The motion of electricity through perfect conductors is attended with no perceptible alteration in the mechanical properties of the conducting

bodies, provided they be of sufficient size for the charge of the electric fluid transmitted. On the contrary, very considerable effects are produced when a powerful charge is sent through a wire, which is too small to allow the whole quantity to pass with perfect freedom; or through an imperfect conductor, though of a large size, as is proved when a tree is struck by lightning. A piece of dry writing paper, as well as pieces of dry, porous wood, are easily torn in pieces by an electric charge.

VIII. Electricity exerts a most extensive and important influence in effecting changes in the temperature and chemical composition of bodies. The ignition and fusion of metals by the electric discharge, are phenomena which have been long observed. Thus, by passing a strong charge through slender iron wires, or the finest flattened steel, called *pendulum wire*, they are ignited, and partly melted into globules, and at the same time partially oxidated. If a slip of gold or silver leaf be placed on white paper, and a strong shock passed through it, the metal will disappear with a bright flash, and the impulse with which its particles are driven against the paper will produce a permanent stain of a purple or gray color. The colors produced in this way have been applied to impress letters or ornamental devices on silk and on paper. For this purpose, the outline of the required figure should be first traced on thick drawing paper, and afterwards cut out in the manner of stencil plates. The drawing-paper is then placed on the silk or paper intended to be marked; a leaf of gold is laid upon it, and a card over that; the whole is then placed in a press or under a weight, and a charge from a battery sent through the gold leaf. The stain is confined, by the interposition of the drawing-paper, to the limit of the design, and in this way a profile, a flower, or any other outline figure, may be very neatly impressed. The heat evolved by electricity, like most other of its effects, is in proportion to the resistances opposed to its passage. A rod of wood, of considerable thickness, being made part of the circuit, has its temperature sensibly raised by a very few discharges. Most combustible bodies are capable of being inflamed by electricity. Thus alcohol, ether, camphor, powdered resin, phosphorus or gunpowder may be set on fire. And the sparks taken from a piece of ice are as capable of inflaming bodies as those from a piece of red-hot iron. The oxidation of metals, through which accumulated electricity has been passed, is rather to be

ascribed to the tendency which they are known to possess of combining with the oxygen of the atmosphere when heated, than to any peculiar agency of electricity. A reverse process, however, is found to attend electrical discharges through metallic oxides, extricating their oxygen, and restoring them to the metallic state. When a succession of electric discharges from a powerful electric machine are sent through water, a decomposition of that fluid takes place, and it is resolved into its two elements of oxygen and hydrogen, which immediately assume the gaseous form. When this experiment is conducted in a suitable apparatus, and a shock is transmitted through the mixed gases thus obtained, they are instantly kindled; a reunion of the elements takes place; and precisely the same quantity of water is reproduced as was decomposed to furnish the gases. It may appear somewhat paradoxical that the same agent should, in the course of the same experiment, produce at one time decomposition, and at another combination, of the same elements. The simplest way of reconciling this apparent discordance, is to suppose that the combination of the gases is the effect of the heat evolved during its forcible transit through an aeriform fluid that opposes considerable resistance to its passage; while the decomposition of the liquid is the direct consequence of the agency of electricity when not interfered with by heat. When a solution of sulphate of copper is subjected to the action of electricity by means of slender conducting wires terminating in the vessel containing the solution, the copper is revived, or precipitated in a metallic state, around the negative wire; but, upon reversing the direction of the current of electricity, so that the same wire now becomes positively electrified, the copper which has collected around it is redissolved, and a similar deposit takes place on the opposite wire, which now becomes the negative one. Similar experiments, made with other metallic solutions, are attended with similar results; and solutions of neutral salts with alkaline and earthy bases obey the same law, being separated into their constituent parts, the ingredient containing oxygen always appearing at the positive wire, and the base at the negative wire; but as these are a class of effects which have been more particularly investigated by that mode of agency denominated *galvanism*, we shall reserve a more full account of them for that article.

IX. Having seen the effects of electricity on inanimate matter, we now proceed to

describe the agency it exerts over living bodies. Its passage through living plants immediately destroys the vitality of the parts through which it passes. A very small shock, sent through the stem of a balsam, causes its leaves to droop in a few minutes, and finally extinguishes its vitality. The approach of an electrified conductor to the sensitive plant (*mimosa pudica*) produces no effect upon it; but when sparks are taken from it, the leaves collapse, just as they are accustomed to do from concussions of a mechanical nature. When the energetic effects of the shock from the Leyden vial upon the animal system were first made known, high expectations were raised that electricity would prove a remedial agent of extraordinary power. It was supposed that, as a stimulant, it would have many advantages over other remedies; for it can be administered in various degrees of intensity, which may be regulated with great exactness; and its application can be directed especially to the organ we wish to affect. Accordingly, we find, at one period, it was employed in a great number of cases; but at present it is confined to a very few; such as palsy, contractions of the limbs, rheumatism, St. Vitus's dance, some kinds of deafness, and impaired vision. Although the effects of ordinary shocks upon living animals are familiar to most persons, still a short account of these shocks, as they have been administered out of the common course may not be uninteresting. If a person who is standing receive a charge through the spine, he loses his power over the muscles to such a degree, that he either drops on his knees, or falls prostrate on the ground. A strong charge passed through the head gives the sensation of a violent but universal blow, and is followed by a transient loss of memory and indistinctness of vision. If the diaphragm be included in the circuit of a coated surface of two feet in extent, fully charged, the sudden contraction of the muscles of respiration will act so violently upon the air in the lungs, as to occasion a loud and involuntary shout; but if the charge be small, a fit of convulsive laughter is induced, producing a most ludicrous scene to the by-stander. Small animals, such as mice and sparrows, are instantly killed by a shock from 30 square inches of glass.

X. There are several mineral bodies, which, from being in a neutral state at ordinary temperatures, acquire electricity simply by being heated or cooled. This property is confined to crystallized minerals; and of these the most remarkable are

the tourmaline and boracite. (q. v.) In the former of these, it is best observed in the regularly terminated crystals. When one of these is heated from 100° to 212° Fahr., the extremity terminated by the greatest number of planes becomes charged with positive electricity, while the other extremity is negative. When the crystal is of considerable size, flashes of light may be seen along its surface. A large number of substances become electrified on passing from the liquid to the solid form. This happens to sulphur, gum-lac, bees-wax, and, in general, all resinous bodies. The conversion of bodies into the state of vapor, as well as the condensation of vapor, is generally attended by some alteration of their electrical condition. Thus, if an ignited platina crucible be placed upon the gold leaf electrometer, and water be dropped into it, at the moment the vapor rises, the leaves of the electrometer diverge with negative electricity. Electricity is evolved by the contact of different metals. Thus, if two discs, the one of copper, the other of zinc, rather more than two inches in diameter, and furnished with insulating handles, be brought into contact, and then separated and examined by an electroscope, the copper disc is found to be charged with negative, and the zinc disc with positive electricity. While the contact of the metals is preserved, neither of them gives any indication of its electrical state, the electricity being disguised until the separation takes place. This observation has an important relation to the theory of that mode of electrical excitement called *galvanism*, under which head it will be resumed. There are some bodies which are rendered electrical by pressure. Thus, if a crystal of calcareous spar or arragonite be pressed for a few moments between the fingers, it exhibits a decided attraction. The same thing happens with regard to cork, paper and wood. Many mineral substances, when reduced to powder, exhibit electricity, if made to fall upon an insulated metallic plate, a mode of excitation which is to be considered as a species of friction. The most important circumstance in this inquiry is the connexion between electricity and the chemical properties of matter, first pointed out by sir H. Davy. Most of the substances that act distinctly upon each other electrically, are likewise such as act chemically, when their particles have freedom of motion. This is the case with the different metals, with sulphur and the metals, with acids and the alkaline substances. Of two

metals in contact, the one which has the greatest chemical attraction for oxygen acquires positive electricity, and the other the negative. In the contact of acids with bases, as of crystals of oxalic acid with dry quicklime, the former is negative, the latter is positive. All acid crystals, when covered by a plate of metal, render it positive, the crystals themselves becoming negative.

XI. The resemblance between the electric spark, and more especially the explosive discharge of the Leyden jar, and atmospheric lightning and thunder, struck the mind of doctor Franklin with so much force, that he was determined, if possible, to verify their identity by experiment. Having constructed a kite, by stretching a large silk handkerchief over two sticks in the form of a cross, on the appearance of an approaching storm, he went into a field in the vicinity of Philadelphia, and raised it, taking care to insulate it by a silken cord attached to a key, with which the hempen string terminated. No sooner had a dense cloud, apparently charged with lightning, passed over the spot on which he stood, than his attention was arrested by the bristling up of some loose fibres on the hempen string: he immediately presented his knuckle to the key, and received an electric spark. The rain now fell in torrents, and, wetting the string, rendered it conducting in its whole length; so that electric sparks were now collected from it in great abundance. This grand experiment was made in June, 1752; and although the same idea which led Franklin to institute it had occurred to other philosophers, yet to him belongs exclusively the glory of the discovery. The discovery of Franklin immediately engaged the attention of European philosophers; one of whom, professor Richmann of St. Petersburg, fell a victim to his attempt to draw down the electric fluid from the clouds. He had constructed an apparatus for observations on atmospheric electricity, and was attending a meeting of the academy of sciences, when the sound of distant thunder caught his ear. He immediately hastened home, taking with him his engraver, Sokolow, in order that he might delineate the appearances that should present themselves. While intent upon examining the electrometer, a large globe of fire flashed from the conducting rod, which was insulated, to the head of Richmann, and, passing through his body, instantly deprived him of life. A red spot was found on his forehead, where the electricity had entered; his

shoe was burst open, and part of his clothes singed. His companion was struck down, and remained senseless for some time; the door-case of the room was split, and the door itself torn off its hinges. —The atmosphere is very generally in an electrical state. This is ascertained by employing a metallic rod, insulated at its lower end, elevated at some height above the ground, and communicating with an electroscope. In order to collect the electricity of the higher regions of the air, a kite may be raised, in the string of which a slender metallic wire should be interwoven. The atmosphere is almost invariably found to be positively electrified; and its electricity is stronger in the winter than in the summer, and during the day than in the night. From the time of sunrise, it increases for two or three hours, and then decreases towards the middle of the day, being generally the weakest between noon and four o'clock. As the sun declines, its intensity is again augmented, till about the time of sunset, after which it diminishes, and continues feeble during the night. In cloudy weather, the electrical state is much more uncertain; and when there are several strata of clouds, moving in different directions, it is subject to great and rapid variations, changing backwards and forwards in the course of a very few minutes. On the first appearance of fog, rain, snow, hail or sleet, the electricity of the air is generally negative, and often highly so; but it afterwards undergoes frequent transitions to opposite states. On the approach of a thunderstorm, these alternations of the electric condition of the air succeed one another with remarkable rapidity. Strong sparks are sent out in great abundance from the conductor; and it becomes dangerous to prosecute experiments with it in its insulated state. Thunder is merely the noise produced by the motion of the lightning.*

The protection of buildings from the destructive effects of lightning is the most important practical application of the theory of electricity. The conductors, for this purpose, should be formed of metallic rods, pointed at the upper extremity, and placed so as to project a few feet above the highest part of the building they are intended to secure; they should be continued without interruption till they descend into the ground below the foundation of the house. Copper is preferable to iron as the material for their construction, being less liable to destruction by

* The air of close rooms, vitiated by respiration, is found to be negatively electrified.

rust, or by fusion, and possessing also a greater conducting power. The size of the rods should be from half an inch to an inch in diameter, and the point should be gilt, or made of platina, that it may be more effectually preserved from corrosion. An important condition in the protecting conductor is, that no interruption should exist in its continuity from top to bottom; and advantage will result from connecting together by strips of metal all the leaden water-pipes, or other considerable masses of metal in or about the building, so as to form one continuous system of conductors, for carrying the electricity by different channels to the ground. The lower end of the conductors should be carried down into the earth, till it reaches either water, or at least a moist stratum. For the protection of ships, chains, made of a series of iron rods linked together, are most convenient, on account of their flexibility. They should extend from the highest point of the mast some way into the sea, and the lower part should be removed to some distance from the side of the ship, by a wooden spar or outrigger.

ELECTRO-DYNAMICS; the science which treats of electricity in motion through a system of conductors; a name used in contradistinction to *electro-statics*, or the science of electricity in *equilibrio*. (For the facts belonging to this science, see *Electro-Magnetism, Electricity, and Galvanism*.)

ELECTRO-MAGNETISM; the name applied to a very interesting class of facts, principally developed by professor Oersted, of Copenhagen, in the year 1819. The power of lightning in destroying and reversing the polarity of a magnet, and of communicating magnetic influence to iron previously not magnetic, had long been observed, and had led to the supposition that similar effects might be produced by the common electrical or galvanic apparatus. The first observation of professor Oersted was, that an electrical current, such as is supposed to pass from the positive to the negative pole of a voltaic battery, along a wire which connects them, causes a magnetic needle, placed near it, to deviate from its natural position, and to assume a new one, the direction of which depends upon the mode of conducting the experiment. The metallic wire to be made use of, in this experiment, should be two or three feet in length, in order to allow of its being bent or turned by the hands in various directions, and is called the *conjunctive wire*. When the wire is extended horizontally in the line of the magnetic meridian, with a freely suspended

compass needle, whose centre is directly under the wire, the needle instantly deviates from the magnetic meridian, and declines towards the west, under that part of the conjunctive wire which is nearest the negative electric pole, or the copper end of the voltaic apparatus, the amount of declination depending upon the strength of the electricity, and the sensibility of the needle. If we change the direction of the conjunctive wire out of the magnetic meridian towards the east or the west, no change in the above result takes place, except that of its amount. But if the wire be disposed horizontally beneath the needle, the effects take place in an inverse manner; i. e. the pole of the needle, under which is placed the portion of the conjunctive wire, which receives the negative electricity of the battery, declines towards the east. When the conjunctive wire is stretched alongside of the needle in the same horizontal plane, it occasions no declination, either to the east or west; but it causes it merely to incline in a vertical line, so that the pole adjoining the negative influence of the battery on the wire, dips when the wire is on its west side, and rises when it is on the east. If we stretch the conjunctive wire, either above or beneath the needle, in a plane perpendicular to the magnetic meridian, it remains at rest, unless the wire be very near the pole of the needle; in which case it rises when the entrance takes place by the west part of the wire, and sinks when it takes place by the east part. When we dispose the conjunctive wire in a vertical line opposite the pole of the needle, and make the upper extremity of the wire receive the electricity of the negative end of the battery, the pole of the needle moves towards the east; but if we place the wire opposite a point betwixt the pole and the middle of the needle, it moves to the west. The phenomena are presented in an inverse order, when the upper extremity of the conjunctive wire receives the electricity of the positive side of the apparatus.—The foregoing observations induced professor Oersted to believe that the electric action is not enclosed within the conducting wire, but that it has a pretty extensive sphere of activity around it. He also concluded that this influence acts by revolution; for, without such a supposition, it is impossible to conceive how the same portion of wire, which, placed beneath the magnetic pole, carries the needle towards the east, should, when placed above this pole, carry it towards the west. Such

was the nature of the first discovery in electro-magnetism. It was no sooner announced, than the experiments were repeated and varied by philosophers in all parts of the world; and a multitude of new facts were soon brought to light through the labors of MM. Ampère, Arago and Biot, in France, and sir H. Davy and Mr. Faraday, in England. Two very important facts were ascertained by Ampère and Davy,—that the conjunctive wire becomes itself a magnet, and that magnetic properties might be communicated to a steel needle not previously possessing them, by placing it in the electric current. The former of these facts is proved by throwing some iron filings on paper, and bringing them under the wire, when they will immediately adhere to it, forming a tuft around it ten or twelve times the diameter of the wire: on breaking the connexion with the battery, however, they immediately fall off, proving that the magnetic effect depends entirely on the passage of the electricity through the wire. The degree of force of this magnetic property thus communicated to the uniting wire was imagined, by sir H. Davy, to be proportional to the quantity of electricity transmitted through it. Hence the finer the wire, the more powerfully magnetic was it rendered; and hence, also, a battery of very large plates, such as is used for producing intense heat and light, was found to give the strongest magnetism to the wire connecting its poles. Accordingly we find that the calorimotor of doctor Hare (see *Galvanism*), a galvanic arrangement, in which the plates are nearly two feet square, exhibits the strongest magnetic effects, and this notwithstanding the powerful heating effects that accompany its action; the heat excited not diminishing or interfering with the magnetism, but apparently increasing it; for a fine platina wire, so intensely ignited as to be near the point of fusion, is observed to attract larger quantities of iron filings than when at a lower temperature. To communicate magnetic properties to steel needles, which before did not exhibit them, it is necessary merely to place them in contact with, or near to the conjunctive wire. The position in which they are to be placed, with regard to the wire, is important, as the permanence of their magnetic quality depends upon it. If they are placed parallel with it, they lose their magnetism when the connexion with the battery is broken, which shows that their magnetism arose only from their forming part of the electric circuit, like the con-

necting wire itself. But if they are placed across the wire, they become permanently magnetized, and retain their power equally with needles prepared in the ordinary way. The polarity is different, however, according as the needle is placed above or below the wire. When a needle is placed under the uniting wire, the positive end of the battery being on the right hand of the operator, the end of the needle next to him becomes the north pole, and the other end the south pole. On the contrary, when a needle is held above the wire, the reverse of this takes place; the end next to the observer becomes the south, and the other the north pole. Even the same opposition is observed when needles are placed in a perpendicular position, on different sides of the wire: in those on one side, all the lower ends are found to be north poles, while, in those on the opposite side of the wire, the upper ends are all north poles, and the lower extremities all south poles. Direct contact of the steel needles with the conjunctive wire is not necessary, for they become instantly magnetic when brought near it, even though thick plates of glass are interposed. As was remarked with regard to the connecting wire, galvanic batteries, consisting of large plates, are most powerful in communicating the magnetic influence. When the conjunctive wires of two distinct galvanic arrangements are made to approach each other, we observe magnetic attractions and repulsions. Two wires of copper, silver, or any other metal, connecting the extremities of two galvanic troughs, being placed parallel to each other, and suspended so as to move freely, immediately attract and repel each other, according as the directions of the currents of electricity flowing through them, are the same or different. When both the negative or both the positive extremities of the troughs are turned to the same quarter, so that the electric current passes along each wire in the same direction, the two wires attract each other; but when the position of one of the troughs is reversed, so that the electric currents in the two wires flow in opposite directions, the wires repel each other. Upon this experiment is founded the most plausible theory of magnetism, viz., that it arises from the attractions and repulsions of currents of electricity, constantly circulating round every magnet. This is conceived to explain the reason why the magnetic needle places itself at right angles to a wire conducting electricity, namely, that the electric current passing along the wire may coin-

cide with that circulating round the magnet. The magnetic effects produced by galvanic arrangements are obtained also by electricity evolved from the common machine, and still more from this power concentrated in the Leyden jar; the magnetism communicated agreeing in every respect as to the permanence of the polarity, the variations when the needle is placed above or below the wire, &c., with that produced by the voltaic pile. Magnetism is communicated to needles in a different manner from that of placing them across the conjunctive wire. The wire is formed into a hollow screw, or helix, by rolling it round a solid rod, and the needle to be magnetized, wrapped in a paper, or put into a glass tube, is placed in the centre of it, and the communication with the galvanic battery established. This arrangement (according to the theory of M. Ampère) conveys the electric current by the spiral convolutions, round and round the needle, and communicates to it, or develops in it, the electric circulation constituting magnetism. By this contrivance, it is found that a maximum effect is obtained in a shorter time than by any other method. The position of the north and south pole varies according as either end of the helix is connected with the positive or the negative pole, which shows that the electric current flows along the uniting wire from the positive or zinc extremity to the negative or copper end of the pile. The electricity of a common machine produces the same effect. Having alluded to the principal facts relating to electro-magnetic phenomena, the ingenious theory of M. Ampère, by which they are explained more extensively and with more precision than by any other hitherto advanced, deserves to be stated. It is the more deserving of attention, as having led its author to the discovery of some of the most remarkable facts detailed above; and, if future researches shall continue to increase its probability, it will no doubt be regarded as one of the finest instances of correct induction, supported by minute experiment, which the history of any science can exhibit. The first principle of this theory has been already stated;—that two currents of electricity attract when they move parallel to each other and in the same direction, and repel when they move parallel to each other in contrary directions. This fact is directly the reverse of the usually observed phenomena of electricity; for it is well known that bodies in the same state of electricity repel each other, and in oppo-

site states attract. Hence M. Ampère infers, that these results are not produced by electricity in its known and common state of tension, but are dependent on properties belonging to electricity, previously unsuspected, and peculiar to it when in motion, or flowing in currents. Electricity, when accumulated, has the power of causing certain effects, particularly attractions and repulsions, which are familiar to us, and are called *electrical*; but when moving in currents, it exerts new powers, and these constitute magnetism. Reviewing the various experiments which have been enumerated, we find, that the connecting wires of two batteries attract and repel each other, according to the directions of the electric currents flowing through them; that the magnetic needle is, exactly in the same manner, attracted and repelled by a connecting wire, according to the direction of the current of electricity moving through the wire; that the position of the needle may be varied, in almost any degree, by changing the position of the connecting wire; that whenever the electric circuit is broken, this influence on the needle ceases, and is renewed whenever the communication between the poles of the battery is restored; that the connecting wire, of whatever metal it may consist, becomes a perfect magnet, as long as the current flows along it, so as to attract iron filings and small steel needles, without attracting copper filings, or any other metal but iron; that steel needles may be converted into permanent magnets, by simply placing them across the connecting wire; that the electric currents having this magnetizing power are not, like accumulated electricity, confined by glass, or other non-conductors, but pass through all bodies with facility, as magnetism was before known to do; that the magnetizing power is exerted by electricity, whether procured by a galvanic apparatus, or a common machine; that powerful magnets may be formed, by conducting electric currents round steel wires, as in the helix, and that the position of the north and south poles of these magnets depends upon the direction in which the currents are made to move round them. These, and a great number of other facts, it is conceived, clearly demonstrate the perfect resemblance, or rather identity, of electricity and magnetism. Magnetic phenomena are thus, in fact, a series of electrical phenomena; and magnetism may, with propriety, form a branch of electricity, under the head of *Electrical Currents*. Though this intimate relation or

identity be admitted, it is not so obvious how, by it, the properties of the common magnet are explained. Currents of electricity, according to the theory, are essential to the production of magnetic phenomena; but these are not obvious in a common magnet. M. Ampère has suggested their existence, however, and has so arranged them theoretically, as to account for a great proportion of magnetic appearances. A magnet he conceives to be an assemblage of as many electric currents, moving round it in planes perpendicular to its axis, as there may be imagined lines, which, without cutting one another, form closed curves round it. Magnetization, he says, is an operation by which there is given to the particles of steel (which, of the more common metals, appears to be the only one capable of being permanently impressed with this power) an electromotive energy, which causes a circulation of these currents to be continued round them. The excitation and continuance of this electro-motive action is rendered less improbable, when we consider the electric power developed in the tourmaline and boracite by heat alone, and when we find, as in the electrical columns of De Luc and Zamboni, that electricity may be generated for years without ceasing or diminishing, by a small and simple apparatus. Such, then, is the constitution of a magnet. It is a mass of iron or steel, round the axis of which electric currents are constantly circulating, and these currents attract all other electric currents flowing in the same direction, and repel all others which are moving in an opposite direction. From these attractions and repulsions another effect follows, that the currents of one magnet have always a tendency to move any other magnet near it, till the currents in the second shall coincide in direction with those of the first. It is from this cause, as will presently be explained, that the magnetic needle always turns to the meridian, and that the needle in Oersted's experiments became at right angles to the connecting wire. One important circumstance is always to be kept in view, that the electric currents flow round every magnet in the same direction in reference to its poles. If, for instance, we place a magnet with its north pole pointing to the north, in the usual position of the magnetic needle, the current of electricity flows round it from west to east; or, on the eastern side of the magnet, it is moving downwards, and on the western side upwards; on the upper side, from west to east, and on the lower side, from

east to west. This, it is found, is a uniform law. On these principles the phenomena of magnetism are easily accounted for. Thus, to take one of the most obvious and well known facts, that of two magnets attracting when their opposite poles are approached to one another, as the north of one to the south pole of the other. Let us suppose a magnet in the position which has just been stated, with its north pole directed to the north; and let a second magnet be placed beyond it, and in a line with it, with its north pole also pointed to the north. Then, it is obvious that the south pole of the second magnet will be next to the north pole of the first; and from their position it follows, that the electric currents must be flowing in the same direction, or, in both of them, from west to east: hence, as currents moving in the same direction attract, these opposite poles, if within a certain distance, ought to attract each other, which, accordingly, will be found to be the case. Now, let the second magnet be reversed; let its south pole be directed to the north, and its north pole approached to the north pole of the first magnet; the electric currents will flow round the magnet in the same manner as before; but in reference to the first magnet and to the meridian, their direction will be reversed: their direction will now be from east to west, upwards on the eastern side, and downwards on the western; consequently, the currents in the two magnets, being now opposite, will repel, or the two north poles will repel each other.—In the experiments of professor Oersted, it was found, as has been stated, that when the extraneous influence of the magnetism of the earth was counterbalanced, the tendency of a magnetic needle always was to place itself at right angles to the wire connecting the poles of the galvanic battery. The reason of this is easily explained upon the present hypothesis. In the needle, the currents flow round its axis from end to end; but in the connecting wire there is no circulation round the axis, but a constant stream from one end, namely, the negative, to the other, the positive extremity: hence, for the current along the wire to coincide with the current across and round the magnet, it is necessary that the latter shall stand across the former; and as it appears, that, from the attractions and repulsions which these electric currents exert, they are able to move one or both of the magnetic bodies (according as they are light and mobile), till they coincide, the needle moves if the wire is fixed till it stands at

right angles to the wire; and if the magnet is fixed, and the wire movable, the reverse happens. The other phenomena, of the needle turning to the west when placed below the wire, to the east when placed above it, &c., may with facility be explained in the same manner by the principles, that currents flowing in the same direction attract; and that in every magnet they move in a constant current, which is, when the north pole is turned to the north, from west to east, or upwards on the west side, and downwards on the east side. The development of permanent magnetism in steel needles when placed across the wire, while it is only temporary when they are fastened parallel with it, depends on the same cause: in the latter case, it arises merely from the transmission of electricity from end to end, while, in the former, the electro-motive energy of the particles is developed and called into action, which, when set in motion, seems to have the power of continuing itself. These electric currents have the power, which accumulated electricity has not, of penetrating all substances, as was before known respecting magnetism. This is probably owing to their low state of tension; and, in conformity with this, large plates, which evolve electricity in but a slight intensity, produce magnetic effects most distinctly. The agency of galvanism, and that of common electricity, are equally capable of giving rise to magnetism when flowing in currents, which adds another to the proof that these are the same power. To complete the view of Ampère's doctrine, it remains only to explain the influence of the earth on the magnet, by which the needle is kept always in one position, nearly coinciding with the meridian. He asserts, that currents of electricity, analogous to those which circulate round every magnet, are constantly flowing round the globe, as the current of electricity in a galvanic apparatus moves in an unbroken circuit from the negative to the positive pole, and from it, by the connecting wire, round again to the negative pole. The direction of these currents he infers to be the same as has been stated with artificial magnets; and it is simply by the attractions and repulsions of these terrestrial currents, bringing the currents round the needle to coincide with them, that the latter always points to the north. To detect these currents, and to exhibit their influence without the aid of any common magnet, M. Ampère contrived a small electric apparatus, which was distinctly affected by the magnetic

influence of the globe. It consisted merely of a copper wire bent into a circle, with the two extremities brought near to each other. It was supported so as to move with the greatest facility; and the points were immersed in basins of mercury, with which the wires of a galvanic battery were connected. When the communication was established so as to cause a current of electricity to pass through the circle, it immediately began to move, and, after some oscillations, placed itself nearly at right angles to the meridian, or east and west, or so that the electric current passed downwards on the eastern side, and upwards on the western side. This, it has been stated, is exactly the direction in which the currents in every magnet move (supposing it placed with its north pole to the north). The circle may, therefore, be regarded as a section across the axis of a magnet, or as representing one of the currents flowing round it; and if a number of these circles were placed one beyond another, the farthest would point, like the end of the needle, to the north pole, and the nearest to the south pole. However the experiment was varied, the circle always placed itself east and west: if the galvanic current was, by reversing the connecting wires, made to flow in an opposite direction, the circle turned round a semicircle, and still stood east and west, and so that the electric current should always flow downwards on the eastern side, and upwards on the western side. Here, then, are distinct marks of magnetism, particularly that most characteristic one of the axes pointing always to the north, which can be attributed only to the combined influence of electric currents moving round the earth. This result is very much in favor of the new theory; and there appears to be only one link now wanting, to connect magnetism and electricity, and to establish their identity. This is, by some combination of wires and magnets, to produce an undoubted electric effect, such as the decomposition of water. This has been attempted in a number of ways; and in some of the arrangements, the desired effects appeared to be produced; but no result has yet been obtained wholly free from doubt. All the phenomena of magnetism, it has been found, may be produced by electricity. If, then, any of the phenomena occasioned by electricity alone can be produced by magnetism, we shall have no hesitation in pronouncing them to be the same power, according to the doctrine of Ampère. Should this theory be finally established,

an important addition will be made to the objects of chemical science. The department of magnetic phenomena, which, while included under natural philosophy, has been regarded as obscure, almost beyond the hope of elucidation, will be transferred to form a branch of the former science, and, divested in a great measure of its mystery and difficulty, will come in for consideration among the other agencies of the electric fluid. Additional probability will also be given to the opinion, that not only electricity and magnetism, but caloric and light along with them, are merely modifications of one another, or of one common agent.—In conclusion, with regard to the cause of the electric currents inferred to be constantly circulating round the globe, it is as yet in obscurity. They are supposed to move at right angles to the magnetic meridian, or nearly parallel with the equator, on the eastern side of the earth moving from us, and on the western side flowing towards us. These currents may be compared to that which flows from the negative pole of a voltaic battery in action, to the positive pole, and, by the medium of the uniting wire, round again to the negative pole. It is conjectured, that the arrangement of the materials of the globe may be such as to constitute a battery, existing like a girdle round the earth, which, though composed of comparatively weak elements, may be sufficiently extensive to produce the effects of terrestrial magnetism. Its irregularity, and the changes which it may accidentally or periodically suffer, may explain the phenomenon of the variation of the compass; or the general action producing the currents of electricity may be affected by different causes, as the earth's motions, currents of the atmosphere, evaporation, or the solar heat. It is supposed that much of the variation depends on the progress of oxidation in the continental regions of the globe. What is called the diurnal variation may be conceived to be produced by the diurnal change of temperature in the superficial layers of the earth, which possess electro-motive energy.*

* To those who are desirous of extending their knowledge respecting electro-magnetism, the following sources of information may be recommended:—The original memoirs of Oersted (*Ann. of Phil.* xiii, and *N. S.* ii); Arago (*Ann. de Chimie*, and *Résumé d'Observations Electro-dynamiques*); Ampère (*Ann. de Chim. et Phys.* xv. 59); Sir H. Davy (*Phil. Trans.* 1821); Faraday (*Quart. Journ.* xii, 47, 416); Barlow, and others; also *Manual of Electro-Dynamics*, by J. F. Demonferrand, with notes by professor

ELECTROMETER. (See *Electricity*.)

ELECTROPHORUS. (See *Electricity*.)

ELECTRO-STATICS; the science which treats of electricity in *equilibrio*, as distinguished from electro-dynamics, which relates to the effects of electricity in motion through a continued system of conductors. (For the principal facts belonging to electro-statics, see *Electricity*.)

ELECTRUM (Lat.; ἤλεκτρον, Greek), according to Ovid, was that resinous substance now called *amber* (q. v.); also, according to Pliny (lib. 30, cap. 4), a mixture of gold and silver, of which the fifth part was silver: he observes that it is more brilliant than pure gold. According to other ancient writers, three varieties of substances called *electrum* were used in the arts; namely, glass, a compound metal, and succinum. In the Homeric poems, *electrum* is often mentioned, which seems to have been succinum, the yellow or white amber. According to Eustathius, the ancients used sometimes to call gold by this name, probably from its brilliancy, the word ἤλεκτρον signifying the sun. Pliny thinks that the compound metal or alloy mentioned above is the same that Homer mentions in the fourth book of the *Odyssey*, in describing the palace of Menelaus, which he says was ornamented with gold, *electrum* (ἤλεκτρον), silver and ivory. But there is reason to believe, says Millin, that if the *electrum* of Homer was a metallic alloy or compound metal, Homer would not have omitted it in his description of the shield of Achilles. It is more probable that *electrum* was yellow amber, which has a resplendent, sunny brilliancy, according with its Greek name; and Herodotus mentions that succinum or amber was known to the ancients.—Pliny's account of the compound metal of gold with a fifth part of silver, which he calls *electrum*, is corroborated by Isidorus, except in respect to the quantities; the latter giving two parts of gold to one of silver to his *electrum*. There are many ancient coins of this rich alloy, the principal of which are some of the kings of Bosphorus, some small ones of Syracuse, and many Celtic and of ancient Gaul. Gold alloyed with silver was called *electrum*; with copper, *aurichalcum* or *chalcolibanos*.

ELEEMOSYNARY CORPORATION. An eleemosynary corporation is a charity constituted for the perpetual distribution of the alms and bounty of the founder. In this class are ranked hospitals for the relief of

Cumming, Cambridge, England, 1827; and an article in the *Encyclopædia Metropolitana*.

poor, sick, and impotent persons, and colleges and academies established for the promotion of learning and piety, and endowed with property by public or private donations. They are either public or private. Thus an hospital created and endowed by the government, for its own purposes, and exclusively owned by the government, is a public corporation; but an hospital founded by a private benefactor, is, in point of law, a private corporation, though dedicated by its charter to general charity. A college founded and endowed in the same manner is a private charity; though, from its general objects, it may acquire the character of a public institution. A mere act of incorporation will not change a charity from a private to a public one. To make a public charity, it is essential that the express object of its creation be of a public character. A charity may be *public*, though administered by a *private* corporation. Thus a devise for the benefit of the poor of a parish, is a public charity. The charity of almost every hospital and college is public, while the corporations are private.

ELEGY; commonly a mournful and plaintive poem, as is implied by the signification of the Greek name. It signifies to cry *alas! alas!* (Ε! Ε! *ἀλγαν*). But the Greeks and Romans had elegies, which were so called only from the measure of the verse, and were on various subjects. The elegiac measure of the ancients was the distich (q. v.), consisting of the manly hexameter alternating with the delicate pentameter. In this verse, not only sorrow breathes soft lamentations, but joy and love pour themselves forth in its flowing numbers. Even the war-songs of Tyrtaeus and Callinus were in elegiac verse, as were also the didactic and heroic poems and moral maxims of the ancients. A historical examination will best show how plaintive melancholy came to be the characteristic of this sort of verse. We must first go back to the origin of the pentameter. In the first volume of Wieland's *Attic Museum*, it is proved by Böttiger, that the pentameter verse arose from the use of the military Lydian flute. The oldest poets, who composed in this measure, confined it to warlike songs. The second period of the pentameter begins with Mimnermus of Colophon, who, in the spirit of his effeminate age, breathed soft feelings into his flute and his pentameters, and sung love-elegies to Nanno. He was therefore regarded by antiquity as the founder of the tender and complaining elegy. With Simonides begins the

third period; as the distich was his favorite measure for epitaphs and inscriptions on tombs, a little poem of this sort was called an *elegy*. The distich, however, was never used exclusively for mournful poems, and hence it is well to distinguish poems in elegiac verse from elegy itself. Among the modern European languages, it is well known, none but the German have a rigid, established prosody; hence this language alone can produce elegies, in the ancient sense of the word. Goethe and Voss, like the ancients, have happily applied this measure to joyful subjects. In the other modern languages, elegy always signifies a mournful poem: The characteristic of true elegy is a calm and meditative contemplation of grief, not the wild agony of suffering. Jacobi says of it—"If I were to give a sensible image of Elegy, I should not paint her as many have done, in long robes of sorrow, with dishevelled hair and a veiled brow, weeping over a coffin. I would rather represent her as a nymph seated placidly, with her head upon her hand, full of feeling and contemplation. On her neglected locks should hang a torn garland, and in her lap should lie a wreath of faded flowers. A tomb should appear in the distance, half concealed by a dark grove of cypress. Behind should rise a hill, full of budding roses, and illumined with the rays of the rising sun."

ELEMENT; a term applied in chemistry to a body which has not yet been decomposed. The elements of the ancients were bodies which they supposed to be absolutely simple, and capable of forming all other bodies by their mutual combination; whereas the elements of the moderns are regarded as simple, merely in respect to the present state of the art of analyzing bodies. The progress of chemical science, for several centuries past, has mainly consisted in carrying still farther the analysis of bodies, and in proving those to be compound, which had before been thought elementary. (See *Chemistry*.)

ELEPHANT. This well known and sagacious animal belongs to the order of *pachydermata*, or thick-skinned animals. Desmarest recognises two recent species, the Asiatic (*E. Indicus*), and the African, (*E. Africanus*); of which the former is the largest, most readily domesticated, and best known. There are also several extinct species, whose remains are met with in almost every part of the world. Few quadrupeds have attracted more attention from mankind than the elephant. Formed as it were for the service of man in

warm climates, it possesses every attribute that can render it useful. It is strong, active and persevering, and so docile and sagacious as to be trained to almost any service. It is not easy to convey in words a distinct idea of the form of any animal. Words, it is true, may assist the imagination in recalling forms with which it is already familiar; but no description, however clear and precise, can give the mind that strong and distinct impression of a new image, which is made by the reality, or even by a representation. This difficulty is peculiarly felt in attempting to describe the elephant. His eyes are extremely small, his ears very large and pendulous. The whole form is awkward, the head being large, the body thick, and the back much arched; the legs are very clumsy and shapeless, the feet slightly divided into, or, more properly, edged with, five rounded hoofs; the tail is somewhat like that of a hog, and fringed at the extremity by a few very thick, long, black hairs. The skin is generally of a deep ash-brown, approaching to black, though it is sometimes white or cream-colored; skins of this last sort are highly prized, being one of the attributes of royalty in Siam, one of the titles of whose king is, *lord of the white elephant*. The tusks are not visible in young animals, but in a more advanced stage of growth, they are eminently conspicuous, and in the full grown animal they project, in some instances, seven or eight feet. Elephants sometimes attain the height of fifteen feet, but their general height is about nine or ten. Their weight is sometimes enormous, being from four to nine thousand pounds. The female seldom produces more than one at a birth: this, when first born, is about three feet high, and continues to grow till it is sixteen or eighteen years of age. It is said they live to the age of one hundred years and upwards. They feed on vegetables, the young shoots of trees, grain and fruit. The most singular part of the structure of the elephant is his trunk, which is peculiar to this animal, though the long and flexible snout of the tapir bears some resemblance to it. It appears to be an extension of the canals of the nose; it is cartilaginous, and composed of numerous rings, divided through its whole length by a septum, and terminates in a kind of movable finger. It is of such strength as to be capable of breaking off large branches from trees, whilst, at the same time, it is endowed with such exquisite sensibility, that it can grasp the smallest object. The disposition of the

elephant is gentle, and his manners social; hence they are seldom seen except in troops. The wild elephants of Ceylon, which are much esteemed, live in small troops or families. In wandering from place to place, the males, who are furnished with the largest tusks, put themselves at the head, and are the first to face every danger. In swimming over any large river, they lead the van, and seek a proper landing place: next follow the young elephants, clinging to each other by means of their trunks, whilst the remainder of the full grown bring up the rear. These animals have, in all ages, been eagerly hunted. Some of the arts which have been employed to kill them or take them merit attention. The Hottentots in South Africa shoot them with tin balls: this chase is attended with considerable danger; for, with every precaution that can be used, the sagacity of the elephant often detects the approach of the hunter, who, in this case, will, in all probability, fall a victim to the rage of the animal, unless he can instantly disable him. *Sparman*.—In the island of Sumatra, the inhabitants split sugar canes, of which food the elephant is very fond, and impregnate them with poison. *Marsden*.—In Abyssinia, they are pursued by hunters on horseback, in the following manner: Two men, perfectly naked, mount the same horse, the hindermost is armed with a broadsword, the lower part of which is covered with cord, and the remainder is exceedingly sharp. In this manner they pursue the elephants, and, having singled out one, they irritate him to attack them, when they ride up close to him, and the armed man slips from the horse on the off side, and, whilst the elephant's attention is engaged with the horse, he divides the tendons of his foot with a single blow, and thus disables him, when he is despatched by lances. *Bruce*.—They are also taken alive in pitfalls, or are driven into enclosures; in either case they are fed scantily, though regularly, for a few days, when tame elephants are employed to engage their attention till they can be tied fast to a tree; after they have become somewhat dispirited, they are led away between two tame ones, and put under the care of keepers, who gradually bring them into subjection, more, however, by caresses and soothing than by coercion. When tamed, they become the most gentle and obedient of all domestic animals, and, in most cases, are exceedingly fond of their keepers, and soon learn to distinguish the various tones of the human

voice, as expressive of anger, approbation or command. The domestic elephant performs more work than six horses, but at the same time, requires much care, and a plentiful supply of food. He is generally fed with rice, either raw or boiled, and mixed with water. To keep him in full vigor, a hundred pounds of this food is said to be required daily, besides fresh herbage to cool him, and he must be led to the water twice or thrice a day to bathe. His daily consumption of water as drink is about forty gallons. To enumerate all the services of these useful animals would be incompatible with the design of this work. They are employed in carrying burdens on their bodies, necks, and even in their mouths, by means of a rope, the end of which they hold fast with their teeth; they load a boat with amazing dexterity, carefully keeping all the articles dry, and disposing them where they ought to be placed. In propelling wheel carriages heavily laden up a declivity, they push them forward with their forehead, and support them with their knees. In dragging beams of wood along the ground, they remove obstacles or elevate the ends of the beams so as to clear them. Before the invention of fire arms, they were used in war by many nations of antiquity; they are still employed in the East in dragging artillery over mountains. During the rutting season, this animal is often seized with a madness which deprives him of all tractability, and renders him so dangerous, that it is often necessary to kill him. In many parts of India, elephants are made the executioners of justice; for they will with their trunks either break the limbs of a criminal, trample him to death, or pierce him with their tusks, as they may be directed. In the island of Ceylon, the general value of an elephant is about \$250; but if there is any blemish, as a want of tail, &c., very considerable deductions are made. They are taken at certain stated periods, and generally a great number are sold together by auction. Elephants appear to be very susceptible to the power of music, variations in the character of the sounds producing corresponding changes in the emotions of the animals. The tusks of the elephant have long been applied, under the denomination of *ivory*, to a variety of important uses in the arts. From the fossil remains which have been discovered, it is apparent that they must have been abundantly distributed over the earth; and some of them appear to have been adapted to a much more northern climate than is now

inhabited by the elephant. The specimen which was, some years since, found imbedded in ice in Siberia, was covered with a long and coarse hair, and with a finer and woolly covering, which was short, and closely applied to the surface, thus protecting it against the severe cold of those latitudes. The accounts of the manners and intelligence of the elephant as given by writers, although in many cases evidently exaggerated, still afford proof of a surprising degree of sagacity, and fully entitle him to the rank of

"Wisest of brutes, with gentle might endowed;
Though powerful, not destructive."

ELEPHANTA, or ELEPHANT ISLE; called by the natives *Gharipoor*; an island between Bombay and the west coast of Hindostan, 5 miles in circuit; with about 100 inhabitants; 5 miles E. Bombay. It was named *Elephanta* by the Portuguese, from a colossal statue of an elephant formed out of black rock, which stands in the open plain opposite to the landing place. The island owes its celebrity to its wonderful cave and mythological inscriptions. This cave is nearly 60 feet square, and 18 high, supported by pillars cut out of the rock; and in the sides there are numerous compartments, containing various representations of Hindoo deities.

ELEPHANTIASIS (from *ἑλεphas*, an elephant); a disease so called from the legs of people affected with it growing scaly, rough, and wonderfully large, at an advanced period, like the legs of an elephant. The disease attacks the whole body, but mostly affects the feet, which appear somewhat like those of the elephant. It is known by the skin being thick, rough, wrinkly, unctuous, and void of hair, and mostly without the sense of feeling. It is said to be contagious. Cullen makes it a genus of disease in the class *cachexiæ*, and order *impetigines*. Elephantiasis has generally been supposed to arise in consequence of some slight attack of fever, on the cessation of which the morbid matter falls on the leg, and occasions a distension and tumefaction of the limb, which is afterwards overspread with uneven lumps, and deep fissures. By some authors it has been considered as a species of leprosy; but it often subsists for many years without being accompanied with any of the symptoms which characterize that disease. It sometimes comes on gradually, without much previous indisposition; but more generally, the person is seized with a coldness and shivering, pains in the head, back and loins, and some degree of nausea. A slight fever then ensues, and

a severe pain is felt in one of the inguinal glands, which, after a short time, becomes hard, swelled and inflamed. No suppuration, however, ensues; but a red streak may be observed running down the thigh from the swelled gland to the leg. As the inflammation increases in all the parts, the fever gradually abates, and, perhaps, after two or three days' continuance, goes off. It, however, returns again at uncertain periods, leaving the leg greatly swelled with varicose, turgid veins, the skin rough and rugged, and a thickened *membrana cellulosa*. Scales appear also on the surface, which do not fall off, but are enlarged by the increasing thickness of the membranes; uneven lumps, with deep fissures, are formed, and the leg and foot become at last of an enormous size. A person may labor under this disease many years without finding much alteration in his general health, except during the continuance of the attacks; and perhaps the chief inconvenience he will experience is the enormous bulky leg which he drags about with him. The incumbrance has, indeed, induced many who have labored under this disease to submit to an amputation; but the operation seldom proves a radical cure, as the other leg frequently becomes affected. Hilary observes, that he never saw both legs swelled at the same time. Instances where they have alike acquired a frightful and prodigious size, have, however, frequently fallen under the observation of other physicians.

ELEPHANT'S RIVER, in Africa, rises in the country of the Hottentots, and runs into the Atlantic, lat. 31° S.

ELEPHANTINA, or EL SAG; a small island on the Nile, opposite to Syene; remarkable for the ruins with which it is covered. The northern part is low, the southern elevated and rocky. The Nile, for nearly a mile above, is interrupted by numerous small rocks of that fine red granite, which characterizes this island, and which produced so many portals, columns and obelisks, to adorn the chief cities of antiquity. The island is covered with ruins, piled upon each other—Egyptian, Roman, Saracen and Arabic. Of these the Egyptian, though the most ancient, are in the best state of preservation. It is supposed that there was once a great temple here, dedicated to the god Cnuphis, all traces of which are now obliterated; but there remains a pyramidal portal of red granite, supposed to have formed the entrance. There are two small temples, one of which is believed by Denon to belong to the earliest ages of Egypt. It is

covered within and without with hieroglyphics, executed in a style of peculiar excellence. On the eastern side of the island are remains of a high wall, of which the masonry is admirable.

ELEUSIS (now *Lepsina*, a village), next to Athens, was the principal city of Attica. The mysteries of Ceres and Proserpine were celebrated there, and were thence called *Eleusinia*. Neither the founder of these mysteries nor the time of their origin is known; they were the oldest and the most venerable in Greece: originally they were only a public festival, a harvest-home, to express the gratitude of men to Ceres for her bounties; to recall their former condition, and enjoy their present blessings; to banish unkind feelings, and perhaps, also, to form new laws and project new enterprises. We have no information of the manner in which the proper mysteries arose from these rude games and festivities. They were celebrated at the temple of Ceres at Eleusis, in a court surrounded by walls. Behind the temple was an elevation in the rock upon which it stood, 8 or 9 feet high, 270 feet long, and in some places 44 feet broad: on the northern end of this rock the ruins of a chapel are still visible. The persons who presided at the Eleusinian mysteries were:—1. The Hierophant (q. v.). He was the type of the Creator of the world, and appeared with emblems of Omnipotence. 2. The torch-bearer. He was the type of the sun. His business was to purify those who were to be initiated, and, on the fifth night, when the wanderings of Ceres on *Ætna* were represented, to lead the other torch-bearers. 3. The sacred herald, who enjoined silence upon those who were to be initiated, and commanded the profane to withdraw. 4. He who served at the altar, and bore the emblem of the moon. Besides these persons, the archon or basileus attended to the preservation of order, offered prayers and sacrifices, and obliged the uninitiated and the criminal to retire. He judged and punished any who disturbed the solemnities. Ancient authors also mention priestesses, but we have not been informed of their office. The mysteries were commonly distinguished into the greater and less. Most authors give the following account of them. Hercules, being at Athens, desired to be initiated into the mysteries; but, by the laws, no stranger could be admitted: that they might not offend the hero whom they respected and feared, nor yet violate the ancient laws, the Athenians instituted the

lesser mysteries, to the celebration of which he was admitted. These were afterwards preparatory to the greater; for which the candidate was obliged to fit himself by religious ceremonies, symbolical rites, and various acts of devotion, the design of which was to withdraw his attention, at least for a time, from business and pleasure, to keep him pure, chaste and unpolluted, and to excite his curiosity in relation to the expected revelations. The period of purification continued a year; and no one could be admitted to the mysteries without purification, on pain of death. The ceremony of admission was performed by night: the candidates, crowned with myrtle, were obliged to wash their hands at the sacred threshold with holy water: public proclamation was also made, that the mysteries should be approached only with pure hands and pure hearts. Pure Greek only was to be spoken. The celebration of the mysteries commenced on the 15th day of the month Boedromion, and continued nine days. It consisted principally of representations of the history of Ceres and Proserpine, the tortures of Tartarus, and the joys of Elysium, which were exhibited in the most striking manner. The chief design was, by sensible means, to spread among the people a conviction of the immortality of the soul, and of a future state of rewards and punishments. The initiated were under the peculiar protection of the gods, and they alone were certain of the joys of immortality. Very different from these lesser were the greater mysteries, which contained the secret doctrines that were the chief object of the institution, and were communicated only to a few (the Epopætæ), in the recesses of the sanctuary. Secrecy was enjoined under the most dreadful penalties. Divine vengeance and death were the punishment of those who disclosed them. These doctrines probably aimed at the explanation of the popular superstition and mythology, and the interpretation of their true meaning. The mysteries inculcated the doctrine of one God, and the dignity and destiny of the soul of man: they instructed the people in the knowledge of nature and of the universe, and pointed out the traces of the Deity in the beauty and majesty, the splendor and regularity of the visible world. (See Potter's *Antiquities*, ii, 20.)

ELEUTHERA, or ALABASTER ISLAND; one of the Bahama islands. The climate is healthy, and the soil is fertile. It has a fort and small garrison. The largest settlement is at Harbor island, at the northern

extremity, containing, in 1803, 890 inhabitants; and the settlement of Wreck sound, on the west side, contained about 400. Lon. 76° 31' W.; lat. 25° 14' N.

ELEVATION OF A PLACE. (See *Altitude*.)

ELEVATION, in the ceremony of the mass, is the raising, first of the host and then of the cup, to receive the homage of the people, as the body and the blood of Jesus Christ: the priest himself previously performs the act of adoration by a deep genuflection. This ceremony was introduced into the Latin church in the beginning of the 12th century, in consequence of the heresy of Berengarius, in order to render the profession of the belief in the real presence and the transubstantiation as decided and striking as possible. In the Greek Catholic church, the elevation of the host does not take place immediately after the consecration, as in the Roman church, but before the communion, when the priest says *sancta sanctis* (the holy for the holy).

ELF, in the ancient northern mythology; certain beings, sometimes visible, at other times invisible; either bright, beautiful and good (*Ljosalfar*), dwelling in heaven (*Alfheim*), or black, ugly and malicious (*Schwartalfar*), living under the ground. "The former," says the Edda (q. v.), "are brighter than the sun; the latter, blacker than pitch." To the latter belongs the nightmare (in German, *Alp*). The fairies, nixies, brownies, robin-good-fellows, &c., all belong to this family. The elf-knots are known to every body. How delightfully Shakspeare has availed himself of these shadowy creations of a playful imagination, we all remember.

ELGIN, lord, born 1769, an English nobleman of an ancient family, has devoted himself particularly to the study of antiquities and the arts. In 1792, he was sent as English ambassador to the Austrian court in the Netherlands; and, in 1799, in the same capacity, to Constantinople, where he received from the sultan the order of the crescent. Being recalled in 1800, he travelled through Greece. The English government not complying with his request to cause drawings of the ancient monuments to be made, he engaged several distinguished artists at his own expense, viz., Tita Lusiori, Balestra, Ittar, and the famous Calmuck, Feodor Ivanovitsch. In 1811, the result of his travels and investigations appeared, in a work called *Pursuits in Greece*; and, in 1814, he removed many splendid remains of antiquity to England, at a great expense. The English nation afterwards

bought them for £35,000, and they are now to be seen in the British Museum, London. The Elgin marbles are some of the finest remains of ancient art, and offer the richest field for study. In the Vatican are casts in plaster of these superb relics. Casts have been made, also, for Würtemberg, Russia and other states. The largest part of them (92 pieces) are from the Parthenon of Athens, and were, perhaps, executed from designs by Phidias. Such an important collection of antiquities has, of course, drawn forth numerous publications. The learned Visconti wrote a work on the Elgin marbles (London, 1816), and an official report was drawn up from the notes of this accomplished scholar, which contains the opinions of most of the first sculptors and painters of our age, respecting these statues, expressed in the strongest terms of admiration. Lord Elgin, on his return from Turkey, passed through France, and was one of the persons detained by Bonaparte, on the rupture of the peace of Amiens, as hostages for the security of the French who had been seized by the British cruisers. He was not liberated till 1806. The purchase of the famous marbles brought to England by lord Elgin, is said to have been made at the suggestion of Mr. Hamilton, then his secretary, and since under-secretary of state.

EL-HARIB; a territory in the north-west of Africa, to the south of Morocco, to which it is tributary, important as the stopping-place of caravans passing from Timbuctoo (q. v.), through the desert, to the north-west of Africa. This passage was performed in two months by the caravan of Caillé. (q. v.) El-Harib is two days' journey west from the territory of El-Drah, and one to the east of the tribe of the Trajacants, and is situated between two chains of mountains, which extend from east to west, and separate it, towards the north, from the empire of Morocco. The principal wealth of the inhabitants consists in the great quantity of camels which they breed, and which, in the wet season, produce abundance of milk for their sustenance. The Moors of El-Harib carry goods for the merchants of Tafilet, El-Drah, &c., on their camels, to Timbuctoo and other places. They return with gold and slaves, which they sell in Morocco. The inhabitants of El-Harib consist of 11 tribes of Mohammedans, filthy to excess, and are much oppressed and despised by the wandering Berbers and their other neighbors. (See René Caillé's *Travels through Central Afri-*

ca to Timbuctoo, &c., Paris and London, 1830, 2 vols.)

ELIANUS. (See *Ælianus*.)

ELIAS. (See *Elijah*.)

ELIJAH; a prophet, who lived in the reign of Ahab, king of Israel, and Jehoshaphat, king of Judah. The prophet rebuked both these kings for their idolatry, and at last succeeded, by his miracles, in abolishing it. Instead of dying in the common way, he ascended to heaven in a fiery chariot. His successor was Elisha. His history is related in the First and Second Books of Kings. According to some passages of the Scriptures, the Jews expected Elijah to appear before the Messiah, and Christians have maintained that he will appear on earth before the end of the world. Many legends are related of this prophet by Christians and Mohammedans. The curious will find specimens of these in Bayle. (For information of the views of the Catholics respecting this prophet, we refer the reader to the *Dictionnaire de Théologie*, Toulouse, 1817.)

ELIO, Francisco Xavier, having distinguished himself in the Spanish war against Napoleon, was appointed by the regency to be captain-general of the provinces of Rio de la Plata, during the early part of the revolution in South America. He had to contend with Liniers and Artigas (q. v.) particularly; and was attacked and besieged by the latter in Monte Video. The siege being prosecuted by Rondo with every prospect of success, Elio implored the assistance of the Brazilian government. An auxiliary force of 4000 Portuguese was preparing to relieve him, when the fear of their approach induced the patriots to close with the propositions for peace made by Elio. This was in 1811; but Elio was again besieged the next year. Meanwhile he was succeeded by don Gaspar Vigodet, and returned to Europe. Upon the return of Ferdinand VII, Elio was one of the first to declare in favor of absolute monarchy, and contributed efficaciously to the revolution which overthrew the regency and the cortes of Cadiz. He was rewarded with the appointment of captain-general of the kingdom of Valencia, which he governed with all the extremity of fanatical rigor. A disturbance in the city of Valencia gave him occasion to inflict upon the friends of liberal institutions, indiscriminately, a series of cruelties shocking to humanity. His career of atrocity lasted upwards of a year, when it was cut short by the revival of the constitution of Cadiz, in March,

1820. Elio proclaimed the new order of things, and prepared to submit to it, yet would have been killed by the populace, but for the intercession of the count of Almodavar. He was imprisoned in the citadel, where he remained until May, 1822, without a conclusion of his trial. At that time, he was implicated in a movement of part of the garrison in favor of absolutism. He was immediately brought to trial before a military commission, for this new crime, and unanimously sentenced to the punishment of death, which was inflicted Sept. 3, 1822. When the invasion of the French restored Ferdinand to absolute power, the greatest honors were paid to the memory of general Elio. His eldest son received the title of *marquis of Fidelity*, and his full pay as general was continued to his widow and children. The judges, also, who condemned him to death, were among the exceptions from the decree of amnesty of 1824.

ELIOT, John, styled the *apostle to the Indians*, was born in England, in 1604, and educated at the university of Cambridge. After pursuing the occupation of a teacher in England, he emigrated, in 1631, to Massachusetts. He became minister of the church in Roxbury, and soon conceived a strong passion for Christianizing and improving the condition of the Indians, of whom there were nearly twenty tribes within the limits of the English plantations. He acquired their language, and published a grammar and a translation of the Bible in it. The merit is claimed for him of having been the first Protestant clergyman who preached the gospel to the North American savages. His evangelical labors, and personal sufferings, his influence among them, his zeal, courage and exposure in protecting them from wrong and violence, are celebrated in a number of the publications on New England history and biography. This indefatigable missionary died May 20, 1690, aged about 86 years. He left four sons, whom he had educated at Harvard college, and who were classed with "the best preachers of their generation." His extreme antipathy to wigs and the use of tobacco is specially noticed by all his biographers. He was eccentric, besides, in his ascetic habits, and in several of his main theological opinions. His printed works are voluminous. In 1660, he issued a tract, in which he attempted to prove that the Indians are descendants of the Jews. His political theories were fully democratic. Hutchinson relates, in his *History of Mas-*

sachusetts, that, in 1660, the governor and council of Massachusetts pronounced the Christian Commonwealth, of which Eliot was the author, to be "full of seditious principles and notions, in relation to all established governments in the Christian world, especially against the government established in their native country." Upon consultation with the elders, their formal censure was deferred, in order to afford the heretical republican an opportunity of making a public recantation. He did this in a paper, which he delivered to the general court, at its next session, and which was posted up, by its order, in the principal towns of the colony. He acknowledges that "such expressions as do manifestly scandalize the government of England, by king, lords and commons, are antichristian, and that all form of civil government, deduced from Scripture, is of God, and to be subjected to, for conscience' sake; and whatsoever is in the whole epistle or book inconsistent herewith he does, at once, most cordially disown."

ELIOTT, George Augustus (lord Heathfield); the defender of Gibraltar; born at Stubbs, in Scotland, 1718, of an ancient family. He was educated at home, by a private tutor, and afterward sent to the university of Leyden. He studied military science at the French military school at La Fere, travelled through several parts of the continent, and served in the Prussian army as a volunteer. In 1733, he joined the engineer corps at Woolwich, where he continued till he was made adjutant of the second corps of horse grenadiers. He accompanied George II to Germany in May, 1743, when that monarch assisted Maria Theresa against France, and was wounded in the battle of Dettingen, and rose to the rank of lieutenant-colonel. In the seven years' war, he fought under the command of the duke of Cumberland, prince Ferdinand, and the crown-prince of Brunswick, from 1757, as commander in chief of a regiment of light cavalry, which he had himself raised. He was called from the continent to be made second in command at Havanna. In 1775, he was made commander-in-chief of the forces in Ireland, and, in the same year, received the governorship of Gibraltar. Spain, in connexion with France, took part, in 1779, in the war between England and America, and, even before the declaration of war, laid siege to Gibraltar, by sea and by land. In the course of three years, all the preparations had been made for a siege, which is one of the most extraordinary in history.

In June, 1782, the duke of Crillon, commander-in-chief of the Spanish army, who had recently taken the island of Minorca from the English, arrived at Gibraltar, with a reinforcement. All the French princes royal were in the camp. An army of 30,000 Frenchmen and Spaniards were at the foot of the hill. Floating batteries were constructed to attack the fortifications, with two roofs, so carefully and strongly built, that neither balls nor bombs could injure them: there were ten of them, which, together, had 397 cannons, each cannon being served by 36 men. Sept. 13, 1782, they drew near to the fortress, and the crews (consisting of criminals, to whom, if they did their duty, a pension of 200 livres per annum had been promised) commenced the attack. Elliott wished to assail the batteries with red-hot shot, but knew no means of preparing them in sufficient quantity. A German smith, however, named Schwän Rendiek, constructed an oven for the purpose, and more than 4000 hot shot were now showered on the batteries. The same afternoon, smoke was seen to rise from the principal battery and two others. The enemy in vain attempted to subdue the flames and close the holes; at one o'clock at night, three of the batteries were completely in flames, and some of the others were beginning to burn. The crews in vain made signals to the Spanish fleet of their condition; they could do nothing for the batteries, and only attempted to rescue the crews; but 12 gunboats, which left the fortress, commanded by captain Curtis, prevented the boats of the besiegers from approaching, and, at the same time, continued to fire on the floating fortresses. At break of day, the crews were seen on the burning batteries, crying for help. The besieged now hastened to assist them, dangerous as it was, on account of the balls from the heated cannons and the pieces of wood from the bursting structures, which flew against them. Curtis, at the risk of his own life and those of his people, saved 13 officers and 344 soldiers. An attack by land was also frustrated by Elliott, and, at the same time, a tempest greatly injuring the Spanish fleet, the siege, from the middle of November, 1782, was changed into a close blockade, to which the peace, concluded at Versailles, Jan. 20, 1783, put an end. The king of England sent Elliott the order of the Bath, which was presented to him on the spot on which he had most exposed himself to the fire of the enemy. Elliott himself, with the consent of the

king, ordered medals to be struck, one of which was presented to every soldier engaged in the defence. After the conclusion of peace, he went to England, and was created lord Heathfield. In 1790, he was obliged to visit the baths of Aix-la-Chapelle for his health. In Kalkofen, a place near that city, and his favorite residence, he died of an apoplexy, July 6, the same year. His corpse was carried to England, and the king himself prepared the plan of a monument erected in honor of him at Gibraltar. One of the most famous pictures of Copley (q. v.), representing the siege and relief of Gibraltar, and full of portraits, is placed in the council-chamber of Guildhall, London, having been painted for the city. General Elliott was one of the most abstemious men of his age. His diet consisted of vegetables and water. He slept only four hours at a time, and inured himself to habits of order and watchfulness.

ELIS; a country in the west of the Peloponnesus (q. v.), where Olympia was situated. (See *Olympic Games*.) It was bounded on the east by Arcadia, on the south by Messenia, and ran along the coast, watered by the river Alpheus. Elis was the capital of the country. Eleus, one of its kings in early times, is said to have given origin to the name of the country.

ELIXIR (from the Arabic *al eesir*, a chemical medicine, or from *ἐλξω*, I help, or *ἐλκω*, I draw out, or from *eligere*, to choose, or rather from *elixare*, to boil). It is the name of several medicines, consisting of wine or spirits of wine and various resinous, bitter, vegetable substances. The word, however, is almost gone out of use, and its place supplied by *tincture*. Elixirs, indeed, differ from tinctures, by having a thicker and more opaque consistence, and by containing less spirit. The stomach elixirs of Frederic Hoffmann and Stoughton are well known. The former (*elix. viscerales*, *Fr. Hoffmanni*) is prepared by dissolving in Malaga or Hungary wine the extract of card. ben., cent. min., cort. aurant., cort. Chinæ., myrrh. aq., and adding to the solution a little tinct. caryophyll. aromat. and tinct. croci. Stoughton's elixir consists of absynth., gentian. rubr., rhabarb., cascarilla and cort. aurant., steeped in spirits of wine.

ELIZA BONAPARTE (See *Bacciocchi*).

ELIZABETH, ST., of Thuringia, distinguished for her piety and virtue, the daughter of Andrew II, king of Hungary, was born at Presburg, 1207, and, in 1211, was married to Louis, landgrave of Thuringia, who was then 11 years old, and

was educated at Wartburg, in all the elegance of the court of Hermann, the abode of music and the arts. Louis began to govern in 1215, and the marriage was completed in 1221. While the husband devoted himself to knightly exploits, the wife was distinguished by the mild virtues of her sex. When Germany, and especially Thuringia, was oppressed with famine and pestilence, she caused many hospitals to be erected, fed a multitude of the poor from her own table, and supplied their wants with money and clothing. She wandered about, in an humble dress, relieving the sorrows of the wretched. Louis died on a crusade, and her own life terminated Nov. 19, 1231, in an hospital which she had herself established. She was regarded as a saint by her admiring contemporaries, and, four years after her death, this canonization was approved by pope Gregory IX. A beautiful church and a costly monument were erected over her tomb. The latter is now one of the most splendid remains of Gothic architecture in Germany.

ELIZABETH, queen of England, and one of its most celebrated sovereigns, was the daughter of Henry VIII, by his queen, Anne Boleyn. She was born in 1533, and educated in the principles of the reformation, and also in those classical studies into which it had then become customary to initiate females of distinction in England. In her father's testament, she was placed the third in the order of succession; but the duke of Northumberland induced her brother, Edward VI, to set her aside, as well as her sister Mary, to make room for Jane Grey. In the reign of Mary, she was placed under circumstances of great difficulty, from her known attachment to Protestantism; and notwithstanding her great prudence, but for the politic interference of her brother-in-law, Philip of Spain, she might have been in great personal danger. On the death of Mary, in 1558, she was immediately proclaimed queen, and received in the metropolis with the loudest acclamations. She consigned to oblivion all the affronts she had received during the late reign, and prudently assumed the gracious demeanor of the common sovereign of all her subjects. Philip of Spain soon made her proposals of marriage, but she knew the aversion borne him by the nation too well to think of accepting them. She proceeded with considerable prudence and moderation to the arduous task of settling religion, which was, in a great degree, effected by the first parliament she sum-

moned. It was not long before Elizabeth began that interference in the affairs of Scotland, which produced some of the most singular events of her reign. Mary, the young queen of Scots, was not only the next heir in blood to the English crown, but was regarded by the Romanists, who deemed Elizabeth illegitimate, as the true sovereign of England. By the marriage of that princess with the dauphin, and her relationship to the Guises, Scotland was also drawn into a closer union with France than ever. Thus great political causes of enmity abounded, in addition to the female rivalry, which was the most conspicuous foible of Elizabeth. The first step she took in Scottish affairs was to send a fleet and an army to aid the party which supported the reformation; and this interference, in 1560, effected a treaty, by which the French were obliged to quit Scotland. On the return of Mary from France, after the death of her husband, attempts were made to procure Elizabeth's recognition of her title as presumptive successor to the crown of England; but, although unattended to, and very disagreeable to the latter, the two queens lived for some time in apparent amity. In the mean time, Elizabeth acquired great reputation by her vigorous conduct and political sagacity, and had many suitors among the princes of Europe, whom, consistent with her early resolution to live single, she constantly refused. Being regarded as the head of the Protestant party in Europe, she made a treaty of alliance with the French Huguenots in that capacity, and gave them aids in men and money. Her government at home also gradually grew more rigorous against the Catholics—one of the mischievous consequences of the incessant intrigue of the popish party, both at home and abroad, to overthrow her government. She did all in her power to thwart the attempts to unite Mary in a second marriage, and, besides a weak jealousy of the personal charms of the queen of Scotland, she discovered another weakness in a propensity to adopt court favorites, with a view to exterior accomplishments rather than to merit, as in the well known instance of Dudley, earl of Leicester. The political dissensions in Scotland, which gave Mary so much disquiet, were fomented by Elizabeth and her ministers, but it was her own misconduct that threw her into the hands of her rival. The manner in which Elizabeth detained the unhappy queen in captivity, the secret negotiations of the latter with

the duke of Norfolk, the rebellions in the north, and the treasonable engagements made by the earls of Northumberland and Westmoreland with the duke of Orleans, in the Low Countries, are affairs rather of history than biography. In the midst of these events, the Puritanical party gave much uneasiness to the queen, who was warmly attached to the ceremonials of religion, and to the hierarchy of which she had become the head. Inheriting, too, all the maxims of royal authority maintained by her father, the spirit of civil liberty, by which the Puritans became early distinguished, was very offensive to her. Elizabeth, however, understood the art of making practical concessions, while she maintained her dignity in language; and such was the general prudence and frugality of her administration, that she retained the affections even of those whom she governed with a rigorous hand. Almost the only cause of complaint, in regard to pecuniary matters, in this reign, arose from the injurious grant of monopolies, which formed a frequent subject of parliamentary complaint, and were often, in consequence, revoked. The assistance given by Elizabeth to the Protestants of the Low Countries induced Spain, in 1572, to promote a conspiracy, which was chiefly conducted by a Florentine merchant and the bishop of Ross, the Scottish resident in England. The duke of Norfolk, allowing himself to be drawn into a participation of this plot, on its discovery, was tried and executed. The massacre of St. Bartholomew, in the same year, alarmed all Protestant rulers, and especially Elizabeth, who put herself and court into mourning on the occasion, and received in silence the French ambassador sent over to apologize for that execrable deed. She, however, maintained external amity with the French court, and even suffered negotiations to be commenced for her marriage with the duke of Alençon, the king's brother, which brought that prince to England. An expectation that the union would take place now became general. In 1575, she received the offer of the sovereignty of the revolted Dutch provinces; but, from prudential reasons, she declined to accept it; and it was not until 1578 that she signed with them a treaty of alliance. In 1585, Elizabeth ventured openly to defy the hostility of Spain, by entering into a treaty with the revolted provinces, by which she bound herself to assist them with a considerable force, the command of which she intrusted to Leicester, who did little

honor to her choice. She also sent an armament, under Drake, against the Spanish settlements in the West Indies, and made a league of mutual defence with James, king of Scotland, whose friendship she courted, while she detained his mother in prison. In 1586, that conspiracy took place, the object of which was her assassination by Anthony Babington. As Elizabeth's principal counsellors, as well as the nation at large, were of opinion that the safety of the state demanded the life of Mary, whatever may be thought of the injustice of her treatment, it was clearly the result of strong political circumstances. Elizabeth, however, conscious of the invidious light in which the execution of a queen and relation would appear to Europe, practised all the arts of dissimulation to remove as much of the odium from herself as possible. She even wished Mary to be taken off privately; and it was only on the refusal of sir Amias Paulet and sir Drue Drury, her keepers, to be concerned in so odious an affair, that the curious transaction of furthering the warrant by secretary Davison took place, the consequence of which was the execution of Mary on Feb. 8, 1587. The dissembled grief of Elizabeth, when informed of this catastrophe, deceived no one, although the imputed mistake of Davison, and the sacrifice of him to her assumed resentment, afforded the king of Scotland a pretext for resuming an amicable correspondence with the English court. The year 1588 was rendered memorable by the defeat of the Spanish armada, on which meditated invasion Elizabeth displayed all the confidence and energy of her character. Soon after this event, Elizabeth became the ally of Henry IV of France, in order to vindicate his title to that throne; and, for some years, English auxiliaries served in France, and naval expeditions were undertaken, in which none more distinguished themselves than the celebrated earl of Essex, who, on the death of Leicester, succeeded to his place in the queen's favor. In 1601, she held a conference with the marquis de Rosni (afterwards the celebrated Sully), who came over, on the part of Henry IV, to concert, in concurrence with England, a new balance of European power, to control the preponderance of the house of Austria. Elizabeth readily gave in to the project, and the minister quitted England in admiration of the solidity and enlargement of her political views. Having suppressed an insurrection in Ireland, and obliged all the

Spanish troops, sent to aid in it, to quit the island, she turned her thoughts towards relieving the burdens of her subjects, and gained much additional popularity by suppressing a great number of unpopular monopolies. The execution of the earl of Essex (see *Devereux, Robert*), however, gave a fatal blow to her happiness; and, on learning from the dying countess of Nottingham, that he had really transmitted the ring, which implied his request of pardon, she became furious with rage, and, when her anger subsided, fell into an incurable melancholy. At length nature began to sink, and, as her end manifestly approached, she was urged by her council to declare her successor. She answered, "Who but her kinsman, the king of Scots?" and soon after, sinking into a lethargy, she expired, without further struggle or convulsion, on March 24, 1602, in the 70th year of her age, and 45th of her reign.—Estimating the character and conduct of Elizabeth from the events of her reign, she will justly rank high among sovereigns. Under her auspices, the Protestant religion, as opposed to popery, was firmly established. Factions were restrained, government strengthened, the vast power of Spain nobly opposed, oppressed neighbors supported, a navy created, commerce rendered flourishing, and the national character aggrandized. She did not merely lend a name to a conspicuous period of history; her own prudence, judgment, fortitude, firmness, vigor and industry materially contributed to the prosperity of her administration. She was frugal to the borders of avarice; but, being as economical of the people's money as of her own, her prudent attention to national expenditure contributed materially to the public good. The severity of Elizabeth to Catholic emissaries, Jesuits, and others, whether native or foreign, has latterly been deemed scarcely defensible, nor, on a religious ground, is it so; but it is never to be forgotten, that most of those who suffered really sought the overthrow of the state, and, in addition, acted under the direction of a foreign influence of the most baleful description. The treatment of the queen of Scots can never be defended, but will always remain one of those cases which neither policy, nor even personal danger, can sufficiently justify. It may be questioned, however, if the dissimulation of Elizabeth has not injured her memory in respect to this transaction, more than the deed itself, which was certainly deemed necessary both by her ministers and a vast

majority of the people. Her principal defects were violence and haughtiness of temper, impatience of contradiction, and insatiable fondness for admiration and flattery. It is to be remarked, however, that, capricious as she was in her affections, and petty in her feminine jealousies, she always made even her favorites feel that she was their sovereign, when they were disposed to forget it. Although fond of literature, and substantially learned, she was no very munificent patroness, and made very poor returns for the excess of incense so lavishly bestowed upon her. She was skilled in the Greek, and spoke the Latin language with considerable fluency. She translated from the former into Latin a dialogue of Xenophon, two orations of Isocrates, and a play of Euripides, and also wrote a commentary on Plato. From the Latin she translated Boethius's *Consolations of Philosophy*, Sallust's *Jugurthine War*, and a part of Horace's *Art of Poetry*. In the Royal and Noble Authors of lord Orford, may also be found a catalogue of translations from the French, prayers, meditations, speeches in parliament, letters, &c.

ELIZABETH CHARLOTTE, duchess of Orleans, only daughter of the elector Charles Louis, of the Palatinate, was born at Heidelberg, 1652. She was a princess of distinguished talents and character, and lived half a century in the court of Louis XIV without changing her German habits for French manners. She was educated with the greatest care, at the court of her aunt, afterwards the electress Sophia of Hanover, and, at the age of 19, she married duke Philip of Orleans, from reasons of state policy. She was without personal charms, but her understanding was strong, and her character unaffected, and she was characterized by liveliness and wit. It is to be regretted, that she exercised no more influence on the education of her children. Her second son was afterwards known as regent. Madame de Maintenon was her implacable enemy, but Louis XIV was attracted by her integrity and frankness, her vivacity and wit. She often attended him to the chase. She preserved the highest respect for the literary men of Germany, particularly for Leibnitz, whose correspondence with the French literati she promoted. She died at St. Cloud, in 1722. She has described herself and her situation with a natural humor, perfectly original, in her German letters, which form an interesting addition to the accounts of the court of Louis XIV. The most valuable of her

letters are contained in the *Life and Character of the Duchess Elizabeth Charlotte of Orleans*, by professor Schütz, Leipsic, 1820.

ELIZABETH PETROWNA, empress of Russia, daughter of Peter the Great and Catharine I, was born 1709, at the time of her father's greatest prosperity and glory. After her accession to the throne, in 1741, it was asserted, that Catharine I had, by her will, appointed her eldest daughter, Anne (wife of the duke of Holstein), successor of Peter II, and, after Anne, her younger sister, Elizabeth; but this is not proved, and it is not probable that prince Menzikoff would have permitted such a will. The nobles and the senate, after the death of Peter II, chose Anne, duchess dowager of Courland, daughter of Ivan, and niece of Peter I. She settled the succession to the throne in favor of the young prince Ivan, son of her niece, Anne, who was married to Antony Ulrich, duke of Brunswick, and who, after the death of the empress, caused herself to be proclaimed regent, during the minority of her son. Elizabeth, naturally inactive, and more prone to pleasure than ambition, appeared alike indifferent to all political projects. She endeavored, however, to conciliate the guards, and chose her favorites among their officers. Neither the regent nor her husband, who had the command of the troops, took measures against a revolution. A party was, therefore, formed for Elizabeth, daughter of Peter the Great, to whose name so many glorious recollections were attached. The princess did not oppose the attempt made to place her on the throne, and submitted to the advice of Lestocq, a surgeon, who was eager to distinguish himself. The marquis of Chétardie, the French ambassador, whose person and manners had prepossessed Elizabeth in his favor, saw in the proposed revolution only an opportunity of securing to France an ally. Sweden, dissatisfied with the cabinet of Petersburg, was persuaded to declare war against Russia. The conspiracy, however, might easily have been discovered. Lestocq was incautious. The regent was warned of the plot; but the natural goodness of her disposition gave admission to no suspicion. Elizabeth easily succeeded in quieting her with protestations and tears. The conspirators, however, were not without anxiety, and Lestocq urged the immediate execution of the project. Observing a card on Elizabeth's table, he drew upon it a wheel and a crown, saying to the princess, "This

or that, madame; one for you, or the other for me!" This decided Elizabeth; the conspirators were immediately informed of it, and in a few hours the conspiracy was ready to break out. The husband of the regent, being informed of the danger, urged her to take measures for their safety; but Anne would not credit the reports. They were both seized while asleep, December 6, 1741, and, with their son, were carried to the palace of Elizabeth; at the same time Munich, father and son, Ostermann, Golofkin and others were thrown into prison. Anne and the prince Antony Ulrich were afterwards transferred to an island in the Dwina, near the White sea, and Ivan to the castle of Schlussemburg. Elizabeth caused herself to be proclaimed empress. Munich, Ostermann and others were condemned to death; but Elizabeth made a display of her clemency, by commuting their punishment for exile to Siberia. Lestocq was made first physician of the court, and president of the medical college, with the title of privy counsellor; but he afterwards fell under her displeasure. Bestuscheff, who had been minister under Anne, and whom Lestocq had caused to be appointed chancellor, enjoyed great influence. Peace was concluded with Sweden, at Abo, in 1743, by the interposition of France. In 1748, Elizabeth sent aid to Maria Theresa, in Germany, by which she hastened the conclusion of the peace of Aix-la-Chapelle. In the mean time, a conspiracy was formed against her, in which, among others, Lapoukin and his wife (distinguished for her wit and beauty) were engaged; but the plot was discovered, and the wife of Lapoukin, in whom the empress saw a dangerous rival, with her husband and son, and the wife of Bestuscheff received the punishment of the knout; the ends of their tongues were cut off, and they themselves were exiled to Siberia. Elizabeth took part in the seven years' war, on account of some railery of Frederic the Great respecting her person. The grand prince Peter, duke of Holstein-Gottorp, nephew of the empress, and her acknowledged successor, was, on the other hand, much attached to Frederic. The war was not, therefore, prosecuted with much vigor by the Russian generals, who desired to secure the favor of the heir to the throne. But this was soon perceived; the general, Apraxin, was removed, and his place supplied by Fermor, and the chancellor Bestuscheff was exiled to Siberia. The Russians now advanced into Germany. Sol-

nikoff afterwards succeeded Fermor, and defeated Frederic at Kunnersdorf. Berlin and Colberg were taken; but, notwithstanding this, no decisive result followed. After languishing for several years, Elizabeth died, December 29, 1761, at the age of 52, after a reign of 20 years. She founded the university at Moscow, and the academy of fine arts at Petersburg. She also paid much attention to the completion of a code of laws, which was begun under Peter I. It was not, however, finished. She had promised to abolish capital punishments under her reign; but punishments more cruel than death were, nevertheless, allowed to be inflicted. She shed tears at the miseries of war, yet, during her reign, the fields of battle were drenched with the blood of her subjects. Mild, gentle, sometimes generous, she was too indolent to prevent the arbitrary conduct of her ministers. Her ruling passion was love; and she used to say to her confidants, "I am only happy when I am in love." She wished to be considered the greatest beauty in the empire, and this vanity, like that of Elizabeth of England, often produced terrible consequences. Her licentious indulgences were sometimes disturbed by superstitious fears, which she endeavored to quiet by devotional practices. By the field-marshal Razumofsky, she became the mother of two sons and a daughter (the princess Tarakanoff).—(See Leclerc's *Histoire de la Russie moderne*.)

ELIZABETH, CHRISTINA, wife of Frederic II of Prussia, princess of Brunswick-Wolfenbüttel. She was born 1715, at Brunswick, married 1733, and died 1797. Being compelled to the marriage, Frederic lived separate from her till his father's death, in 1740. After ascending the throne, however, he gave her proofs of his esteem, and, on his death, ordered her annual revenue of 40,000 crowns to be increased to 50,000; "for," said he, "during my whole reign, she has never given me the slightest cause of dissatisfaction, and her inflexible virtue deserves respect and love." Half of her annual income she appropriated to benevolent purposes. She partook of Frederic's taste for literature, and was herself an author. She translated several German works into French, and wrote in French *La sage Révolution; Méditation à l'Occasion du Renouvellement de l'Année sur les Soins que la Providence a pour les Humains, &c.; Réflexions pour tous les Jours de la Semaine; Réflexions sur l'État des Affaires publiques en 1778, adressés aux Personnes craintives.*

ELIZABETH (Philippine Marie Hélène, of France, Madame), sister of Louis XVI, was born at Versailles, May 23, 1764, and perished by the guillotine, May 10, 1794. Her life is an image of the tenderest affection, the loveliest virtues, gentleness and feminine dignity. She was the youngest child of the dauphin Louis and his second wife, Josephine of Saxony, who died while Elizabeth was but three years old. She was attached to her brother with the warmest affection. She received an excellent education from the countess of Mackau, under-governess of the children of France, and her acquirements were considerable, particularly in history and mathematics. Her proposed union with the duke of Aosta, infant of Spain, second son of the king of the Two Sicilies, was not concluded. When Louis XVI caused himself to be inoculated for the small pox, Elizabeth did the same; she also caused 60 poor girls to be inoculated at the same time, and to receive the same care as herself. When her private establishment was fixed, 25,000 francs annually were assigned her for the purchase of diamonds; but she requested that this sum should be paid, during six years, to a young favorite, whose poverty prevented her marriage. On an estate, which the king had purchased for her, Elizabeth spent the happiest hours of her life, engaged in rural occupations, in benevolent offices, and the enjoyment of the beauties of nature. The revolution destroyed her happiness. The assembly of the states general filled her with terror; from that moment she was devoted to her unhappy brother. She inspired him with firmness on the 6th of October. She attended him the next morning to Paris, and to the assembly. When Louis fled from Paris, she accompanied him; and she was brought back with him from Varennes. It was she who was taken for the queen, June 20, 1792; and when the cry was raised, "The Austrian! down with her!" and an officer of the guard hastened to correct the mistake, she exclaimed, "Why undeceive them? You might have spared them a greater crime." August 10, nothing, not even the king's earnest request, could induce her to leave him. She followed him into the assembly. There she heard her brother's abdication of the throne, and for two days listened to the debates relative to the safest place of confinement for the royal family, with which she was carried into the Temple. Here she totally forgot herself, and seemed to live only for oth-

ers. All modesty and goodness at court, she was here all patience and submission. May 9, 1794, at 7 o'clock in the evening, Elizabeth was led from the Temple to the *Conciergerie*, because it had been discovered that she had corresponded with the princes, her brothers. She was tried with closed doors. The next morning, she was carried before the revolutionary tribunal, and, when asked her name and rank, she replied with dignity, "I am Elizabeth of France, and the aunt of your king." This bold answer filled the judges with astonishment, and interrupted the trial. Twenty-four other victims were sentenced with her; but she was reduced to the horrible necessity of witnessing the execution of all her companions. She met death with calmness and submission; not a complaint escaped her against her judges and executioners. Without being handsome, Elizabeth was pleasing and lively. Her hair was of a chestnut color; her blue eye had a trace of melancholy in it; her mouth was delicate, her teeth beautiful, and her complexion of a dazzling whiteness; she was modest, and almost timid, in the midst of splendor and greatness, courageous in adversity, pious and virtuous, and her character was spotless.

ELIZABETH ISLANDS; small islands near the coast of Massachusetts, between Martha's Vineyard and the continent, included within the township of Chilmark; lon. $70^{\circ} 38'$ to $70^{\circ} 56'$ W.; lat. $41^{\circ} 24'$ to $41^{\circ} 32'$ N. They are about 16 in number; the principal of which are Nashawn, Pasqui, Nashawenua, Pinequese, and Chatahunk.

ELIZABETHTOWN; a borough and post-town of New Jersey, in Essex county, 5 miles S. Newark, 14 S. S. W. New York, 76 N. E. Philadelphia; lon. $74^{\circ} 7'$ W.; lat. $40^{\circ} 39'$ N.; population in 1820, 3515. It is situated on a small creek, which flows into Arthur Kull sound, and is a handsome, pleasant and flourishing town, containing a bank, an academy, a printing-office, and 4 houses of public worship. The Presbyterian and Episcopal churches are large and handsome brick buildings. The town is situated in a very fertile tract of country, and has considerable trade, and some manufactures. Vessels of 20 or 30 tons come up to the town, and those of 200 or 300 come as far as Elizabethtown point, 2 miles distant; and a steamboat plies between New York and the point. This is the oldest town in New Jersey: the ground was purchased of the Indians in 1664, and settled, soon after, by emigrants from Long Island.

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ELK. (See *Deer*.)

ELL; a measure which obtains, under different denominations, in most countries, whereby cloths, stuffs, linens, silks, &c., are usually measured. The ell English is 5 quarters, or 45 inches; the ell Flemish, 3 quarters, or 27 inches. In Scotland, an ell contains 37 2-10 inches English.

ELLENBOROUGH (Edward Law), lord, born in 1748, at Great Salkeld, in Cumberland, lord chief justice of the king's bench, was a distinguished lawyer. His father, doctor Edmund Law, bishop of Carlisle, placed him at the charter house, London. He afterwards entered the university at Cambridge, where, in 1771, he obtained a prize medal, given by the chancellor, and, in 1773, a prize. He studied law at Lincoln's Inn, and soon became distinguished in his profession, in which he began his career at the same time with Eldon (q. v.) and Erskine (q. v.) By the patronage of sir Francis Buller, one of the judges of the king's bench, he early obtained a silk gown. On the trial of Warren Hastings, in 1785, Erskine having refused to undertake the defence, Law served as leading counsel. It required no little courage to encounter such opponents as Burke, Fox, Sheridan, and other eminent men of the time, who conducted the impeachment. Law was assisted by Plomer and Dallas, and, as is well known, obtained the victory. (See *Hastings*.) The defence did not come on until the fifth year of the trial. To the brilliant eloquence of his adversaries, Law opposed simple, logical, and clear statements. After eight years, in which the trial had occupied 148 days, at an expense of £71,080, Hastings was acquitted. Law's success was now certain. In 1801, he was made attorney-general, and, in 1802, on the death of lord Kenyon, he became lord chief justice of the king's bench, and was created baron. He adopted the title Ellenborough from a small fishing village of that name, where his ancestors had lived for a long time. Under lord Grenville's administration, he became a member of the privy council (1806), which, by many, is considered as unconstitutional. In parliament, he was opposed to the emancipation of the Catholics. (See *Catholic Emancipation*.) He held the office of chief justice for fifteen years, when his health sunk under the duties of the office. The bookseller Hone, having published three well known parodies on the Christian religion, was tried on the indictment for the first before Abbot, for the two others before Ellenborough. Both judges,

in their charges to the jury, declared the publications to be libels; yet the jury returned a verdict of not guilty, and the spectators manifested their satisfaction by applause. This event had an unfavorable effect on lord Ellenborough's already feeble health, and, after a long sickness, he resigned his office in 1818. He died December 13 of the same year, at the age of seventy years. Lord Ellenborough enjoys a high reputation for legal ability.

ELLERY, William, one of the signers of the Declaration of Independence, was born at Newport, Rhode Island, December 22, 1727. He entered Harvard college at the age of 16, and left it in his 20th year, with the reputation of a sound scholar. After studying the law for the regular term, he began the practice, and continued it successfully during 20 years. The part which he took with his native state, in promoting resistance to the mother country, occasioned his election to the congress of 1776. Of this body he was a zealous, spirited and most serviceable member. His dwelling-house at Newport, and other portions of his property, were destroyed by the British army, under general Pigot. Mr. Ellery continued a member of congress until the year 1785. Soon after this period, he accepted the office of chief justice of the superior court of Rhode Island. When the present federal government was organized, he accepted from general Washington the collectorship of the customs for the town of Newport—a post which he filled during the remainder of his estimable life. This venerable man died at the age of 92, February 15, 1820. He expired without sickness or pain, reading Cicero *De Officiis*, in his arm-chair.

ELLIOTT, Stephen, an eminent American botanist and man of letters, was born at Beaufort, in South Carolina, November 11, 1771. He was first placed at the grammar school in Beaufort, whence he was transferred to Yale college, in 1787. Here he was distinguished for scholarship and good character. On his return home, he applied himself to the improvement of his paternal estate, which, though impaired by the casualties of the revolution, was still ample. His leisure hours, at this period, were given to history and poetry. His devotion to natural history began some time after. At the age of 22, Mr. Elliott was returned by his district as a member of the state legislature of South Carolina. In this sphere he soon obtained considerable influence by his zeal, urbanity, knowledge, and powers of argument. As

a member of the senate, he introduced and carried various important bills, improving the public economy, and particularly the plan of the state bank, which was adopted by the legislature in the year 1812. Of this bank Mr. Elliott was chosen president, and discharged his office with great ability until the time of his death. Although the care of the bank rested mainly on him, he found time to complete his two volumes of the botany of South Carolina, which are held in high estimation, and to make considerable contributions to the literary and scientific societies of which he became a member. He was president of the literary society of Charleston, and of the literary and philosophical society, and professor of natural history and botany in the medical college. His learned and elegant papers and lectures obtained universal applause. Mr. Elliott was well acquainted with French and Italian literature, and the scientific works of the French school, particularly in geology, mineralogy, conchology, and botany. He has left a collection in the several branches of natural history, scientifically arranged, which is said to be scarcely excelled by any private one in the United States. He was the chief editor of the *Southern Review*, and author of ten of the longest and most admired articles of that periodical work. The degree of LL. D. was conferred on him by Yale college, and again by Harvard university. Few of his American contemporaries equalled him in variety of talents, attainments and labors. None possessed a more amiable temper, or honorable spirit. Mr. Elliott was above six feet in height, with a robust frame and noble countenance. He died in the early part of 1830. Most of his productions remain in manuscript. Such of them as have been published will perpetuate his name creditably for his country.

ELLIPSIS; 1. in grammar and rhetoric; the omission of one or more words, which may be easily supplied by the imagination. It is used to express passion, or for the sake of conciseness. The latter is particularly the case in familiar phrases. 2. In mathematics; one of the conic sections. (See *Cone*.) Kepler discovered that the planets describe such a curve in revolving about the sun. It presents to the eye, at once, variety and regularity, and is, therefore, preferred by painters to the circle for the outline of their pictures. Two points in the longest diameter have this peculiarity: the sum of two straight

lines drawn from them to any point in the circumference is always the same, to whatever point they are drawn. An ellipsis may, therefore, be formed by taking two points upon a plane, attaching to them a ring of thread, and following it round with a pencil, keeping it extended in the form of a triangle. The points where the thread is fixed are called the *foci*.

ELLIPTICITY OF THE TERRESTRIAL SPHEROID. (See *Degree, Measurement of*.)

ELLIS, George, an ingenious writer, a native of London, was educated at Westminster school and Trinity college, Cambridge. He obtained an office under government during the administration of Mr. Pitt, and was secretary to lord Malmesbury, in his embassy to Lisle, in 1797. He was one of the junto of wits concerned in the well known political satire, *The Rolliad*, and wrote a preface, notes and appendix to Way's translation from the French of Le Grand's *Fabliaux*; besides which, he published *Specimens of the early English Poets*, with an Historical Sketch of the Rise and Progress of English Poetry and Language, 3 volumes 8vo.; and *Specimens of early English Metrical Romances*, 3 vols. 8vo. The two latter works have passed through several editions; and they display much ingenuity, and a general, though not a profound acquaintance with English literature. Mr. Ellis, who was a fellow of the royal society, and the society of antiquaries, died in 1815, aged 70.

ELLORA. (See *Elora*.)

ELLSWORTH, Oliver, an American judge and statesman, was born at Windsor, in Connecticut, April 29th, 1745. His father was a farmer, and his own youth was passed alternately in agricultural labors and liberal studies. At the age of 17, he entered Yale college, which he subsequently left for the college of Nassau hall, at Princeton. After completing his academic course at Princeton, in 1766, he studied law, and was admitted to the bar, in 1771, in the county of Hartford, Connecticut, where he commenced the practice, and acquired in a few years a high professional reputation, that occasioned his appointment as state's attorney. From the commencement of the revolutionary struggle, Mr. Ellsworth sided with the colonies; he went into actual service against the enemy, with the militia of Connecticut, and, as a member of the general assembly of that state, took a large share in all the political discussions and measures. In 1777, he was chosen a delegate to the congress of the United States, in which

body he continued for three years. In 1780, he became a member of the council of Connecticut, and, in 1784, was appointed a judge of the superior court of the state—an office which he filled for several years with great reputation. In 1787, he was chosen, by the legislature, one of the delegates of Connecticut to the convention for framing a federal constitution, to be held in Philadelphia. In this illustrious assembly, he obtained much influence and distinction. It is believed, that the present organization and mode of appointment of the senate were suggested by him. As he was called away by other duties, his name is not among those of the signers of the constitution which was adopted, but he approved the work, and warmly supported it in the state convention. Two of his very able speeches in its defence are preserved in the third volume of Carey's American Museum. When the constitution was ratified, judge Ellsworth was elected a senator in the first congress, which met at New York, in 1789; and he retained his seat till 1796, during almost the whole of president Washington's administration. The bill for organizing the judiciary department was drawn up by him, and the part which he took in most of the great questions of politics or public economy, raised him to a lofty eminence in the eyes of the country. In 1796, when Mr. Jay resigned the office of chief justice of the supreme court of the United States, president Washington appointed Mr. Ellsworth his successor. To this trust he proved fully equal, though he had been long estranged from the practice of his profession. All his habits and faculties were specially adapted to the discharge of judicial functions. At the close of the year 1799, he was selected to be one of the three envoys to France, governor Davie, of North Carolina, and the honorable William Vans Murray, being his colleagues, in order to adjust those differences which had assumed the character of war. For this errand he was not so well qualified as for the career which he had previously run; but the convention, which was concluded by the envoys with the French government, obtained the assent of the president and the senate. His health was so much impaired by a long and tempestuous sea voyage, that he was obliged to pass over to England from France, in order, chiefly, to try the efficacy of the British mineral waters. The same cause induced him to transmit from England, to president Washington, his resignation of the office of chief justice. As

soon as he acquired some fresh strength, he returned to his native country, and retired to his family residence at Windsor, in Connecticut. In 1802, he entered again into the council of the state, and, in 1807, was elected the chief justice of the state, but declined this station. The nephritic complaints, to which he had been long subject, attained a fatal violence this year, and caused his death, in the 63d year of his age. Oliver Ellsworth was one of the most distinguished of the revolutionary patriots of America, of her statesmen and her lawyers. He filled a large space in the eyes of his countrymen. His personal character and domestic life were exemplary. His friend, doctor Dwight, has commemorated his merits in his *Travels in New England*.

ELLWOOD, Thomas, an early writer among the Quakers, was born in 1639, at Crowell, near Thame, in Oxfordshire, where he received such an education as the humble circumstances of his parents would afford. In his 21st year, he was induced to join the society of Friends, by the preaching of one Edward Burroughs, and he soon after published his first piece, entitled *An Alarm to the Priests, or a Message from Heaven to warn them*. He subsequently became reader to Milton, with whom he improved himself in the learned languages, but was soon obliged to quit London on account of his health. In the year 1665, he procured a lodging for Milton at Chalfont, Bucks, and was the occasion of his writing *Paradise Regained*, by the following observation made on the return of the *Paradise Lost*, which the poet had lent him to read in manuscript: "Thou hast said much of paradise lost, but what hast thou to say of paradise found?" In 1705, he published the first part of *Sacred History, or the Historical Parts of the Old Testament*, and, in 1709, *Sacred History, &c. of the New Testament*; which production was well received, and is still held in some estimation. His other works are numerous; among them, *Davideis, the Life of David, King of Israel*, a poem, which is more distinguished for piety than poetry. He died in 1713, aged 74. His life, written by himself, affords many interesting particulars of the history of his sect.

ELM. The species of elm (*ulmus*) are trees or shrubs, with alternate rough and simple leaves, and fascicles of small, inconspicuous flowers, which appear before the foliage. About twenty species are known, all inhabiting the temperate parts of the northern hemisphere, and three of them

native of the United States:—1. *U. Americana* (American or white elm) is found from the forty-ninth to the thirtieth parallel of latitude, is abundant in the Western States, and extends beyond the Mississippi, but attains its loftiest stature between lat. 42° and 46°; here it reaches the height of 100 feet, with a trunk four or five feet in diameter, rising sometimes 60 or 70 feet, when it separates into a few primary limbs, which are at first approximate, or cross each other, but gradually diverge, diffusing on all sides long, arched, pendulous branches, which float in the air. It has been pronounced by Michaux "the most magnificent vegetable of the temperate zone." Its wood is not much esteemed, but has been used for the naves of wheels in the state of New York, for chair-bottoms, and sometimes, in Maine, for the keels of vessels. 2. *U. fulva* (red or slippery elm) is common in the West, but comparatively rare in the Atlantic states; it is also found over a great extent of country in Canada, Missouri, and as far south as latitude 31°; it attains the height of fifty or sixty feet, with a trunk 15 or 20 inches in diameter; the wood is stronger and of a better quality than that of the white elm, is employed in the West in constructing houses, and is the best in the United States for blocks, but its scarcity in the Atlantic states prevents its being much used for that purpose. The leaves and bark yield an abundant mucilage, to which it owes its name, and which is a valuable remedy in coughs, and especially in dysentery and other bowel complaints. This, as well as every other kind of domestic medicine, is prepared and put up, with most singular nicety and care, at the Shaker establishment, at Canterbury, N. H. 3. *U. alata* (wahoo) inhabits from lat. 37° to Florida, Louisiana, and Arkansas, and is a small tree, sometimes 30 feet high, remarkable from the branches being furnished, on two opposite sides, with wings of cork, two or three lines wide; the wood is fine-grained, compact and heavy, and has been used in the South for the naves of coach wheels. The wood of the *U. campestris* of the eastern continent is superior to that of either of the American species, and, indeed, is one of the most useful in the mechanic arts, being employed for gun-carriages, blocks of ships, gunwales, &c., and is every where preferred by wheelwrights for the naves and felloes of wheels. The lower classes in England use it almost exclusively for coffins, probably on account of its durability in moist situations. This tree might

be advantageously introduced into the United States.

ELMINA, or **LA MINA**, or **ODDENA**, or **ST. GEORGE DEL MINA**; a town in Africa, on the Gold coast, situated in a low, flat peninsula, near the two forts St. George d'Elmina and Conradsburg; lon. $1^{\circ} 50'$ W.; lat. $5^{\circ} 10'$ N.; population about 15,000. It is the capital of the Dutch settlements in Western Africa, and the most respectable fortress on the Gold coast. The town is large, and remarkably dirty; some of the houses are built of stone, but they are huddled together in a confused manner. The country around is for the most part open and flat, the soil generally light. The inhabitants of the town are traders, fishermen, and persons employed as servants to traders. The citadel of Elmina, standing in the centre of the Gold coast, is very commodiously situated for the purposes of trade, and the protection and security of the trader. Its situation is upon a rock, bounded on one side by the ocean, and also defended by strong bastions.

ELMO'S FIRE, ST.; an appearance caused by fiery meteors in the atmosphere. It is often seen playing about the masts and rigging of ships. If two flames are visible (Castor and Pollux), the sailors consider it a good omen; if only one, which they call *Helene*, they regard it as a bad one.

ELMSLEY, Peter, D. D., an eminent scholar and philologist, was born in 1773, and educated at Oxford. Having inherited a fortune from his uncle, he devoted the remainder of his life to literature. In 1802, being then resident in Edinburgh, he became one of the original contributors to the *Edinburgh Review*, in which the articles on Heyne's *Homer*, Schweighauser's *Athenæus*, Bloomfield's *Prometheus*, and Porson's *Hecuba*, are from his pen. He also wrote occasionally, at a subsequent period, in the *Quarterly Review*. In the pursuit of his philological studies, Mr. Elmsley afterwards visited most of the principal libraries on the continent, and spent the whole of the winter of 1818 in the Laurentian Library at Florence. The year following, he accepted a commission from the government to superintend, in conjunction with sir Humphrey Davy, the unrolling of the *Herculanean papyri*; in which the selection of the manuscripts was left to his judgment. On his return to England, he settled at Oxford, and, having taken the degree of doctor of divinity, obtained soon after the headship of Alban hall, and the Camden professorship in 1823. He died

in 1825. He published an edition of the following tragedies of Sophocles and Euripides: *Acarnanes*, in 1809; *Œdipus Tyrannus*, 1811; *Heraclidae*, 1815; *Medea*, 1818; *Bacchæ*, 1821; and *Œdipus Coloneus*, 1823.

ELONGATION, in astronomy, the angle under which we see a planet from the sun, when reduced to the ecliptic; or it is the angle formed by two lines drawn from the earth to the sun and planet, when reduced as above.

ELOPEMENT is when a married woman, of her own accord, departs from her husband, and dwells with an adulterer; for which, without voluntary reconciliation to the husband, she shall lose her dower. By eloping and living apart from the husband, he is discharged of the future debts, and no longer liable to support her.

ELORA; a town in Hindostan, in the province of Dowlatabad; lon. $75^{\circ} 23'$ E.; lat. $19^{\circ} 58'$ N.; about 18 miles N. E. of Aurungabad, 260 miles from Bombay, 650 from Madras, and more than 1000 from Calcutta; inhabited by Bramins only. About a mile west of the place is a chain of mountains, of reddish granite, out of which the famous temples of Elora are excavated. These temples must be counted among the most stupendous works ever executed by man. The circuit of the excavations is about two leagues. The temples are 100 feet high, 145 feet long, and 62 feet wide. They contain thousands of figures, appearing, from the style of their sculpture, to be of ancient Hindoo origin. Every thing about them, in fact, indicates the most persevering industry in executing one of the boldest plans. Their origin is prior to the period of history. A tradition says that Visvacarma was the architect of the chief temple, and that Vishnoo and the Santhones were his assistants. The chief temple still bears the name of Visvacarma. The vault is supported by several rows of columns, which form three galleries, one above the other. 24 colossal monolithes, representing Indian gods, are placed in separate divisions, the sculpture of which, though, on the whole, it may be called rude, shows, in some parts, an advanced period of art, and a certain developement of taste. On each side of the colonnades of the great temple are hewn out sphinxes, quite in the Egyptian style. These remarkable works, which will probably perish from exposure to air and moisture, if nothing is done for their preservation, were first described by the English captain T. B. Seely, in his *Wonders of Elora*

(London, 1824). Seely relates the following remarkable circumstance: that Indian soldiers, in the English army in Egypt, in 1799, exclaimed, while gazing at several of the Egyptian images with astonishment, that Hindoos must have inhabited Egypt! Future ages will perhaps trace the Egyptian civilization to India, as Champollion is at present tracing Grecian civilization to Egypt. (q. v.)

ELSINORE, ELSINEUR, or HELSINGOER; a seaport of Denmark, on the E. coast of the island of Zealand, 20 miles N. Copenhagen; lon. $12^{\circ} 38'$ E.; lat. $56^{\circ} 2'$ N.; population, 7000. It is well built, and stands on the west side of the Sound, nearly opposite to Helsingberg, in Sweden, at the narrowest place of the Sound, which is here less than four miles wide. It has no harbor, but an excellent roadstead, generally crowded with vessels going up or down the Baltic, and anchoring here, either to pay toll or take in stores, the supply of which forms the chief business of the place. The aggregate number of vessels of all nations passing the Sound is nearly 10,000. The toll paid for English, French, Dutch and Swedish vessels is 1 per cent. on the value of their cargoes, and $1\frac{1}{4}$ per cent. for vessels of other nations. The annual amount of toll varies from £120,000 to £150,000 sterling. At Elsinore, the fortress of Cronberg, situated on the edge of a promontory, is provided with powerful batteries.

ELYSIUM, ELYSIAN FIELDS; 1. the name of certain regions, which the ancients supposed to be the residence of the blessed after death. They are described sometimes as delightful meadows, sometimes as islands situated on the western confines of the earth. But they gradually receded as this portion of the earth was explored. The happiness of the blessed consisted in a life of tranquil enjoyment. The images by which the happiness of a residence there is described, were taken partly from Olympus, and partly from descriptions of the golden age. The most beautiful meadows alternated with pleasant groves; a serene and cloudless sky was spread over them, and a soft, celestial light shed a magical brilliancy over every object; the heroes there renewed their favorite sports; they exercised themselves in wrestling and other contests, danced to the sound of the lyre, from which Orpheus drew the most enchanting tones, or wandered through odoriferous laurel-groves, on the smiling banks of the Eridanus, in delightful vales, or in meadows watered by limpid foun-

tains, amid the warbling of birds, sometimes alone and sometimes in company; a perpetual spring reigned there; the earth teemed three times a year; and all cares, pains and infirmities were banished from those happy seats. (For the origin of the fable, see *Cemetery*.) The voluptuous description of the gardens of Armida, in Tasso's *Jerusalem Delivered*, is an imitation of the ancient ideas of the Elysian fields.—2. The Parisians have called one of their favorite gardens and principal places of amusement *Champs-Élysées*.

ELZEVIR, or ELZVIER. This family of printers, residing at Amsterdam and Leyden, is celebrated for beautiful editions, principally published from 1595 to 1680. The best known are Louis, Matthew, Isaac (associated with Buonaventura), John and Daniel, at Amsterdam and Leyden. Besides these was Peter Elzevir, at Utrecht, who has done less for the art. Louis was the first printer who made a distinction between the consonant *v* and the vowel *u*. Abraham and Buonaventura prepared the small editions of the classics, in 12mo. and 16mo., which are still valued for their beauty and correctness. Daniel was one of the most active of this family. Although the Elzevirs were surpassed in learning, and in Greek and Hebrew editions, by the Stephenses (Etiennes, printers and booksellers at Paris), they were unequalled in their choice of works and in the elegance of their typography. Their editions of Virgil, Terence, the New Testament, the Psalter, &c., executed with red letters, are masterpieces of typography, both for correctness and beauty. Several catalogues of their editions have been published: the last is by Daniel (1674, 12mo.), in seven parts, much increased by the admission of foreign works. (See Brunet's *Notice de la Collect. d'Auteurs, etc. p. les Elzev.* in the 4th vol. of the *Manuel du Libraire*.)

EMANATION, EFFLUX (from the Latin *emanare*, to issue, to flow out, to emanate). Philosophical systems which, like most of the ancient, do not adopt a spontaneous creation of the universe by a Supreme Being, frequently explain the universe by an eternal emanation from the Supreme Being. This doctrine came from the East. Traces of it are found in the Indian mythology, and in the old Persian or Bactro-Median doctrine of Zoroaster. (q. v.) It had a powerful influence on the ancient Greek philosophy, as may be seen in Pythagoras.—In theology, the doctrine of emanation is the doctrine of the Trinity, which regards the Son and Holy

Ghost, &c., as effluxes from the Deity himself.

EMANCIPATION. (See *Catholic Emancipation*.)

EMANUEL THE GREAT, king of Portugal, ascended the throne in 1495. During his reign were performed the voyages of discovery of Vasco da Gama (1497), of Cabral (1500), of Americus Vespucius (1501 and 1503), and the heroic exploits of Albuquerque, by whose exertions a passage was found to the East Indies (for which the way was prepared by the discovery of the cape of Good Hope, in 1486, by Bartholomew Diaz), the Portuguese dominion in Goa was established, the Brazils, the Moluccas, &c., were discovered. The commerce of Portugal, under Emanuel, was more prosperous than at any former period. The treasures of America flowed into Lisbon, and the reign of Emanuel was justly called "the golden age of Portugal." He died Dec. 13, 1521, aged 52, deeply lamented by his subjects, but hated by the Moors, whom he had expelled, and by the Jews, whom he had compelled to submit to baptism. As a monument of his discoveries, Emanuel built the monastery at Belem (q. v.), where he was buried. He was a friend to the sciences and to learned men. He left Memoirs on the Indies.

EMBALMING; to embalm, to fill and surround with aromatic and desiccative substances any bodies, particularly corpses, in order to preserve them from corruption. The ancient Egyptians were the inventors of this art. Other people, for example, the Assyrians, Scythians and Persians, followed them, but by no means equalled them in it. The art has degenerated very much from the high degree of perfection at which it stood among the ancients; perhaps because the change in religious opinions and customs has made the embalming of the dead less frequent. In modern times, only distinguished individuals are occasionally embalmed; but this process does not prevent corruption. —The intestines are taken out of the body, and the brains out of the head, and the cavities filled up with a mixture of balsamic herbs, myrrh and others of the same kind; the large blood-vessels and other vessels are injected with balsams dissolved in spirits of wine; the body is rubbed hard with spirits of the same kind, &c. (See *Mummies*.) The ancient Egyptians removed the viscera from the large cavities, and replaced them with aromatic, saline and bituminous substances, and also enveloped the outside of the body in cloths impregnated with similar materials.

These were useful in preventing decomposition and excluding insects, until perfect dryness took place. In later times, bodies have been preserved a long time by embalming, especially when they have remained at a low and uniform temperature, and have been protected from the air. The body of Edward I was buried in Westminster abbey, in 1307, and in 1770 was found entire. Canute died in 1036; his body was found very fresh in 1776, in Winchester cathedral. The bodies of William the Conqueror and of Matilda his wife were found entire at Caen, in the 16th century. Similar cases are not unfrequent. In many instances, bodies not embalmed have been preserved from decay merely by the exclusion of the air and the lowness of the temperature. Impregnation of the animal body with corrosive sublimate appears to be the most effectual means of preserving it, excepting immersion in spirits. The impregnation is performed by the injection of a strong solution, consisting of about four ounces of bichloride of mercury to a pint of alcohol, into the blood-vessels, and, after the viscera are removed, the body is immersed, for three months, in the same solution, after which it dries easily, and is almost imperishable. *Wet preparations*, or those immersed in alcohol or oil of turpentine, last for an indefinite time.

EMBARGO, in commerce; an arrest on ships or merchandise, by public authority; or a prohibition of state, commonly on foreign ships, in time of war, to prevent their going out of port; sometimes to prevent their coming in; and sometimes both for a limited time.

EMBASSADOR. (See *Ambassador*, and *Ministers, Foreign*.)

EMBAYED; the situation of a ship when she is enclosed between two capes or promontories. It is particularly applied when the wind, by blowing strong into any bay or gulf, makes it extremely difficult, and perhaps impracticable, for the vessel thus enclosed to draw off from the shore, so as to weather the capes and gain the offing.

EMBER WEEKS or DAYS, in the Christian church, are certain seasons of the year set apart for the imploring God's blessing, by prayer and fasting, upon the ordinations performed in the church at such times. The ember weeks were formerly observed in different churches with some variety, but were at last settled as they are now observed, by the council at Placentia, in 1095.

EMBEZZLEMENT is the appropriation, by a person, to himself, of money or prop-

erty put into his hands in trust. An embezzlement is both a theft and breach of trust; yet, by the general law, it is only a ground for an action for the value of the property. But there are many special provisions in relation to particular embezzlements and breaches of trust. By the law of England, a clerk guilty of embezzlement is liable to transportation not exceeding 14 years; and a public servant or agent committing the like offence is declared guilty of a misdemeanor, and punishable at the discretion of the court. Still more severe provisions are made in the case of embezzlement by the officers and clerks of banks. The laws of the U. States contain numerous provisions on this subject. The embezzlement of wines or other spirits deposited in the public stores, renders the party liable to the same penalty as for fraudulently landing the same goods with intention to evade the revenue; and special provisions are made respecting embezzlements in the post-office, the army and navy, and in relation to the U. States bank in particular. It is provided by the act of March 3, 1825, "that if any person employed as president, cashier, clerk or servant in the bank, shall feloniously take, steal and carry away any money, goods, bond, bill, bank-note, or other note, check, draft, treasury-note, or other valuable security or effects belonging to, or deposited in, the bank; or shall fraudulently embezzle, secrete or make away with any money, goods, bond, bill, bank-note, or other valuable security or effects, which he shall have received, or which shall come to his possession or custody by virtue of such employment; he shall be deemed guilty of felony, and, on conviction, shall be punished by fine not exceeding \$5000, and imprisonment and confinement to hard labor not exceeding ten years." The English law contains provisions in relation to embezzlement by servants and others. But the provisions on this subject are not so numerous, either by the English or American laws, as they ought to be, considering that embezzlement involves the guilt of a larceny with the fraud of a breach of trust. This is mostly a subject of state legislation in the U. States, and the laws of the states contain some provisions in relation to it. By the general marine law, a mariner forfeits his wages by the embezzlement of any part of the cargo of the ship; and so he also forfeits his share of the prize money by embezzling any part of the captured property.

EMBLEM (Gr. *εμβλημα*, from *εμβάλλω*, to

cast in, to insert); properly, *inlay*; inlaid or mosaic work; something inserted in the body of another; a picture representing one thing to the eye, and another to the understanding; a painted enigma, or a figure representing some well-known historical event, instructing us in some moral truth; a typical designation: thus a balance is an emblem of justice; a crown, an emblem of royalty.

EMBONPOINT; a moderate and agreeable fullness of figure. (See *Corpulency*.)

EMBOSSING, or **IMBOSSING**, in architecture and sculpture; the forming or fashioning works in relief, whether cut with a chisel or otherwise.

EMBRACERY; an attempt to corrupt or influence a jury, or any way incline them to be more favorable to the one side than the other, by money, promises, letters, threats or persuasions, whether the jury give a verdict or not, or whether the verdict given be true or false; which is punished by fine and imprisonment.

EMBROIDERY; figured work in gold, or silver, or silk thread, wrought by the needle, upon cloths, stuffs or muslins. In embroidering stuffs, a kind of loom is used, because the more the piece is stretched, the easier is it worked. Muslin is spread upon a pattern, ready designed, and sometimes, before it is stretched upon the pattern, it is starched to make it more easy to handle. The art of embroidery was invented in the East, probably by the Phrygians. In Moses' time, Aholiab, of the tribe of Dan, was noted for skill in embroidery, and the women of Sidon, before the Trojan war, excelled in the same art. Though the Greeks attributed the invention of the art to Minerva, yet it is certain that it came through the Persians to Greece. The king of Pergamus (Attalus), in the year of Rome 621, invented the mode of embroidering with gold thread. In modern times, the art has been much extended. In 1782, three German ladies, in Hanover, named Wyllich, invented a mode of embroidering with human hair. Beads, &c., also have been used.

EMBRYO; the first rudiments of the animal in the womb, before the several members are distinctly formed, after which it is called the *fœtus*. (q. v.) The time necessary to produce this is different in different species. The human embryo is visible in three weeks: at the end of four, a pulsation is perceptible, which is known to be the beating of the heart. It is now about the size of an ant or fly, and retains its transparency, which,

however, gradually diminishes, and, at the end of two months, disappears: the eyes, nose, mouth, ears, and all the members, are distinguishable: it is as large as a bee. In three months, every thing becomes more distinct; the sex becomes evident, and the foetus grows until it is ushered into the world as a child.

EMDEN; a city at the mouth of the river Ems, in the principality of East Friesland, the first commercial city of Hanover, with 11,000 inhabitants, a Latin school, a learned society, &c. It is a free port. It has much trade in herrings. It is expected that its commerce will be much benefited by the junction of the Ems and the Rhine.

EMERALD is a well-known gem of pure green color, somewhat harder than quartz. Its natural form is either rounded or that of a short six-sided prism. By the ancients the emerald was in great request, particularly for engraving upon. They are said to have procured it from Ethiopia and Egypt. The most intensely colored and valuable emeralds that we are acquainted with are brought from Peru. They are found in clefts and veins of granite, and other primitive rocks, and oftentimes grouped with the crystals of quartz, felspar and mica. The emerald is one of the softest of the precious stones, and is almost exclusively indebted for its value to its charming color. In value it is rated next to the ruby, and, when of good color, is set without foil, and upon a black ground, like brilliant diamonds. Emeralds of inferior lustre are generally set upon a green gold foil. These gems are considered to appear to greatest advantage when table-cut and surrounded by brilliants, the lustre of which forms an agreeable contrast with the quiet hue of the emerald. They are sometimes formed into pear-shaped ear-drops; but the most valuable stones are generally set in rings. A favorite mode of setting emeralds, among the opulent inhabitants of South America, is to make them up into clusters of artificial flowers on gold stems. The largest emerald that has been mentioned, is one said to have been possessed by the inhabitants of the Valley of Manta, in Peru, at the time when the Spaniards first arrived there. It is recorded to have been as big as an ostrich's egg, and to have been worshipped by the Peruvians, under the name of the *goddess or mother of emeralds*. They brought smaller ones as offerings to it, which the priests distinguished by the appellation of *daughters*. Many fine emeralds are stated to have

formerly been bequeathed to different monasteries on the continent; but the greatest part of them are said to have been sold by the monks, and to have had their place supplied with colored glass imitations. These stones are seldom seen of large size, and at the same time entirely free from flaws. The emerald, if heated to a certain degree, assumes a blue color, but it recovers its own proper tint when cold. When the heat is carried much beyond this, it melts into an opaque, colored mass. The Oriental emerald is a variety of the ruby, of a green color, and is an extremely rare gem. (See *Beryl*.)

EMERSON, William, an eminent English mathematician, was born at Hurworth, near Darlington, in the year 1701. Having derived from his parents a moderate competence, he devoted himself to a life of studious retirement. From the strength of his mind and the closeness of his application, he acquired a deep knowledge of mathematics and physics, upon all parts of which he wrote sound treatises, although with few pretensions to originality of invention, and in a rough and unpolished style. He died in 1782, in his 81st year.

EMERY, John, an actor of eminence, was born at Sunderland, in the palatinate of Durham, December 22, 1777, and educated at Ecclesfield in Yorkshire, where he acquired that knowledge of the provincial dialect which afterwards contributed so much to his celebrity. In the unsophisticated rustic or the stupid dolt, he was excellent; while in some parts, written purposely for him, such as Tyke in the *School of Reform*, and Giles in the *Miller's Maid*, his acting was truly terrific and appalling. The portraying of rough nature, fine simplicity, and strong passion, was his forte; and in the latter, especially, he ever excited the approbation of the best critics. In private life, he was much esteemed; he died in January, 1822.

EMERY, a very hard mineral, of blackish or bluish-gray color, is chiefly found in shapeless masses, and mixed with other minerals. It contains about 80 parts in 100 of alumine, and a small portion of iron, is usually opaque, and about four times as heavy as water. The best emery is brought from the Levant, and chiefly from Naxos, and other islands of the Grecian archipelago. It is also found in some parts of Spain, and is obtained from a few of the iron mines in Great Britain. In hardness, it is nearly equal to adamantine spar, and this property has rendered it an object of great request in various arts.

It is employed by lapidaries in the cutting and polishing of precious stones; by opticians, in smoothing the surface of the finer kinds of glass, preparatory to their being polished; by cutlers and other manufacturers of iron and steel instruments; by masons, in the polishing of marble; and, in their respective businesses, by locksmiths, glaziers, and numerous other artisans. For all these purposes, it is pulverized in large iron mortars, or in steel mills; and the powder, which is rough and sharp, is carefully washed, and sorted into five or six different degrees of fineness, according to the description of work in which it is to be employed. (See *Corundum*.)

EMETIC (*emeticus*; from *εμεω*, to vomit); that which is capable of exciting vomiting, independently of any effect arising from the mere quantity of matter introduced into the stomach, or of any nauseous taste or flavor. The susceptibility of vomiting is very different in different individuals, and is often considerably varied by disease. Emetics are employed in many diseases. When any morbid affection depends upon, or is connected with overdistention of the stomach, or the presence of acrid, indigestible matters, vomiting gives speedy relief. Hence its utility in impaired appetite, acidity in the stomach, in intoxication, and where poisons have been swallowed. In the different varieties of febrile affections, much advantage is derived from exciting vomiting, especially in the very commencement of the disease. In high inflammatory fever, it is considered as dangerous, and in the advanced stage of typhus, it is prejudicial. Emetics, given in such doses as only to excite nausea, have been found useful in restraining hæmorrhage. Different species of dropsy have been cured by vomiting, from its having excited absorption. To the same effect, perhaps, is owing the dispersion of various swellings, which has occasionally resulted from this operation. The operation of vomiting is dangerous or hurtful in the following cases: where there is determination of the blood to the head, especially in plethoric habits; in visceral inflammation; in the advanced stage of pregnancy; in hernia and prolapsus uteri; and wherever there exists extreme general debility. The frequent use of emetics weakens the tone of the stomach. An emetic should always be administered in the fluid form. Its operation may be promoted by drinking any tepid diluent or bitter infusion.

EMETINE is a peculiar vegetable princi-

ple, obtained from the ipecacuan root, of whose emetic properties it is conceived to be the sole cause. It is obtained by digesting the root first in ether and then in alcohol. The alcoholic infusion is evaporated to dryness; and to the residuum, redissolved in water, acetate of lead is added, which produces a precipitate. The precipitate is washed, diffused in water, and decomposed by a current of sulphureted hydrogen gas. Sulphuret of lead falls to the bottom, and the emetine remains in solution. By evaporating the supernatant fluid, this substance is obtained pure. It forms transparent, brownish-red scales; it is destitute of smell, but has a bitter, acrid taste. At a heat somewhat above that of boiling water, it is resolved into carbonic acid, oil and vinegar. In a dose of half a grain, it acts as a powerful emetic, followed by sleep: six grains produce violent vomiting, stupor and death.

EMEÜ, or NEW HOLLAND CASSOWARY. (See *Cassowary*.)

EMIGRATION. Removal from one country to another, for the purpose of permanent residence. Every man born free, or who had obtained his freedom, formerly had the right of emigrating. But as capital and power were lost to a state by the removal of its inhabitants, it was considered, that emigration ought to be forbidden, and the people only allowed to remove from one place to another within the limits of the state. Experience, however, proved that such prohibitions were fruitless, and the only way to guard against emigrations was by the fullest protection of property; by granting freedom of conscience, and the undisturbed exercise of religion; and by not banishing subjects from their country on account of their religious opinions, as was once done (e. g., in France and Saltzburg); by allowing them, under the protection of judicious laws, with the assurance of freedom in trade and commerce, the undisturbed enjoyment of the fruits of their industry; by not exposing them to the oppression of magistrates; and by delivering them from the fear of unreasonable or arbitrary taxes. When we consider how much resolution is required to abandon forever the home to which man is bound by the strongest ties of recollection, language and habit, to seek an uncertain fortune in a land of strangers, there is no reason to believe, that large masses will ever emigrate without the most urgent motives. Wherever emigration is common, it is not an evil itself, but only the consequence and symptom of an evil arising from the dissatisfac-

tion of the people with their condition. If things have come to such a state, that men think they cannot obey the laws of their country without violence to their consciences, they ought to be at liberty to seek in other countries religious and political freedom. Besides, in the abstract, emigration is a right inherent in man. Every person does as much as can be required of him, if he obeys the laws of that country in which he chooses to reside, and only very peculiar circumstances can justify the checking of emigration. The most cruel tyranny was exercised by Louis XIV, when he deprived the Protestants of their religious privileges, and endeavored to prevent their emigration. The end of government is the welfare of the citizens, and they are at liberty to retire from the state when their welfare is no longer provided for by the state. In America, the right of emigration is as indisputable as the right of eating and drinking. It is one of the fundamental privileges of the English nation, also, to leave the country without special permission, which is limited only in regard to those who stand in some particular relations to the state, such as magistrates or soldiers; and, in certain cases, it may be taken away by the writ *ne exeat regno*, under the great or privy seal. Acts of parliament have often been passed, by the English government, to prevent its citizens from engaging in foreign military service; for instance, in that of the South American insurgents, in 1819; but these were not directed against emigration. The emigration of manufacturers of wool, silk, iron, &c., has been forbidden by separate laws (by those of 1719, 5 Geo. I, cap. 27; 1740, 23 Geo. II, cap. 13, and 1782, 22 Geo. III, cap. 60). The only punishment, however, for emigrants of this class, declining to return on receiving a summons to that effect, is the loss of citizenship. Those who instigate them to quit the country are liable to fine and imprisonment. The French code also, at least since 1789, has permitted unlimited emigration; and the laws since made against emigrants were only owing to the hostile spirit of most of those who emigrated; for the emigrants were unwilling to give up their right of citizenship in France, and attacked the new government in the ranks of its foreign invaders. By the act of the German confederation, article 13, the right of emigration is allowed to all the members of the confederacy. Well founded information in regard to the dangers that threaten emigrants in foreign countries, measures for

increasing the means of labor, the removal of the artificial restraints, by which the great mass of wealth is kept in a few hands, freedom of trade,—these are the means by which a spirit of emigration may be checked, and the love of home revived. Prohibitions of emigration are unjust, as well as impolitic, and always prove, that a government which allows them has an incorrect idea of its rights. If a dense population is the cause of emigration, let the government establish colonies. The British government have taken means for aiding the settlement of emigrants in Canada, the cape of Good Hope, and New Holland. Still more was done in Russia, for the support of those who had emigrated thither, after disease and want had carried off a multitude of those unhappy men in the unhealthy steppes of Odessa. Emigrants to the United States have often been deceived in their expectations, have fallen, on their arrival, into the hands of sharpers, or have wasted the little resources which they brought with them, for want of information respecting the best way to proceed. To remedy these inconveniences, by giving information and advice to newly arrived emigrants, a society in New York established the free emigrant's office, a very useful institution, and worthy to be imitated in all the large seaports of the United States. It might be well for this society to distribute handbills, in the language of the emigrants, among them before they land, containing a few rules and directions. It might even be useful to transmit information of the real state of things in this country, and of the best course for emigrants to pursue, to those countries from which emigration is most common: this object might be easily effected by means of newspapers. The principal countries from which emigration at present takes place to the United States, are Great Britain, Ireland, Switzerland, Alsace, Würtemberg. From England and Ireland, a large emigration takes place, also, to Canada, New South Wales, Van Diemen's Land, &c.; from Würtemberg and Prussia to Russia and Poland, which, however, has been less extensive of late; from the Eastern and Northern States of the U. S. to the Western States; of colored persons from the United States to Liberia in Africa, and to Hayti (very few, however, in number, particularly to the latter country.) A society has lately been formed at Washington for instructing people of color in the elements of science and the mechanical arts, to

make them useful members of the colony in Africa.

From official returns, ordered to be printed by the house of commons, we learn, that the whole number of passengers, which embarked from the year 1812 to 1821, both years inclusive, for the United States, from Ireland, was 30,653; from England, 33,608; from Scotland, 4727; whole number, 68,988: for the British dominions in North America, from Ireland, 47,223; from England, 23,783, and from Scotland, 19,971; total, 90,972. Thus the whole number of emigrants from the United Kingdom for North America, from the year 1812 to the year 1821, both years included, was 159,960. But the number of emigrants from Ireland has since very much increased. In the beginning of July, 1830, it was calculated, that about 12,300 Irish emigrants had arrived at Quebec during the season; and it was estimated, that, during the year 1830, there would be not less than 50,000 emigrants from Ireland to Canada and the United States. The general government of the United States has not as yet adopted any measures to check this accession to their population, though by no means always of the most desirable kind; but should it often happen (as has already taken place), that paupers, infirm and poor people are sent out, merely for the purpose of getting rid of them in Ireland or England, it would become necessary to take measures of prevention against such a breach of hospitality. In some of the states, laws have been made imposing some restraints upon the landing of emigrants. A late Quebec newspaper states, that the accession of population which the British North American provinces and the United States have received from Europe since 1816, cannot be less, on an average, than 35,000 a year, or 490,000. It may, indeed, fairly be estimated at 500,000. Allowing each family of 5 persons, to have brought out money, clothes and other property, valued at 20 sovereigns, they would have added a capital of £2,000,000 sterling. Supposing their labor worth \$90, or 20 sovereigns a year, their productive industry will now be worth, at a very low estimate, £2,000,000 annually. The emigrants from Germany, Alsace and Switzerland are very numerous, and are among the most valuable additions to the American population, as the great body of them are sober, industrious, and orderly people, and good farmers. A singular circumstance, to which the history of no other nation affords a parallel, is the emigration

of the Americans from the east constantly westward. It would almost seem that they had no pleasure in the fruits of their labor, but that the labor itself was their enjoyment. After partially clearing up the wilderness, and surrounding himself with the comforts of civilized life, the enterprising pioneer of civilization often moves still farther into the depths of the forest, and his place is supplied by the less restless emigrant from Europe. Among these, the German is not unfrequent, who is delighted with the prospect of becoming an owner of land in fee simple, and of being able to save something which he can truly call his own. He converts his land into a fine productive farm. But his ignorance of the language of the people about him prevents him from partaking fully in their advantages, and confines him to a comparatively limited sphere of action; he, therefore, remains far behind his American brethren in all that regards moral and intellectual education, as for instance, in schools, instruction, &c. This, at least, is the case where the German settlers are so numerous as not to be obliged to mingle much with Americans, as in some counties in Pennsylvania. (For the French *émigrés*, see the following article.)

ÉMIGRÉS (emigrants). We meet in history with many instances of large bodies of men being obliged to leave their country on account of religious persecutions, as did the Huguenots, for instance, in the 17th century, or for some other causes. (See *Emigration and Refugees*.) The appellation of *émigrés* (the French for *emigrants*), however, is now applied to those persons particularly, who left France at the commencement of the French revolution. These persons, some from enmity to the new order of things, others to escape political persecution, removed into the neighboring countries, some with a little property, which they had found means to carry off, others entirely destitute. They were from all ranks, and of all ages and conditions; men and women, children and old men, priests and nobles. Most of them hoped to see the restoration of the old order, by which they might be enabled to return to their country, and therefore remained at first on the frontiers. Among them were seen examples of the basest profligacy and the most heroic self-denial. Persons who had been accustomed to all the luxuries of life, and the refinements of rank, earned a scanty subsistence in petty employments, and bore their privations with dignity and resigna-

tion. Several counts are said to have been employed as boot-blacks. It would be unjust to call all those who left their country to its fate in the time of its greatest peril, weak and timid; for where anarchy rules, the innocent is not secure. The emigration, however, of the royal princes, particularly the count of Provence, afterwards Louis XVIII, can hardly be justified. Their presence was of great importance to the state, and their example contributed not a little to the extensive emigration which followed, and the injurious consequences which attended it. Many of the *émigrés*, however, were persons of loose, idle and profligate habits, whose conduct brought a reproach upon the whole body. This, but more particularly the fear of provoking the vengeance of the French government, was the cause of their being refused a refuge in some countries, and of their being received under certain restrictions in others. At the head of the emigrants stood the royal princes of Condé, Provence and Artois, the first of whom collected a part of the fugitives to coöperate with the allied armies in Germany for the restoration of the monarchy. At Coblenz, a particular court of justice was established to settle causes relating to the French *émigrés*. As a body, they are described by contemporary authors as haughty in their deportment towards foreigners, and acting as if they constituted the French nation, and as if the rest of Europe did nothing more than its duty in assisting them to recover their estates and feudal rights. But the invasion of the Netherlands by Dumouriez drove them from these provinces in mid-winter, in a deplorable condition, while their number was daily increased by the system of violence and terror carried on in France; e. g. by the bloody tragedies of Lyons and Toulon. The corps of Condé was finally taken into the Russian service, and was disbanded in the Russian-Austrian campaign of 1799. When Napoleon became emperor, it was one of his first acts of grace to grant permission to all but a few of the emigrants to return to their country. Many, however, who by this time had settled in foreign places, did not choose to avail themselves of the indulgence. The *charte* of Louis XVIII contains an express declaration, that the emigrants have no claim upon their former possessions; but this did not prevent them from bringing forward their demands for indemnification, which have often occasioned a good deal of excitement in the public. The chambers granted in 1825,

on the proposition of Villèle, the income of a capital of 1000 millions of francs, as an indemnification for the estates of the emigrants, which had been sold. (See *France*.)

EMILIUS. (See *Emilius*.)

EMINENCE (from the Latin *eminentia*); an honorary title, like *excellency*, and given to cardinals. They were formerly called *illustrissimi* and *reverendissimi*; but pope Urban VIII (of the Barberini family), in 1630, established the above as their title of honor. Popes John VIII and Gregory VII gave this title to the kings of France. The emperors have likewise borne it. It has gradually sunk, as titles always do.

EMIR (i. e. *noble, princely*); a title of honor, given in Turkey to those who claim descent from Mohammed and his daughter Fatima. These emirs are found 1. In Arabia, where they are the chieftains of the wandering tribes, or Bedouins. (q. v.) Their origin, however, is doubtful. 2. In Turkey itself, they form a kind of hereditary nobility, and wear as a badge a green turban, as Mohammed is said to have done. They have certain privileges, but otherwise no higher claims to civil offices than other Mussulmen, and live for the most part in great indigence, as they are idle and extravagant. The word *emir* is also applied to certain offices and employments, e. g., *emir hadschi*, conductor of the pilgrims in caravans.

EMLYN, Thomas, an English dissenting divine, was born at Stamford, in Lincolnshire, 1663; and, after studying at the university of Cambridge, he finished his education at an academy in London. In 1683, he became chaplain to the countess of Donegal. He left this situation in 1688, and went to London, and, the following year, became pastor of a congregation at Lowestoff, in Suffolk. In 1691, he accepted an invitation to become assistant to the reverend Joseph Boyse, at Dublin. Mr. Emlyn had adopted sentiments approaching to Arianism, and, the circumstance being suspected, an inquisitorial examination was set on foot by his brethren, the dissenting ministers of Dublin, who, as he would not disavow what he conceived to be the truth, restricted him from continuing his pastoral duties. Finding himself the object of public odium, he published his *Humble Inquiry into the Scripture Account of Jesus Christ*, or a short Argument concerning his Deity and Glory, according to the Gospel. Immediately after this work appeared, he was arrested on the charge of blasphemy, tried before the chief justice of the queen's bench, and

sentenced to a year's imprisonment, a fine of £1000, and detention in prison till it should be paid. The fine was reduced to £70, through the interposition of the duke of Ormond, and other humane persons; and, after somewhat more than a year's confinement, Mr. Emlyn was set at liberty. He removed to London, where he preached for some time to a small congregation, and occupied himself in writing controversial tracts. He enjoyed the friendship of doctor Samuel Clarke, William Whiston, and other individuals distinguished for their learning and liberality, and was generally respected for the excellence of his character and amiable disposition. He died July 30th, 1743. A collection of his works was published in 1746, 2 volumes 8vo., with an account of his life.

EMMET, Thomas Addis, an eminent Irish lawyer and patriot, was born in the city of Cork, in Ireland, in 1765. His parents were highly respectable inhabitants of that city, in easy circumstances. The son was placed, in his boyhood, at the university of Dublin, and designed by his father for the profession of medicine. He was educated accordingly, and pursued his medical studies at Edinburgh. The death of his elder brother, a member of the Irish bar, occasioned him to pass from the practice of medicine to the study of the law, at the desire of his parents. He went to London, read two years in the Temple, and attended the courts at Westminster. On his return to Dublin, he commenced practice, and soon obtained distinction and business. The celebrated Curran was one of his circuit and term companions. Being of an ardent character, and enthusiastically Irish, he imbibed deeply the resentment and antipathy of the majority of his countrymen against the British rule and connexion. When the societies of united Irishmen were revived in the year 1795, Emmet joined the association, and soon became a leader. Their object was revolution, and an independent government for Ireland. Emmet acted as one of the grand executive committee of the societies, who consisted of at least 500,000 men. March 12, 1798, he was arrested, and committed to prison at Dublin, as a conspirator, by the viceroyal government, along with Oliver Bond, doctor Macneven, and other chiefs of the disaffected party. In July, after a severe confinement, an interview took place between Emmet and lord Castlereagh, at Dublin castle, and it was agreed, that he and the other state prisoners should be permitted

to go to the United States, as soon as they had made certain disclosures of their plans of revolution, and the projected alliance between the united Irishmen and France. These disclosures were made in a memoir, delivered August 4, but without the confession of any names, which were inflexibly refused by the writers. They were, soon after, examined in person before the secret committees of both houses of the Irish parliament. Instead, however, of being sent to the United States, Emmet and nineteen more were, early in 1799, landed in Scotland, and consigned to fort George, a fortress in the county of Nairn. Here they were liberally treated, but their detention lasted three years. At the expiration of that period, the list of pardons arrived, including the name of every prisoner except Emmet. The governor of the fortress released him notwithstanding, taking all the responsibility. Emmet, and his exemplary wife, who had shared unremittingly his imprisonment, both in Ireland and Scotland, were landed at Cuxhaven from a British frigate, spent the winter of the year 1802 in Brussels, and that of 1803 in Paris. In October, 1804, they sailed from Bordeaux for the United States, and arrived in New York on the 11th of the next month. Emmet, then about 40 years of age, at first hesitated between the professions of the law and medicine; but his friends determined him to undertake the former. George Clinton, then governor of the state of New York, induced him to abandon his original plan of settling in Ohio, and to remain in the city of New York. He was admitted to the bar at once, by special dispensation, and reached the first ranks of the profession in a short time, by indefatigable industry and fervid eloquence. In the course of a few years, he rivalled in business and fame the most eminent of the American lawyers. Occasionally the ardor of his temperament and the vivacity of his recollections betrayed him into party politics; but his general career and character were those of a laborious, able and most successful pleader, an energetic and florid orator, a sound republican citizen, and a courteous gentleman. In 1812, he was appointed to the office of attorney-general of the state of New York. His death took place in the 63d year of his age, in a remarkable way. November 14, 1827, while attending the trial of an important cause at New York, in the circuit court of the United States, he was seized with an apoplectic fit, which put an end to his existence the following

night. It was only on the 13th, that he had delivered a most animated and powerful address to a jury in a cause of the greatest importance and difficulty. An ample and deserved tribute of public respect was paid to his memory. Mr. Emmet was a thorough classical scholar, and conversant with the physical sciences. During his detention at the fortress in Scotland, he wrote part of an Essay towards the History of Ireland, which was printed in New York, in 1807. His private life was irreproachable, his countenance strong and regular, and his frame manly and healthy.

EMPECINADO, THE. (See *Diez*.)

EMPEDOCLES, a Greek philosopher, whose doctrines, in many respects, resembled those of Pythagoras, was born 460 B. C. at Agrigentum, in Sicily. His fellow citizens esteemed him so highly, that they wished to make him king; but, being an enemy to all oppression, and elevation of a few above the rest, he refused the offer, and prevailed on them to abolish aristocracy, and introduce a democratical form of government. The Agrigentines regarded him with the highest veneration, as the restorer and preserver of their liberty, the public benefactor, the great poet, orator and physician, the favorite of the gods, the predictor of future events, and the mighty magician who could stop the course of nature, and overrule the power of death itself. He is said to have thrown himself into the crater of mount Etna, in order to make it believed, by his sudden disappearance, that he was of divine origin. According to others, he was a victim to his rash curiosity, when, in order to examine more accurately the nature of the mountain, and of its fiery eruptions, he went too near the edge of the chasm, and fell in. But it is probable that this is a fiction, as well as the story of Lucian about him, that his sandals were thrown out from the volcano, and thus the manner of his death ascertained, and the people undeceived as to his pretended divinity. Others assert, that he was drowned in his old age. Empedocles presented his philosophy in a poetical dress. His verses are marked by bold and glowing imagery, as well as by harmony and softness. Lucretius was his imitator. The iambic poem on the spheres, formerly ascribed to him, is now considered spurious. The poems of his yet extant have been published together, with a treatise on his life and philosophy, by F. W. Sturz (Leipsic, 1806). Empedocles holds the four elements—earth, water, fire, air—as the

fundamental and indestructible principles, from whose union and separation every thing that exists is formed. To these material principles are added the ideal principles of friendship and hatred. Domenico Scina has written *Memoirs on the Life and Philosophy of Empedocles* (Palermo, 1825).

EMPEROR (from the Latin *imperator*; in German, *Kaiser*, from *Cæsar**); the title of the highest rank of sovereigns. The word *imperator*, from *imperare*, to command, had very different meanings among the Romans at different periods. In the most general sense, it signified the commander of an army, as *imperium* did the command itself. In early times, consuls were called *imperatores* before they entered on their office. The soldiers afterwards conferred the title on their general, after a victory, by hailing him *imperator*; the senate also called a victorious general *imperator* until he had celebrated his triumph. At a still later period, no one was honored with this title, who had not defeated a hostile army of at least 10,000 men. After the overthrow of the republic, *imperator* became the title of the rulers, or emperors, and indicated the supreme power; the word *rex* being too odious to be assumed. Victorious generals were still, however, sometimes saluted with the title *imperator*, in its original sense. In the time of the republic, the title was put after the name, as *Cicero imperator*; when it came to signify *emperor*, it was put before the name, as *imperator Claudius*. With the destruction of the Roman empire, the title was lost; but it was renewed in 800 A. D., when Charlemagne was crowned emperor of the West. For a long time, the title was considered as belonging to the sovereignty of Rome; hence, on the division of the empire among the sons of Louis-le-Débonnaire, Lothaire, king of Italy, received the title. Charles the Bald, and several princes of Italy, bore it, until Otho I, in 962 A. D., finally united the imperial crown with that of the German kings. Yet it was for many centuries considered necessary to be crowned at Rome in order to be formally invested with the title of *emperor*.

* Derived from the title of dignity *Cæsar*, which in the last ages of the Roman dominion, denoted only the assistants and successors of the actual emperor. The name *Cæsar*, it is well known, was adopted by the successors of Julius Cæsar, as a title of honor, as the brothers of Napoleon were called *Napoleon*, after having ascended thrones, as Joseph Napoleon, Jerome Napoleon. The Russian *Czar* (q. v.) is not derived from *Cæsar*, but is of Slavonic origin.

For reasons too many to be enumerated here, the idea that the bishop of Rome was the highest spiritual ruler, and the emperor of the holy Roman empire (or of Germany), the highest temporal sovereign, was gradually developed. One reason undoubtedly was, that the German or Teutonic tribes were actually, in the beginning of the middle ages, the ruling people in most countries of Europe; but many other reasons, particularly a strange confusion of the universal empire of Rome with the universal empire of Christendom, and the idea of a universal church, as an organized society, to be supported, of course, by a temporal power, contributed much to give this idea currency. The impartial historian cannot doubt that, in the barbarous period of the middle ages, the authority of the pope was beneficial to Europe, and almost the sole support of civilization; but it would be hard to say what advantage Germany derived from taking part, *ex officio*, in all the quarrels of Europe, and from that unfortunate desire of possessing temporal authority over Italy, which has been one of the chief causes of her inferiority to some other states of Europe, in respect to the development of her political institutions. As the emperor was considered the highest temporal officer in Christendom, all the other states were regarded as dependent upon him; some of these, therefore, to show their independence, made claim to the imperial dignity, although they did not assume the title; as, for instance, the sovereigns of Castile, France and England. The eastern empire having been finally overthrown by the conquest of Constantinople, in 1453, the imperial dignity in the East became extinct. The sultans, who succeeded the emperors, have never received, in official language, the title of emperor. This title was adopted in Russia by Peter I, in 1721, but the right of the Russian sovereign to its possession was not acknowledged by the German empire until 1747—by France in 1745, and by Spain in 1759. Napoleon adopted the old idea of an empire, as a general union of states under the protection, or at least political preponderance, of one powerful state; the political system of a balance of power, had proved insufficient to maintain a general peace, and Henry IV's plan of a great European confederacy held out no prospect of permanent tranquillity. Napoleon crowned himself as emperor in 1804. In 1806, the German empire, 1000 years old, became extinct, and the German emperor, Francis II, adopted the title of

Francis I, emperor of Austria. The French empire was destroyed in 1814, by the peace of Paris. Great Britain is considered as an empire, the crown is imperial, and the parliament is styled the *Imperial Parliament of Great Britain and Ireland*; but the king himself has never adopted the imperial title, though this measure was proposed in parliament in 1804. The empire of Mexico, or Anahuac, established by Iturbide, was only momentary in its duration; but the empire of the Brazils, founded in 1822, seems to be firmly established. The sovereigns of Siam, China, Japan, and of Fez and Morocco, are often, though with little propriety, called *emperors*. At the coronation of the German emperors, princes and kings appeared as servants; the emperor promised to do justice, to be an upright sovereign, to consult the good of his subjects, to protect the church, to defend the empire, to be the guardian of widows and orphans; and not until the assembled people had replied to the question, "Will you submit to this sovereign and prince, and obey him?" with shouts of Yes, Yes (*Fiat, fiat, fiat*), were the unction and coronation (of which Göthe gives a description in his account of his life) performed. Formerly, it was only the coronation of the sovereign as German king, that took place at Frankfort, in Germany. This was followed by the imposition of the crown of Lombardy, an iron circle, made of a nail reputed to be from the cross of Christ, set in gold; and finally by the coronation as Roman emperor, performed by the pope in Rome. But from the time of Maximilian I, the German emperors were crowned in Germany only. After the fall of the French empire, a large number of persons in Germany, without organization or settled plan, desired the restoration of the German empire. The Germans, from a want of practical knowledge, then lost an opportunity of taking one step towards securing personal liberty, by wasting the time in vague declamation. That party, particularly, who wished for the restoration of the empire, talked of a glory, power and happiness which had never existed; they were actuated by indistinct historical recollections, and phantoms of their own creation, and, not a few, by their aristocratical predilections. A worse model of government, and a more perplexed political system, than the late German empire, cannot be contrived.

EMPIRIC, in medical history (from the Greek word *ἐμπειρία*, experience; an appel-

lation assumed by a sect of physicians, who contended, that all hypothetical reasoning respecting the operations of the animal economy was useless, and that observation and experience alone were the foundation of the art of medicine. *Empiric*, in modern medicine, is applied to a person who sells or administers a particular drug, or compound, as a remedy for a given disorder, without any consideration of its different stages, or degrees of violence, in different constitutions, climates or seasons. (For empiric philosophy, see *Experimental Philosophy*.)

EMS; a celebrated watering-place in the duchy of Nassau, on the river Lahn. The environs are beautiful. As early as 1583, it was used as a watering-place. The mineral waters at Ems are warm—from 70° to 118° Fahr.; they are of the saline class, containing large quantities of carbonic acid gas, and are used with much effect in chronic catarrhs, pulmonary complaints, diseases of the stomach, arising from phlegm and acidity, gout, and some diseases of the urinary vessels. (See *Die Heilquellen zu Ems*, Coblenz, 1821, by Vogler.) Near Ems is a grotto, similar to the *grotto del cane*, near Naples, the vapors from which cause asphyxia. About 50,000 bottles of the water of Ems are sent away annually.

EMULSIONS; a term applied to the imperfect solutions of the fixed vegetable oils in water. They are obtained by rubbing the seeds affording these oils with water, to which a little sugar has been added.

ENAMELING (from *enamel*, formed by a junction of the inseparable particle *en*—borrowed by us from the French, who had taken it from the Latin *in*—and the old English word *amel*, taken from the *émail* of the French, both signifying the material used in overlaying the variegated works which we call *en-ameled*); the art of variegating with colors laid upon or into another body; also, a mode of painting, with vitrified colors, on gold, silver, copper, &c., and of melting these at the fire, or of making curious works in them at a lamp. This art is of so great antiquity, as to render it difficult or impossible to trace it to its origin. It was evidently practised by the Egyptians, from the remains that have been observed on the ornamented envelopes of mummies. From Egypt it passed into Greece, and afterwards into Rome and its provinces, whence it was probably introduced into Great Britain, as various Roman antiquities have been dug up in different parts

of the island, particularly in the Barrows, in which enamels have formed portions of the ornaments. The gold cup given by king John to the corporation of Lynn, in Norfolk, proves that the art was known among the Normans, as the sides of the cup are embellished with various figures, whose garments are partly composed of colored enamels. Enamels are vitrifiable substances, and are usually arranged into three classes; namely, the transparent, the semitransparent and opaque. The basis of all kinds of enamel is a perfectly transparent and fusible glass, which is rendered either semitransparent or opaque, by the admixture of metallic oxides. The art of coloring glass seems to be of nearly the same antiquity as the invention of making it; which is proved, not only from written documents, but likewise by the variously colored glass corals, with which several of the Egyptian mummies are decorated. White enamels are composed by melting the oxide of tin with glass, and adding a small quantity of manganese, to increase the brilliancy of the color. The addition of the oxide of lead, or antimony, produces a yellow enamel; but a more beautiful yellow may be obtained from the oxide of silver. Reds are formed by an intermixture of the oxides of gold and iron, that composed of the former being the most beautiful and permanent. Greens, violets and blues are formed from the oxides of copper, cobalt and iron; and these, when intermixed in different proportions, afford a great variety of intermediate colors. Sometimes the oxides are mixed before they are united to the vitreous bases. All the colors may be produced by the metallic oxides. The principal quality of good enamel, and that which renders it fit for being applied on baked earthen ware, or on metals, is the facility with which it acquires lustre by a moderate heat, or cherry-red heat, more or less, according to the nature of the enamel, without entering into complete fusion. Enamels applied to earthen ware and metals possess this quality. Enamels are executed upon the surface of copper and other metals, by a method similar to painting. Enameling on plates of metal, and painting with vitrified colors on glass, are practised with great success in England.

ENCAUSTIC PAINTING (*encausticus*, Lat.; *ἐνκαυστικός*, Gr.). Painting in encaustic is executed with the operation of fire. Ancient authors often mention this species of painting, which, if it had been described simply by the word *encaustic*,

which signifies *executed by fire*, might be supposed to have been a species of enamel painting. But the expressions *encausto pingere*, *pictura encaustica*, *ceris pingere*, *picturam inurere*, by Pliny and other ancient writers, show that another species of painting is meant. We have no ancient pictures of this description, and, therefore, the precise manner adopted by the ancients is not completely developed, though many moderns have closely investigated the subject, and described their processes. This species of painting appears to have been practised in the 4th and 5th centuries.* Count Caylus and M. Bachelier, a painter, were the first of modern times who made experiments in this branch of art, about the year 1749. Pliny, in a passage relating to encaustic painting, distinguishes three species: 1. that in which the artists used a style, and painted on ivory or polished wood (*cestro in ebore*), for which purpose they drew the outlines on a piece of the aforesaid wood or ivory, previously soaked or imbued with some color; the point of the style or stigma served for this operation, and the broad end to scrape off the small filaments that arose from the outlines; and they continued forming outlines with the point till they were finished. 2. The next manner appears to have been one in which the wax, previously impregnated with color, was spread over the surface of the picture with the style, and the colors thus prepared were formed into small cylinders for use. By the side of the painter was a brasier for keeping the styles continually hot, with the points of which they laid on the colors when the outlines were finished, and spread them smooth with the broad end; and thus they proceeded till the picture was finished. 3. The third manner of painting was with a pencil, in wax liquefied by fire. By this method the colors acquired a considerable hardness, and could not be damaged, either by the heat of the sun or the effects of sea-water. In this manner ships were painted, with emblems and other pictures, and therefore it obtained the name of *ship painting*. Few, of late years, have made more experiments in this mode of painting than an English lady, Mrs. Hooker, who, for her very successful exertions in this branch of the polite arts, was presented with a gold palette by

the Society for the Encouragement of Arts, &c. of London. Her account is printed in the 10th volume of the society's Transactions, for 1792, when she was miss Emma Jane Greenland. This subject has also been deeply investigated by the chevalier Lorgna, in a small but valuable tract, called *Un Discorso sulla Cera Punica*. As the thing chiefly regarded in encaustic painting was the securing of permanence and durability, by the application of fire, the word *encaustic* has been applied, in a very general sense, to other processes, in which both the material and the mode of applying the heat are entirely different from the ancient materials and modes. The word has been used, not only of wax-painting on wood, stone and ivory, but also of painting on earthen vessels, of works in metal, where gold and silver were inlaid, melted, or laid on, and of every thing which was gilt or silvered by fire; which was called *gold* or *silver encaustic*. The moderns have also used the term for painting on porcelain, and work in enamel; and in the same way it was given to the painting on glass of the middle ages, such as is now seen in the windows of some Gothic churches. It is evident, that all these have nothing to do with the wax-painting of the ancients.

ENCHASING. (See *Chasing*.)

ENCHORIAL, or ENCHORIC (from the Greek *ἐν*, in, and *χωρά*, country.) The Egyptians employed different alphabets in writing—hieroglyphic, hieratic (used by the priests) and enchorial (used for the common purposes of life, and hence called also *epistolographic* and *demotic*. (q. v.) Thus, on the Rosetta stone (q. v.), there are three inscriptions, one in the hieroglyphical character, one in what the Greeks called *ἐγὼφία γραμματα*, and one in Greek characters. Doctor Thomas Young, in his *Egyptian Antiquities* (London, 1823, page 9), uses the word *enchorial*, or *enchoric*, to designate these popular characters, while M. Champollion calls them *demotic*. (See *Demotic*, and *Hieroglyphics*.)

ENCLAVE; a term used in German and French, to denote a place or country which is entirely surrounded by the territories of another power. Thus several petty duchies and principalities are *enclaves* of Prussia. It is easy to conceive how much confusion and difficulty in the administration and in the imposition of duties must be caused by such a local situation. It has always been a source of disputes, which have been finally settled by treaties.

* Vincenzo Requeno has treated the subject in a very masterly and scientific manner, in a work called *Saggi sul Ristabilimento dell' antica Arte de' Greci e Romani Pittori*, published at Parma, 1787.

ENCLOSURE; a fence, wall or hedge, or other means of protection and security, surrounding land. Countries in general lie open, with nothing but banks and ditches to divide the lands of the husbandmen; but in England and the U. States, each farm is divided from others by hedges and fences, and the farms themselves are broken into small enclosures. In France, Germany, Italy, Spain, &c., the lands still remain unenclosed, in large, open fields. Enclosures pleasantly subdivide the labors of the farmer; and, by restraining the exercise of cattle, they occasion them to get fat much sooner.

ENCRATITES; abstinent, or self-denying. (See *Gnostics*.)

ENCYCLOPÆDIA, or CYCLOPEDIA. This word, formed from the Greek, but not a native compound of that language (which uses instead, *ἐγκύκλιος παιδεία, παιδεία ἐν κύκλῳ*, also *ἐγκύκλια μαθήματα*), originally denoted the whole circle of the various branches of knowledge which were comprehended by the ancients in a liberal education (the *artes liberales* of the Romans; see *Arts*). At a later period, the word was applied to every systematic view, either of the whole extent of human knowledge (universal encyclopædia), or of particular departments of it (particular or partial encyclopædia). The want of such general surveys was early felt; and, as knowledge increased, they became still more desirable, partly for the purpose of having a systematic arrangement of the sciences, in their mutual relations, partly for the readier finding of particular subjects; and, for these two reasons, such works were sometimes philosophically, sometimes alphabetically arranged. The spirit of compiling, which prevailed in the Alexandrian school, soon led to attempts remotely allied to this, and Varro and Pliny the elder, among the Romans, composed works of a similar kind (the former in the lost works, entitled *Rerum humanarum et divinarum Antiquitates*, and *Disciplinarum Libri IX*, the latter in his *Historia naturalis*). To these may be added the later collections of Stobæus, and Suidas, and especially of Marcianus Capella. These, however, were only preparatory labors. The honor of undertaking encyclopædias on a regular plan, belongs to the middle ages, which, with iron industry, produced not only a large number of cyclopædias of particular sciences, called *Summæ*, or *Specula* (e. g. the *Summa Theologiæ* of Thomas Aquinas), but also a Universal Encyclopædia, such as had never been seen before. The in-

defatigable Dominican, Vincent of Beauvais (Bellocensis), about the middle of the 13th century, exhibited the whole sum of the knowledge of the middle ages, in a work of considerable size (*Speculum historiale, naturale, doctrinale*, to which an anonymous author added, some years later, a *Speculum morale*, in a similar form), in extracts from the works of the writers of the time;—a real treasure to the inquirer into the literary history of the middle ages, and not without value in itself in many respects (e. g. for the light which it throws on profane criticism). The latest edition was published at Douay, in 4 vols. fol. In the 17th century, the works, by no means without value, of Matthius Martinius, professor and rector in the gymnasium at Bremen (*Idea methodicæ et brevis Encyclopædiæ sive adumbratio Universitatis*, Herborn, 1606), and of John Henry Alstead (*Encyclopædia vii Tomis distincta*, Herborn, 1620, 2 vols. fol.) were followed by those of the illustrious Bacon. In these works, not, indeed, very voluminous, but rich in deep and acute thinking (his *Novum Organum Scientiarum*, first published, London, 1620, fol.; and *De Augmentis Scientiarum*, English, London, 1605, 4to., Latin, London, 1638, fol.), he laid the foundation of a cyclopædia full of the most profound inquiries, and the boldest anticipations, which his own age was not capable of understanding. Since his time, a multitude of encyclopædias have appeared, but none of them have the purely scientific design of Bacon, and all relate either to the instruction of the young and uninformed (Chevigny, *La Science des Personnes de la Cour, de l'Épée, et de la Robe*, 5th ed. by H. P. de Limiers, Amsterdam, 1717, 4 vols.; J. E. Wagenseil, *Pera Librorum juvenilium*, Altorf, 1695, 5 vols.), or are intended as books of reference for the learned. Among the greatest works of earlier date would have been reckoned the *Galeria de Minerva* of Cornelli, had it been completed according to the original plan. It was to have appeared in 45 folio volumes, of which only 7 were published (Venice, 1696). See Keyssler's *Travels*, vol. i. 1136. More successful, at least in being brought to a completion, was the *Grosse vollständige Universallexicon aller Wissenschaften und Künste* (Grand Universal Lexicon of all the Arts and Sciences), commonly called *Zedler's*, from the person who conducted it (Halle and Leipsic, 1732—50, 64 vols.; Supplement, 1751—1754, 4 vols. fol.); but it has, on the whole, little merit, and is successful only in

some particular branches, as, for instance, in genealogy. Of the English works of this kind, which deserve notice, are 1. Chambers' (q. v.) Cyclopædia, or a Universal Dictionary of Arts and Sciences—a work which has passed through several editions. 2. *Encyclopædia Britannica*. Of this there have been 6 editions, the last of which, completed in 1823, contains many improvements; another is now (1830) in the course of publication. The first edition came out in 1788, in 10 vols. 4to.; the 4th in 1810, and the 5th in 1815, as well as the 6th, are in 20 vols. To the 4th and 5th editions is added a Supplement in 6 vols., edited by Napier. 3. Rees' Cyclopædia, 39 vols. 4to. in 79 parts, with 6 supplementary parts, and numerous engravings, London, 1802—20, Philadelphia, 41 vols. 4to., 6 vols. of plates. In the technical department, particularly, this is the most complete work of the kind which we have. 4. Edinburgh Encyclopædia, 1810 et seq., not yet complete; Philadelphia, vol. 17, part 1, appeared in 1829, and comes down to STE. This work, devoted particularly to natural science and technology, is conducted by Dr. Brewster, in Edinburgh. 5. *Encyclopædia Londinensis*, published by John Wilkes, begun 1796. 6. *Encyclopædia Edinensis*, begun in 1816, edited by J. Millar, 6 vols. 4to. 7. *Encyclopædia Metropolitana*, London, 4to., begun in 1815, to consist of 25 vols. 4to. 8. *Methodical Cyclopædia*, by Mitchell, London, 1823, 12mo., yet unfinished. 9. Nicholson's British Encyclopædia, in 12 vols. 1809 et seq. 10. Gregory's Dictionary of Arts and Sciences, 3 vols. 4to., first American, from second English edition, Philadelphia and Charleston, 1815. Besides these larger works, a multitude of smaller cyclopædias have been published by Watson, Willich, Enfield, Kendal and others.—The Italians have G. P. Pivati's *Dizionario scientifico e curioso, sacro-profano*, Venice, 1746—51, 10 vols. fol. Of the French cyclopædias, the most famous is the great *Dictionnaire Encyclopédique*, by Diderot and D'Alembert, (see next article), frequently called, *par excellence*, *The Encyclopædia*. This was followed by the more extensive one of Félice. Still more comprehensive is the *Encyclopédie méthodique, ou par Ordre de Matières*, which has been publishing at Paris since 1782, and is now extended to 148 4to. vols. text, and 52 vols. copperplates. Several works of this kind have also been published in Germany. Krunitz's Encyclopædia is the most celebra-

ted, of which 146 vols. had been published in 1827, as far as the article *Schiffahrt*. There is an abridgment, also, of this work, in many vols. The *Deutsche Encyclopädie oder allgem. Wörterbuch aller Künste und Wissenschaften*, begun by Köster, in 1778, and continued by J. F. Roos, to the 23d volume, 1804, remains unfinished (A to KY, with a volume of engravings, folio). At present, there is a new great German encyclopædia publishing by Richter, a bookseller in Leipsic, which has been edited by Ersch (q. v., lately deceased) and Gruber, professors at Halle, of which 15 vols. 4to. have already appeared. Among the latest encyclopædian journals are Jullien's *Revue Encyclopédique*, and Férussac's *Bulletin universel des Sciences et de l'Industrie*, the latter of which is published monthly, arranged in 8 sections. (For an account of the German Conversations-Lexicon, see our Preface.)

The rapid advancement of the sciences and arts, and the proportionally rapid communication between all civilized nations, have made a general acquaintance with many different branches of knowledge more desirable, and often more necessary, than ever before. This is one of the chief causes which have produced in our time so many encyclopædias of various kinds, some very learned, and others more adapted for the general reader; some embracing all the sciences and arts, others only single branches; of the latter sort are Loudon's Encyclopædias of Gardening, of Agriculture, &c. To the same class belong the numerous dictionaries intended to impart information in certain branches of knowledge, useful or entertaining, from the learned *Physikalisches Wörterbuch* of Gehler, to the lively *Dictionnaire des Girouettes*, or *Dictionnaire des Bons-mots*. Among the encyclopædian works particularly intended for general readers, are the Library of Useful Knowledge, published by the Society for the Diffusion of Useful Knowledge—a society well deserving its name, and whose activity has been called forth chiefly by the exertions of Mr. Brougham; the Library of Entertaining Knowledge, published also by the same society (of which, according to the report of the society, in 1830, not less than 19,000 copies had been sold); an Almanac (of which, in 1830, 41,000 copies were sold), and the useful Companion to the British Almanac (of which, in 1830, 17,000 copies were sold); doctor Lardner's Cabinet Cyclopædia, the Family Library, &c. A similar work to the Li-

brary of Useful Knowledge was advertised, in the beginning of 1830, as about to be published in Paris, under the name of *Encyclopédie Union*, to consist of 300 volumes, at 2 francs per volume, and to embrace all the arts and sciences. Most of the distinguished *savants* of the liberal party were to write for it. We have, however, heard nothing of its progress. In the *Antologia* of December, 1829, it is stated that doctor Gerard, who has traversed the Himalaya mountains and Thibet, for the purpose of introducing vaccination into that country, found, at Kinnaour, in Thibet, a man named Cosmas, a Transylvanian, an ardent philologist, who had discovered an encyclopædia in 44 volumes, in the language of that country. As every thing can be abused, so encyclopædias, which may contribute to propagate widely useful knowledge, may also tend to produce a disposition to be satisfied with superficial information, as in the case of the lady who spoke very learnedly, a whole evening, on a variety of subjects, the names of which all began with *ca*. It afterwards appeared, that she had just received the second volume of a new encyclopædia.

ENCYCLOPÉDIE, THE FRENCH. The term *encyclopædists* is used, particularly in French literature, to signify those who were engaged in the great alphabetical encyclopædia, embracing all arts and sciences, which was projected by Diderot; and is applied, also, to those who joined themselves to their party in philosophy and criticism, as Helvetius, for instance. Bouterwek says of this undertaking: "As Diderot took a lively interest in every thing worth knowing, he could not confine his literary labors to a single department. Mathematics, physics, philosophy and belles-lettres in turn attracted him. None but a mind of his excursive, encyclopædian turn, would have conceived the plan of preparing a summary of all human knowledge, up to the middle of the 18th century, in the form of a universal dictionary." And none but a man of Diderot's enthusiasm could have persevered in the execution of this work, in spite of all difficulties, and overlooking, in the zealous prosecution of his plan, the injury that such a work might do, by encouraging superficial and partial views. The work was undertaken at a time when every existing opinion and institution was eagerly brought before the tribunal of inquiry and criticism. This inquiring and criticising spirit naturally followed an age in which authority was

supreme; and thus the *Encyclopédie* was the consequence, as well as the cause, of a new epoch. That many false and superficial views should be mingled with it, is not strange; the golden mean of truth is seldom discovered at once. In the philosophical and critical articles, the peculiar sentiments of the writers of the *Encyclopédie* were received by the French public as the oracles of truth; and it became easy for the encyclopædists to give currency to what they called *philosophy*. They had, also, a great influence on the literary taste, not only of the French, but of other nations. Polished correctness, elegance of style, with an imitation of nature, and a moral design, were the highest excellences which they saw in art, and the great objects of attainment. As they made the understanding the sole judge of poetry, which was, therefore, to be the cool product of reflection, their views, by means of the authority which they had acquired, tended extremely to cramp the genius of the French in respect to works of imagination, and to destroy all boldness and freedom. They gained a still greater authority by their philosophy, just suited as it was to the prevailing spirit of the French people. Indeed, there is hardly an instance to be found, in which the literati of a nation have obtained so extensive and powerful an influence on political sentiment as the French literati, and particularly the French encyclopædists. Their philosophy, too, was a fashionable philosophy,—a philosophy for common life, favorable to wit and gayety. Instead of proceeding with steady steps to the goal of truth, they hurried to and fro, with daring leaps, and imagined that they had reached the mark, if they could maintain an opinion which contained something new and paradoxical. This mixture of philosophy with elegant literature became still more interesting, on account of the opinions which men like Mably, Condillac, Mercier, Raynal, Buffon, Helvetius, Diderot and D'Alembert advanced on the subjects of religion and civil government, for which a prohibition was laid on the further progress of the work. But the printers only, and not the authors, were punished, and the government was soon after obliged to permit the work to proceed, as it was too weak to prevent it. To the encyclopædists, who were connected with the highest circles of that time, is justly attributed a very important influence on the French revolution. *Encyclop., ou Diction. raisonné des Sciences, des Arts et des Métiers, par une Société de Gens de Lettres, mis en Or-*

dre par Diderot, et quant à la Partie mathémat. par d'Alembert (Paris, 1751—72, 28 vols. fol.) *Supplém.* (Amsterdam, Paris, 1776—77, 5 vols. fol.), *Table des Matières* (Paris, 1780, 2 vols. fol.), in all 35 volumes; also, at Geneva, 39 vols. 4to., Tables to it; Lyons, 1780, 6 vols. 4to.; Lausanne and Berne, 1778—81, 36 vols., 3 4to. vols. engravings.

ENDEAVOR STRAITS; a channel which separates the island of New Guinea from New Holland; about 30 miles in extent from N. E. to S. W., and about 15 broad, except at the entrance, where it is less than a league, being narrowed by the islands. A bank runs across it from north to south, about half a mile, where the depth of water, at three-quarters ebb, was found to be 3 fathoms.

ENDÉMIC (from *ἐν* and *δημος*, prevailing among the people). This name is often applied to diseases which attack the inhabitants of a particular district or country, and have their origin in some local cause, as the physical character of the place where they prevail, or in the employments, habits and mode of living of the people. Every part of the world, every climate and every country, has its peculiar endemics. Thus the tropical and warm climates are subject to peculiar cutaneous disorders, eruptions of various kinds, because the constant heat keeps up a strong action of the skin, and draws the humors to the surface of the body. In northern climates, eruptions of the skin occur, but they are of a different kind. Thus in all the north polar countries, especially in Norway, a kind of leprosy, the *radesyge*, is prevalent, arising from the coldness and humidity of the climate, which dispose the skin to such disorders. Hot and moist countries generate the most violent typhus and putrid fevers; the West Indies and some of the American seaports, for instance, produce the yellow fever. Places in a more dry and elevated situation, northern countries particularly, are peculiarly subject to inflammatory disorders. In countries and districts very much exposed to currents of wind, especially in mountainous places, we find, at all seasons of the year, rheumatisms, catarrhs, and the whole train of complaints which have their origin in a sudden stoppage of the functions of the skin. In large and populous towns, we meet with the most numerous instances of pulmonary consumption. In places that are damp, and at the same time not warm, e. g., on marshes and large rivers, intermittent fevers are prevalent. In cold and damp countries,

like England, Sweden and Holland, the most frequent cases of croup occur. Diseases which are endemic in one country, may also appear in others, and become epidemical, if the weather and other physical influences resemble those which are the causes of the endemic in the former place; the climate being for a time transferred, as it were, from one to the other. Thus, for instance, we find the croup sometimes, during wet and cold weather, appearing in high situations; intermittent fevers sometimes in places where they occur rarely for years, and then again attack great numbers; putrid and malignant typhus fevers rage in all countries occasionally; and so of the rest. Endemic disorders, in some circumstances, become contagious, and thereby spread to other persons, and may be transplanted to other places, the situation and circumstances of which predispose them to receive these disorders. This is known by the sad experience of the migrations of diseases, the spreading of the leprosy from the Oriental countries to Europe, &c. It is useful to inquire into the endemical circumstances of countries, districts, and even cities and towns; some precautions may be thereby suggested to escape the sickness, or to obviate the unwholesomeness of the situation of the place in question. As, for instance, the physician of pope Clement XI, Lancini, procured the draining and drying of the marshes about Pesaro; and the diseases which had arisen from the exhalations of these marshes immediately ceased. It is also very favorable to the cure of obstinate disorders, for the invalid to remove to a climate opposed to his particular complaint. Thus the English, to cure themselves of the pulmonary complaints and hypochondria, to which they are subject in their cold and foggy island, are accustomed to travel to the south of France, and especially to the neighborhood of Nice, the climate of which is incomparable. So it is of advantage to the consumptive to exchange the unwholesome city air, full of dust and fine particles of sand, for the pure atmosphere of the country. And so of other disorders.

ENDIVE. The wild succory (*cichorium intybus*) is now naturalized in some parts of the U. States, and is very common along the road sides in the vicinity of Boston. It is perennial, branching, and about two feet high, the leaves oblong lanceolate and runcinate, a little hairy on the nervures; the flowers axillary, geminate and nearly sessile, of a blue color, and resembling in size and form those of the dandelion: it

likewise belongs to the same natural family, *compositæ*. The wild succory contains a milky juice, and has been frequently employed by physicians as a tonic and aperient: when blanched, its bitterness is very much diminished, and in this state it is eaten in soups or as a salad, particularly in France, as it was formerly by the ancient Romans: it is also extensively cultivated in Italy for fodder, and the root, when roasted, has been used as a substitute for coffee. The endive (*C. endivia*), is perhaps only a cultivated variety of the former plant, from which it differs in being annual, more elevated, and having smooth, entire or dentated leaves, rarely lobed, and in its flowers being some of them sessile, and others upon long peduncles: it is considered in France one of the best esculents, and is eaten in salads, ragouts, as a pickle, &c.

ENDYMION; according to some, a huntsman, according to others, a shepherd, and according to a third account, a king of Elis. He is said to have asked of Jupiter, whom many have called his father, eternal youth and immortality. His beauty excited passion even in the cold Diana, and hence he has served in all ages as an ideal of loveliness, and Diana's love to him as that of the tenderest affection. He is most generally conceived as sleeping in the wood, where the mild rays of the moon kiss his slumbering eyes. (See *Diana*.)

ENEAS. (See *Æneas*.)

ENEID. (See *Virgil*.)

ENESIDEMUS. (See *Ænesidemus*.)

ENFIELD, William, LL. D., a dissenting divine, of great learning and amiable character, was born at Sudbury, in 1741. He was educated for the dissenting ministry, at Daventry, and, in 1763, was chosen pastor to a congregation at Liverpool, where he published two volumes of Sermons, in 12mo., and a collection of Hymns and Family Prayers, which were well received. In 1770, he became resident tutor and lecturer on belles-lettres, at the academy at Warrington, where he remained for several years, and published several works, including his well-known Speaker. Here he also drew up Institutes of Natural Philosophy, theoretical and experimental. After the dissolution of the academy, he accepted an invitation to preside over a congregation at Norwich. In 1791, he published his Abridgment of Brucker's History of Philosophy, 2 vols. 4to., a clear and able performance; and subsequently joined with doctor Aikin and others in the General Biography, 10 vols. 4to. He died in 1797, in his 57th year.

ENFILADE (from the French *enfiler*), in the military art, is used in speaking of trenches or position, which may be scoured by the enemy's shot along their whole length. In conducting the approaches at a siege care must be taken that the trenches be not enfiladed from any work of the place. In the famous battle of Zorndorf, a shot from a Prussian battery, enfilading a Russian square, killed or disabled 30 men.

ENGADINA, or ENGADINE; a beautiful valley in Switzerland, in the Grisons, on the banks of the Inn, bordering on the Tyrol, about 35 miles long, but in some parts very narrow, divided into Upper and Lower. Upper Engadina contains 3000 inhabitants; Lower Engadina, 4647. They speak the Romish language.

ENGAGEMENT, NAVAL. (See *Ship*, and *Navy*.)

ENGANO ISLE; an island about 30 miles in circumference, lying off the south-west coast of Sumatra, in lat. 5° 20' S.; lon. 102° 20' E. The male inhabitants go naked, and are fairer and taller than the Malays. Their arms are a long spear and a knife. The women and men wear several savage ornaments; among other things, they wear a large ring of cocoanut or leaves in large holes made in their ears. Their religion is unknown. In 1771, the English made an expedition to Engano, which was not more successful than that of the Dutch in 1643.

ENGEL, John James, one of the most eminent prose writers of Germany, whose works should be among the first read by every learner of the German language, was born at Parchim, in 1741, and received the rudiments of his education from his father, the clergyman of that place. After studying at several German universities, he accepted the office of professor in a gymnasium at Berlin, where he was soon made a member of the royal academy of sciences, and wrote the greatest part of his works. He afterwards went to Schwerin. On the accession of the present king of Prussia, whose tutor he had been, he was invited by his former pupil to Berlin, where he made himself exceedingly useful in the academy of sciences by his excellent and instructive writings, and enjoyed the esteem and the society of the most eminent men. His unremitted labors, in spite of sickness and hypochondria, hastened his end. He died at the place of his birth in 1802. Among his philosophical works may be mentioned his *Philosoph. für die Welt*, distinguished for acute observations on men and man-

ners, enlivened by elegant illustrations. Of a similar character is his *Mirror for Princes* (*Fürstenspiegel*). His *Ideen zu einer Mimik*, full of taste, acuteness and knowledge of human nature, may be regarded as a kind of manual for players. He also wrote some plays—*Der dankbare Sohn*, *Edelknaben*, &c. His *Lorenz Stark*, a novel, is a masterly picture of life and manners. A complete edition of his works appeared at Berlin, 1801—1806, in 12 vols.

ENGHIEN, or ENGHUEN; a town in the Netherlands, in Hainaut; 8 miles E. N. E. of Ath, 30 N. N. E. Valenciennes; population, 3045. Here is a superb castle with a park and gardens. This place gave the title of duke to a prince of the house of Bourbon Condé, in memory of a victory of the great Condé, obtained here. The last that bore the title was executed March, 1804. (See *Engghien, duke of*.)

ENGHIEN, Louis Antoine Henri de Bourbon, duke of, was born at Chantilly, August 2, 1772, son of Louis Henry Joseph Condé, duke of Bourbon (see the three articles *Condé*), a descendant of the great Condé. He became the pupil of the celebrated Millot. In 1789, he emigrated, travelled through various parts of Europe, and went, in 1792, to Flanders, to join the troops of his grandfather, the prince of Condé, in the campaign against France. From 1796 to 1799, he commanded, with distinguished merit, the vanguard of Condé's army, which was disbanded at the peace of Luneville. He was then, in 1804, led, by his love of the princess Charlotte de Rohan Rochefort, to Ettenheim, in Baden, where he resided as a private citizen, and where he married this lady. At this period, the newly established peace of France, and of all Europe, was threatened, in the person of Bonaparte, the first consul of France. Some of those enemies, who had not been able to subdue him in the field of battle, attempted his assassination. Many alarming symptoms were observed. In the middle of January, 1804, bets were made at London that the first consul would not live to see the next April. A new edition of the old pamphlet of Col. Titus against Cromwell, entitled *Killing no Murder*, was dedicated to Bonaparte. One of the principal commercial houses in Vienna wrote to a banker at Paris, "Here, as well as in Paris, the winter is mild; but the end of February is dreaded. Well-informed persons assert that you will have an earthquake. If you intend to make any speculations, regard this information as certain. I am not at liberty to say more." (See Buchholz,

Geschichte Napoleon Bonaparte's, Berlin, 1829, vol. iii. p. 273—a work by no means partial towards Napoleon.) These indications were soon actually followed by a conspiracy in Paris against the life of the first consul, supported by English money. 50 persons at Paris, some of distinction, were engaged in the conspiracy, before it was discovered by the police: among them were Armand and Julius Polignac (the late prime minister of France), sons of the duke of Polignac, who had played so conspicuous a part at Louis XVIth's court. Under the articles *Pichegru* and *Georges Cadoudal*, we shall speak more respecting this conspiracy. Suffice it here to say, that the detection of these conspiracies had shown that English money had been used, and that it was known that the English ministers at Munich and Stuttgard were aiding the emigrants in their attempts against France, and perhaps also plotting against the French government. England was, as it were, taken in *flagrante delicto*. The first consul found himself in the greatest danger. At the frontier on the Rhine, corps of emigrants were again collected. Georges (q. v.) had been arrested some time previously; and those who had been employed by him stated, that, at intervals of 10 or 12 days, a person came to visit him, to whom he and Rivière and Polignac showed great respect. The police believed this person to be one of the Bourbon family, and, after several conjectures, the duke of Engghien, who for some time had been lost sight of at Ettenheim, was fixed upon as the probable person. The distance between Ettenheim and Paris was such, that the duke might have reached this city in a few days. An officer of the *gendarmérie*, being sent to observe him, was informed at Strasburg, that the prince sometimes visited the theatre of that city, which was not true, but it was commonly believed that the prince was often absent from Ettenheim, hunting for some days, and that Dumouriez lived with him. In short, the French government became impressed with the idea that the duke was at the head of the conspirators, considering it, probably, unlikely that the prince would reside so near the frontier if he had no political designs, and, probably, no one at present doubts that the duke would have acted the part of a Bourbon prince, if any revolution had taken place in the heart of France. Even sir Walter Scott acknowledges this. The first consul, according to the account given by Las Cases, vol. vii. of his *Mémorial*, was taken by surprise in this affair. One day

after dinner, the discovery of some new plots was announced to him, and such urgent representations were made to him, that a special council of state was convened for investigating this subject, where the chief justice, Regnier, acting minister of police, read a report on the state of things within the country, and Talleyrand, minister of foreign affairs, another report, on the state of things without the country, connected with the conspiracy. Fouché attended by particular invitation, not being a member, but having displayed superior talent as well as zeal in tracing the conspiracy: Talleyrand's report closed with a proposition to seize the duke of Enghien at Ettenheim, and bring him by force into France, for examination. The object was to confront him with the two followers of Georges, and ascertain whether he was the mysterious personage in the habit of calling on him, as before mentioned. At this time, Pichegru's presence in France was unknown; he was supposed to be in London, where he had been. The proposition to violate the neutral territory of Baden, and forcibly carry off the object of suspicion, was warmly contested by Cambacères, then second consul (whose forthcoming posthumous memoirs will probably shed light on this transaction), but, being put to vote, was adopted by the council of state. The first consul, who did not know the duke of Enghien, either by name or character, and was far from being inclined to groundless suspicions, left the whole management of this affair to those to whose department it belonged. Such was his practice on all occasions. For instance, Bourienne says he would declare in council, where the discussions were perfectly free, "Gentlemen, I am here under your tuition: take care to set me right, as I shall act on your information and impulse. Wo be to him that misleads me." The order for the arrest of the prince was issued to general Ordener; he was also ordered to arrest Dumouriez, who was supposed to be with the prince, a mistake arising from the German pronunciation of the name of *Thumery*, a companion of the prince. General Ordener, who was sent to Strasburg, transferred the duty of seizing the duke and all his suite to a major of the *gendarmérie*. This officer having, by means of his soldiers, ascertained the situation of the house which the prince inhabited, surrounded it on the night of March 17, 1804, with from 3 to 400 soldiers and *gendarmes*. The duke at first wished to defend himself; but the force

was too great to be opposed, and thus the duke and Thumery, who had been taken for Dumouriez, a colonel Grundstein, lieutenant Schmidt, an abbé named Weinbrunn, and five domestics, were seized and carried prisoners to Strasburg. This was done with such celerity, that the prisoners were not even allowed time to dress themselves. Early upon the 18th, the escort set off with the duke for Paris, and as they arrived, towards evening, upon the 20th, at the gates of the capital, they received an order to conduct their prisoner to Vincennes, where he arrived exhausted by hunger and fatigue and just as he had dropped asleep, he was awaked, at 11 o'clock at night, to undergo his trial. The troops, which were marched to Vincennes on this occasion, were commanded by Savary. He found a court-martial, consisting of general Hullin, the president together with five colonels, and a captain, who was secretary. He was accused of having borne arms against France; of having offered his services to England, received agents of that country, and supplied them with means of maintaining connexions in the interior of France; of having put himself at the head of a band of insurgents and other persons, collected from Baden and Freiburg, and paid by England; of having had communications with the fortress of Strasburg, to excite insurrection in the neighboring departments; and of having aided in the plots of England against the life of the first consul. To these charges the duke answered that he had always commanded the vanguard of his grandfather, the prince of Condé, that he had a pension of 125 guineas a month from England, his only means of living: that he never knew Pichegru, and was glad that he did not, if what was said of him was true. The charge of having had any part in the conspiracies against the life of the first consul he repelled with indignation. At the end of the minutes of his answer, he placed a note in his own handwriting, at the suggestion of the captain-reporter (the official accuser), requesting an interview with the first consul: "My name," he wrote, "my rank, my way of thinking, and the horrors of my situation, induce me to hope that he will not refuse my request." Though nothing was proved against the prince, no witnesses being brought against him, he was executed the next morning at 6 o'clock, in the fosse of the castle. The prince met death with the greatest composure. Several circumstances have been related respecting his execution, as that a lantern was tied to his

breast to direct the aim of the soldiers; that he gave a lock of his hair to one of the soldiers to carry to the princess de Rohan, and that an officer snatched it away with the words, "No one shall receive the commissions of a traitor," and many other particulars, some of which have been proved false, and some are not authenticated. Very different accounts have been given of the conduct of the first consul in this affair. Thus it has been said that Josephine and Hortense entreated him to spare the life of the prince; that Cambacères and Berthier represented to him, in the most pressing manner, the uselessness of this bloody measure, and that he seemed disposed to yield to them when the news of the prince's death arrived: according to others, he would not listen to the entreaties and representations of his wife and of his friends. (None of these statements are of authority. See the note contained on the following page.) On the other hand, it is known to every impartial investigator, that Napoleon was far from being of a cruel disposition, that he was never deaf to prayers for mercy, if the great interests of France allowed him to listen to them. He pardoned most of the persons implicated in the conspiracy of Georges; he pardoned the prince of Hatzfeld; he offered pardon even to Staps, the young assassin at Schönbrunn; in short, proofs enough exist to show that his disposition was the opposite of cruel. The narratives of several persons concerned in the duke's death, tend also to exculpate the chief consul. Savary, duke of Rovigo, informs us in his *Mémoires*, that the consul heard, through him, of the execution of the prince with amazement, and greatly regretted it. The count Réal, counsellor of state, then prefect of Paris, and therefore charged with the police of that city, declares the same. He has asserted in the U. States, where he has lived a long time,* that Napoleon did not know of the execution of the duke until after it had taken place, and that he learned it with amazement from Savary's mouth, and that the consul had intended to set the prince at liberty. This agrees with the following statement, which we have from the most authentic source. Joseph, the brother of the consul, found him, after this catastrophe, much affected, and highly indignant at those persons whom he accused of having occasioned this catastrophe. He regretted much that he had lost so fine

* In presence of Joseph Bonaparte, count de Survilliers, Mr. Duponceau, general Lallemand, captain Sary and others.

an opportunity of doing an act of mercy. Even long after, in conversation with his brother, he frequently alluded to this sad event, and, with his usual vivacity, observed, "it would have been noble to pardon a prince, who, in plotting against me, *avait fait son métier*." "He was young," continued Napoleon, "my favors would have attached him to me; he would have become better acquainted with the state of France, and would have ended by entering my service; it would have been gratifying to have had the descendant of the great Condé for my aid-de-camp." This view is corroborated by Napoleon's own assertions, in Las Cases' Memorial, vol. vii. p. 437. The declarations of Napoleon himself, in his will, however, are at variance with this view of the subject. He there says, "I ordered the duke of Enghien to be arrested and executed, because it was necessary for the safety, the welfare and the honor of the French nation. Under the same circumstances I should act in the same way; the death of the duke of Enghien is to be imputed to those who plotted in London against the life of the first consul, and who intended to bring the duke of Berri by Beville, and the duke of Enghien by Strasburg, into France." Savary, who was himself a witness of the regrets of the consul on account of the death of the duke, gives the following explanation of this inconsistency;—that Napoleon, even on his death bed, preferred to take the charge of the duke's death upon himself, rather than to allow his power to be doubted; and that he acted thus from regard to the dignity of a sovereign, who, if he enjoys the credit of the good which is done in his name, would act unworthily in throwing the blame of the evil done in his name upon others. He says, when the emperor uses the words *Le duc d'Enghien est mort parceque je l'ai voulu*, his meaning amounts only to this: "When I reigned, no one dared conceive the thought of disposing of the life or liberty of any one. It might have been possible to impose upon me, but never for a moment to encroach upon my power." Las Cases, vol. vii. p. 418, gives a long passage, as containing the words of Napoleon himself on this subject. In this he says that France was infested with conspirators sent from London, that his life was in constant danger (a well known fact), and that he acted as in war, to put a stop to these outrages. He there goes only on the ground of justice, thinking it due to his honor to defend himself personally. It is certain, that in the critical situation in which he found

himself, walking upon volcanoes, still active, and ever ready for eruption, he could not have suffered it to be believed that such an act could be committed without his consent. A belief in his power was of the utmost importance to the peace and order of France. The welfare of France required that he should take upon himself the responsibility of every act done in his name. Another account of this catastrophe is given in Bignon's *Histoire de France depuis le 18 Brumaire* (November, 1799) jusqu'à la Paix de Tilsit (Juillet, 1807), Paris, 1829, with the motto, *Je l'engage à écrire l'histoire de la diplomatie Française de 1792 à 1815. Testament de Napoléon.* (See Bignon.) He says, among other things, such was the character of the first consul, that none of his acts can be taken from him—*Le mal, comme le bien qu'il a fait, lui appartient et n'appartient qu'à lui*—an assertion much too general, because the greatest man can build only with the materials which the time affords him. Napoleon himself often repeated—"I am no God; I do not do what I wish, but what I can." Bignon says that, in a note written by Napoleon himself, but not yet published, there is the following passage respecting the duke d'Enghien: "If guilty, the commission was right to sentence him to death; if innocent, they ought to have acquitted him, because no order whatever can justify a judge in violating his conscience." He says, also, that at this time (before the execution), people who were near the first consul saw him internally struggling (*livré aux angoisses les plus pénibles*) between what he thought a fatal necessity, and what his own disposition dictated; but that no friend advised mercy. He then continues: "None of the statements given of the arrest and sentence of the duke of Enghien explain why there was no communication between the court-martial and the superior authority, between Vincennes and Malmaison." And the question forces itself on our minds, Was every thing so preconcerted, was the sentence of death so certain, that it was not even sent to the first consul for consideration? Here we may add, at the same time, Why was the duke's request for an interview with the chief consul not reported to the latter, neither the petition which he presented to the court-martial, nor the letter which he wrote, some say from Strasburg, others from Vincennes? The answer is this: count Réal declared before the same persons, whom we have mentioned in a previous note, that, on the fatal night, a *gendarme* delivered a letter,

not knowing the import of it. Réal was asleep, and the letter was put on his mantel-piece. In the morning, when he opened the letter, he hastened to the first consul, but it was too late.* The fatal sentence had been executed. But who sends despatches of such a nature without orders to deliver them immediately and personally? In the whole of the process, there was an odious haste. Napoleon says, that when he was first spoken to of Enghien, all the orders for his arrest, &c. were already drawn up; and here is an unpardonable delay. Who is guilty of

* So we are informed, by good authority, count Réal declared himself in the U. States. Another account is given in an article, *Napoleon and Bourienne*, in the American Quarterly Review, September, 1830: "We have it, says the Review, in our power, from high authority (that of a person not now in this country), to state, what the duke of Rovigo was not aware of, the reason why the duke d'Enghien suffered death without the sanction or knowledge of the first consul. The prisoner, in extremity, asked to see the first consul, which was not permitted; but the judge-advocate, Dantancourt, humanely suggested to him to write a letter; which was done, and the letter sent to Réal. During that eventful night, the first consul had been called up five times, on the arrival of as many messengers, with insignificant despatches. So often disturbed, he gave orders not to be called again, unless for a very serious occasion. M. Real sent the duke d'Enghien's letter to Malmaison by a private horseman of the *gendarmérie*, who, uninformed of its contents, gave no intimation that it required immediate attention. It was laid on a table, where it remained unnoticed till after the first consul had deliberately risen, and made his toilet as usual, without the least notion of its contents. In the meanwhile, indeed, before he got out of bed, the ill-starred writer of that neglected letter was shot. The interview between the first consul and Réal, which immediately followed that between the first consul and Savary, disclosed the deplorable cause, as Savary's prior tidings had revealed the catastrophe. Réal's reception was that of a man who had been guilty of unpardonable negligence. He will, no doubt, at some proper time, submit his account to the world. But he knows that the duke d'Enghien was not sacrificed to a tyrant's passions, policy or fears; that the general agitation and very natural misunderstanding which his family and friends had occasioned throughout the capital and the council, the over-zealous, perhaps treacherous advice of some, the over-active, precipitate despatch of others, and one of those misadventures, which are so common in the affairs of this world, are the causes to which this disaster was owing. Once done, however, *nulla vestigia retrorsum*, never to recant, or apologize or recede, was one of Bonaparte's imperious maxims. He felt the full force of the French proverb, that whoever excuses, accuses himself; and nothing would induce him to disown a deed done under his orders, though they were violated to his infinite injury and mortification in almost every stage of the proceeding." Perhaps both accounts are correct; at all events, both exculpate Napoleon from the haste of the process.

both? To whom is to be ascribed the irregularities in the whole process, which M. Dupin, in his publication on this catastrophe, proves to have existed, and which the duke of Rovigo acknowledges, and even imputes to certain individuals? We are far from pretending to be able to clear up this mystery. Individuals have accused each other; but (according to the words of Louis Bonaparte, count de St. Leu, in his *Réponse*) *cette affaire est loin d'être éclaircie*. Count Hulin accuses Savary of the haste, and himself of the irregularity of the process, pleading ignorance respecting the forms of courts-martial. Savary accuses Talleyrand, most positively, of the whole crime, and, it cannot be denied, makes it plausible. His motive is said to have been to precipitate the first consul into an act which should stain him with Bourbon blood (with which Talleyrand and many others were themselves stained), so as to prevent him from becoming a second Monk, and restoring the Bourbons, which, of course, would have ruined Talleyrand. Talleyrand, on the other hand, defended himself in a letter to Louis XVIII, on this subject, with which the king was fully satisfied. History, we trust, will eventually fix the guilt on the name to which it belongs. As for Napoleon, we cannot but believe that he actually considered the duke of Enghien guilty of having plotted against France (he could not imagine him so insane as to live on the frontier of France without an object); probably, also, of having been concerned in, or at least acquainted with, the conspiracies of Georges, &c. at Paris; that he therefore believed the duke might be sentenced to death by the court-martial;* but, at all events, in-

* We quote from the article of the American Quarterly Review, above-mentioned, the following passage: "The question, then, for the first consul's decision, was not, as Bourienne states it, with many odious surmises, whether the prisoner should be executed, but whether he should be tried by a military tribunal. Bourienne was no longer near the person of the first consul. All his revelations are hearsays. The duke of Rovigo's account is the most particular and authentic that has appeared. The explanations of the duke d'Alberg and baron Massias are but remote and argumentative. The memoirs of Cambacères, as we have said, will have very important bearings on this affair. We have not seen the duke of Otranto's memoirs, and do not know what he says; nor have we read M. Dupin's pamphlet, in which the case is professionally considered. Prince Talleyrand's memoirs will, no doubt, contain whatever may be his apology. The letter he addressed to the king concerning it remains unknown to the public; and all the documents connected with this proceeding have disappeared from the public archives, which Savary says were

tended to pardon him (for such a pardon would not only have accorded with Napoleon's disposition, but have been serviceable to his politics: he wanted peace); that, however, others, either from a criminal desire to please the first consul, and acting under the supposition that he wished the duke's death, or from some other motive, hastened the execution; that Bonaparte, justly, was then unwilling to have it supposed that such an act could be committed against his will, as he was just forming a government, and establishing order in its different departments, and the belief in his power was indispensable; and that he finally thought it beneath his dignity to accuse his servants, on his death bed, preferring to take the odium upon himself, pleading in excuse the

in the custody and power of Talleyrand, as secretary of that department. We can give assurance, on authority which cannot mistake or be mistaken (if wrong, it must be intentionally so, and we have been deceived ourselves, which we cannot believe), that the idea of the death of the duke d'Enghien never crossed the first consul's mind, till he was astonished and confounded by the tidings communicated to him by Savary of his execution. Whatever the precipitation of some of his ministers, or the intrigues of others, may have designed; however his own ideas may have been surprised, his measures hurried, and the result enchainé, it is certain, unless we are grossly misinformed (and if we are, it is designedly), that the sudden, violent and impolitic death of the victim of various untoward circumstances, was as unexpected and as unwelcome to him, at whose door it is laid as an unpardonable crime, as to any one living. The question was, not whether he should be put to death, but whether he should be put on his trial. Joseph, Josephine, Cambacères, Berthier, earnestly expostulated with the chief magistrate against it. Talleyrand was for strong measures. He said he knew the Bourbons well; that they were insensible to every thing but fear. Joseph, who was living at Morfontaine, and transiently in town, the 20th of March, the day the duke d'Enghien was taken a prisoner to Paris, spoke to his brother in his behalf, warmly urging the defence of the grandson of the prince of Condé, who, he reminded his brother, had seven times crowned him for as many distinctions gained at the royal school of Autun; to which expostulation the first consul's reply affords a curious proof of the state of his mind at the moment. His answer was given by declaiming the following passage from a speech of Cæsar, in Corneille's tragedy of Pompey:—

"Votre zèle est faux, si seul il redoutoit
Ce que le monde entier à pleins vœux souhaitoit;
Et s'il vous a donné ces craintes trop subtiles,
Qui m'ôtent tout le fruit de nos guerres civiles,
Où l'honneur seul m'engage, et que pour terminer
Je ne veux que celui de vaincre et de pardonner,
Où mes plus dangereux et plus grands adversaires,
Si tôt qu'ils sont vaincus, ne sont plus que mes frères;
Et mon ambition ne va qu'à les forcer,
Ayant dompté leur haine, à vivre et m'embrasser.
Oh! combien d'allégresse une si triste guerre
Aurait-elle laissée dessus toute la terre,
Si l'on voyoit marcher dessus un même char,
Vainqueurs de leur discorde et Pompée et César."

emergency of the times, rather than to throw it upon others, who could not plead this excuse, and who, probably, would find means to exculpate themselves after his death; particularly, as the chief accusation would probably have been against Talleyrand, who had just betrayed him, so that a charge then preferred might have looked like an act of revenge. As to the illegality of arresting a person on the territory of another and friendly power, the first consul must have thought himself sufficiently excused by the plots constantly detected against his life, and the immense danger in which he himself and the peace of France were placed. "This was a matter," says Napoleon at St. Helena, "between the French government and that of Baden."*

We will only observe, in conclusion, that the person who was supposed to be the duke of Enghien, and to visit Georges at Paris, was Pichegru. The consequences of the death of the young prince were not favorable for Napoleon, except, perhaps, that it struck the conspirators with fear, and may thus have prevented some new conspiracies. But in France, where the prince was respected for bravery, all classes were afflicted, and the friends of the first consul not the least; for he had arrived at, and thus far maintained, his high station without shedding blood, so that people had begun to feel secure, and now, all the former apprehensions were awakened. Foreign courts generally showed great reserve on this occasion, except those of Russia and England; but the higher classes, who were essentially opposed to a revolution, the chief trait of which was opposition to the feudal system, exclaimed loudly against it. The court of St. Petersburg went into mourning, and made the duke's death a point of diplomatic discussion. The execution of the duke of Enghien was a fruitful source of libels and falsehoods against Napoleon, repeated so often, that the opinion of many is still influenced by them; and we have given so much space to the consideration of the subject, from its important bearing on the history of

Napoleon. After the restoration of the Bourbons, a monument was erected to the memory of the unfortunate prince in the chapel of Vincennes, by the king of France and the chambers.

The works which afford the most information respecting this event, are the *Memoirs of the Duke of Rovigo*; *Examination of the Proceedings of the Court-martial instituted to try the Duke of Enghien*; A justificatory Memorial published by the duke de Vicenza (Caulaincourt), who was charged to coöperate in the arrest of the duke, and to deliver an explanation respecting the violation of the territory of the elector of Baden after the arrest; some Letters published by the duke of Dalberg, minister from the court of Baden to the French government, in the year XII (1804); Minutes made on the Exhumation of the Duke of Enghien in 1816; A Deposition of *Sieur Anfort*, brigadier of *gendarmerie* at Vincennes; A Note from Baron de Massias, then French minister at the court of Baden; the *Memoirs of Las Cases and O'Meara*. Cambacères's memoirs will probably contain important information on this point, as Rovigo says he charged him to give an account of it. Sir Walter Scott's account of this subject in his *Life of Napoleon Bonaparte*, is a web of facts and unfounded rumors, and bears rather the stamp of the newspaper accounts published at the time when the events took place, than that of history. In the beginning of 1830, the baron de Matthias, who was French minister at Carlsruhe when the death of the duke of Enghien took place, addressed a letter to M. de Bourienne (author of the *Memoires of Napoleon*, which, in several instances, have been proved to deviate much from truth). In this letter, M. de Matthias, who was acquainted with many details of the duke's arrest, &c., asserts positively, that Napoleon was deceived respecting the duke's alleged crime, Dumouriez's stay at Ettenheim, &c. We refer the reader to the article *Napoleon and Bourienne*, already mentioned in the *American Quarterly Review*, September, 1830, to enable him to judge of Bourienne's authority.

ENGIA; an island near the coast of the Morea, in a gulf to which it gives name; anciently called *Ægina* (q. v.), *Ænone* and *Myrmidonia*; about 30 miles in circumference, but rendered by rocks nearly inaccessible, except on the N. W. It has no harbors, and but one town, which contains about 800 inhabitants. In it are seen the remains of a temple dedicated to Venus, and another dedicated to Jupiter.

* A singular example of an arrest, attended with circumstances of the same illegality which marked that of the duke, sometime since took place in Germany. During the prosecutions against the liberals in that country, the Prussian government wished to secure the person of M. Cousin (q. v.), the distinguished French metaphysician then in Saxony (1824), and Prussian officers were sent into Saxony to arrest him. This was in a time of profound peace, when the government and its chief were in no danger.

25 miles S. S. W. Athens; lon. $23^{\circ} 35' E.$; lat. $37^{\circ} 42' N.$

ENGIA, GULF OF (anciently *Saronic Gulf*); a gulf on S. E. coast of European Turkey, so called from the island situated in it; about 60 miles in length from N. W. to S. E., and 25 in breadth, at the mouth.

ENIGMA. (See *Enigma*.)

ENGLAND; the southern and most considerable division of Great Britain; bounded N. by Scotland, S. by the English channel, which divides it from France, E. by the German ocean, and W. by Wales, the Atlantic ocean, and the Irish channel. It is of a triangular figure, and extends from 50° to $55^{\circ} 40' N.$ lat., and from $1^{\circ} 50' E.$ to $6^{\circ} W.$ lon. From N. to S. it is 400 miles in length, and is in some places 300 miles broad. The superficial extent of the country has been variously estimated, from 28,000,000 to 46,000,000 of statute acres. The population of England and Wales appears to have been, from the most accurate computations, about 5,500,000 in the year 1700; in 1750, about 6,500,000; in 1770, about 7,500,000; in 1790, 8,675,000; in 1801, 9,168,000; in 1811, 10,488,000; and in 1825, it amounted to 12,422,700. The country is divided into 40 counties, namely, Bedford, Berks, Bucks, Cambridge, Chester, Cornwall, Cumberland, Derby, Devon, Dorset, Durham, Essex, Gloucester, Hereford, Hertford, Huntingdon, Kent, Lancaster, Leicester, Lincoln, Middlesex, Monmouth, Norfolk, Northampton, Northumberland, Nottingham, Oxford, Rutland, Salop, Somerset, Southampton, Stafford, Suffolk, Surrey, Sussex, Warwick, Westmoreland, Wilts, Worcester, York, East, North and West. The counties are subdivided into hundreds, wards, lathes, wapentakes, rapes, tithings, &c.; the whole containing 25 cities, 172 boroughs, and about 10,000 parishes. The aspect of the country is various and delightful. In some parts, verdant plains extend as far as the eye can reach, watered by copious streams, and covered by innumerable cattle. In others, the pleasing vicissitudes of gently-rising hills and bending vales, fertile in corn, waving with wood, and interspersed with meadows, offer the most delightful landscapes of rural opulence and beauty. Some tracts abound with prospects of the more romantic kind—lofty mountains, craggy rocks, deep, narrow dells, and tumbling torrents; nor are there wanting, as a contrast to so many agreeable scenes, the gloomy features of black, barren moors and uncultivated heaths. The native animals of England are the fallow deer,

the dog, the fox, the wild cat, the marten, the founart, badger, mole, hedgehog, &c. The domestic animals are cattle, horses, goats, sheep and hogs. The wild boar was formerly a native of the country, as also the wolf and the bear, but as the country advanced in improvement, they gradually became extinct. Of the birds, the most remarkable are the eagle, falcons of various species, owls, ravens, carrion crows, rooks, swans, the cuckoo, the cormorant, the nightingale, the peacock, the swallow, the stork, the curlew, the snipe, the plover, the pheasant, the black cock, the ptarmigan (sometimes, but rarely, met with on the lofty mountains of Wales and Cumberland), the grouse, the partridge, the pigeon, the lark, the starling, the thrush, &c. The most considerable rivers are the Thames, Severn, Medway, Trent, Ouse, Tyne, Tees, Wear, Mersey, Dee, Avon, Eden and Derwent. In aid of these, an extensive system of canal navigation has been established (see *Canal*), by which an easy access is opened into the interior, and the produce of the country transported by an easy and expeditious process, from the most remote parts to the sea. Several beautiful lakes occur in different parts of the country. The most remarkable of these are in the north-west counties, and particularly in Westmoreland and Cumberland. The soil of England is various, consisting generally of clay, loam, sand, chalk, gravel and peat. The principal productions of the country are wheat, barley, oats, rye, French wheat, beans and peas. The climate of England, from its northern position, is rather rigorous and ungenial; and, from its being an island, it is liable to sudden and frequent changes, and to great variations of dryness and moisture. It is at all times uncertain; and its atmosphere, being inclined to cold and damp, is on this account not so favorable to the ripening as to the growth of vegetable productions; and in the northern counties, more especially, the harvest is liable to be seriously injured by rain. Owing to its insular situation, however, it is liable to no great extremes either of heat or cold. The general range of the thermometer is from 86 degrees in summer to 16 and 10 in winter. The indigenous fruits are few, and of little value; but others have been introduced, or brought to perfection, by the skill and careful cultivation of the English gardeners. These are chiefly apples, pears, plums, cherries, peaches, nectarines, apricots, figs, grapes, and other fruits. Hops are cultivated to a consider-

able extent in the southern counties. Timber grows abundantly in most parts of the country: the trees are principally oak, elm, ash, beech, alder and willow. The mines and quarries of England afford a constant supply of most valuable produce. Coal is found in great abundance in the northern, and in some of the midland and western counties. Iron abounds in Shropshire, Gloucestershire, Derbyshire, the north of Lancashire, and it is produced, though not in equal abundance, in other counties. Tin is confined to Cornwall and the adjoining parts of Devonshire, and black lead to a small district in Cumberland. Mines of copper are wrought in Cornwall, Devonshire, Derbyshire and Anglesey, and partially in Yorkshire and Staffordshire. In many parts of the kingdom, marbles and freestone, or calcareous sandstone, of various colors and textures, are abundant. There are also mines of rock-salt, pits of fuller's earth, potter's clay, &c. The manufactures of England are of prodigious extent. That of wool is one of the most ancient in the country, and is supposed to have been introduced by the Romans. The annual value of the woollen manufactures is estimated at about 20 millions. The cotton manufacture is of more recent establishment than the woollen, and has been carried to great perfection by the aid of every sort of powerful, complicated and ingenious machinery. The cotton wool imported amounts to about 125 millions of pounds; and the value of cotton manufactures exported, to £20,000,000. The hardware manufactures, of iron and steel, copper and brass, have been also brought to unrivalled perfection in England, and include the most ponderous productions of the casting furnace and rolling mill, as well as the most minute and trifling articles, such as pins, and all sorts of children's toys. The annual value of the iron and steel articles manufactured may be estimated at £10,000,000. The silk and linen manufactures are carried on in England, but not to any great extent. In Nottinghamshire is carried on the manufacture of stockings. English earthenware is finished with beauty and taste, and in great variety, principally at the potteries of Staffordshire; and glass is made in various parts, chiefly in Newcastle, Sunderland, Bristol, and, on a smaller scale, at some other places. China-ware of a very superior quality is made in Derby and Worcester. In London, every sort of fine and elegant manufacture is carried on, such as cutlery, jewelry, articles of

gold and silver, japan ware, cut glass, cabinet and upholstery work, and gentlemen's carriages, clocks, watches, &c. From the countries in the north of Europe, namely, Denmark, Russia, Sweden, Poland and Prussia, England imports iron, kelp, timber, flax, hemp, coarse linens, pitch, tar, tallow, corn, pearl and potashes, &c.; from Germany, corn, flax, hemp, linens, rags, skins, timber and wines; from Holland, geneva, cheese, butter, rags, flax, hemp, madder, clover and other seeds, corn, bacon, &c.; from France, wines, brandy, lace, cambric, lawns, silks, trinkets, &c.; and from Spain and Portugal, and Italy, barilla, brimstone, oil, cochineal, fruits, wool, cork, dye-woods, wines, brandy, silk, drugs, gums, &c. The imports from Turkey consist principally of carpets, drugs, dye-stuffs, fruits, silk, &c. From North America are imported flour, provisions, masts, timber, cotton, wool, tobacco, rice, tar, pitch, pot and pearl-ashes, indigo, furs, &c. From South America, since the emigration of the Portuguese court to the Brazils, are imported cotton, wool, skins, cochineal, logwood, indigo, Brazil wood, sugar, drugs, &c. The articles principally imported from the West Indies are sugars, rum, coffee, pepper, ginger, indigo, drugs and cotton. From the East Indies, China and Persia, are imported teas, spices, raw silk, muslins, nankeens, sugar, indigo, cloves and other spices, opium, quicksilver, drugs, gums, rice, saltpetre, &c. The exports from Britain consist of all the various manufactures: they amount, in official value, to about £37,000,000 annually; the imports to about £25,000,000. In addition to her commerce and manufactures, England has extensive fisheries both at home and abroad. Salmon are caught in most of her rivers, and the seas around her coasts yield herrings, mackerel, pilchards, white fish, oysters, and other shell-fish. The Newfoundland fishery at one time employed a considerable number of vessels; but it has since fallen off. The whale fishery, both in the North and South seas, is prosecuted to a considerable extent. The established religion of England is Episcopacy. The Episcopal establishment of England consists of the 2 archbishops of Canterbury and York, and of 24 bishops, who have the privilege of a seat in the house of peers. There is also the bishop of Sodor and Man, who is not possessed of this privilege. The constitution of England is a limited monarchy. The executive powers are vested in the king, who acts through the medium of responsible advisers. The

legislative power resides in the king, lords and commons. (For the history, constitution, &c. of England, see *Great Britain*.)

ENGLAND, CHURCH OF. The established religion in England is Episcopacy. The king is the supreme head; by this authority he convenes and prorogues the convocations of the clergy. The church is governed by 2 archbishops and 25 bishops. The archbishop of Canterbury is styled the *primate of all England*, and to him belongs the privilege of crowning the kings and queens of England. The province of Canterbury comprehends 21 bishoprics. In the province of the archbishop of York, who is called the *primate of England*, there are 4 bishoprics. Archbishops and bishops are appointed by the king, by what is called a *congè d'élire*, or leave to elect, which is sent to the dean and chapter naming the person to be chosen. The bishop of London, as presiding over the capital, has the precedence of all the others. The bishop of Durham has certain prerogatives, as presiding over a see that constitutes a county palatine; the bishop of Winchester is third in dignity; the others take rank according to seniority of consecration. The archbishops and bishops (except the bishop of Sodor and Man) have seats in the house of lords, and are styled the *spiritual lords*. The archbishops have the title of *grace*, and *most reverend father in God, by divine providence*; bishops are addressed by the title of *lord*, and *right reverend father in God, by divine permission*. The former are said to be *enthroned*, the latter *installed*. To every cathedral belong several prebendaries and a dean, who form the dean and chapter, or council of the bishop. The next order of the clergy is that of archdeacons; their number is 60; their office is to reform abuses, and to induct into benefices. The most numerous and laborious order of the clergy are the deacons, curates, vicars and rectors. The office of the deacon is confined to baptism, reading in the church, and assisting the priest at the communion. A parson is one who has full possession of all the rights of a parish church; if the great tithes are *impropriated*, the priest is called a *vicar*; if not, a *rector*: a *curate* is one who is not instituted to the cure of souls, but exercises the spiritual office in a parish under a rector or vicar. (For the annual expenses of the church of England, see *Ecclesiastical Establishments*.) The convocation of the clergy, which is the highest ecclesiastical court, has not been permitted by government to do any business since 1717, and

is merely convened as a matter of form. The doctrines of the church of England are contained in the thirty-nine articles: the form of worship is directed by a liturgy. The first steps to the establishment of the English church were slow. It retained at first many of the features of the Roman church, both in regard to doctrine and rites. After the parliament had declared Henry VIII the only supreme head of the church, and the convocation of the clergy had voted that the bishop of Rome had no more jurisdiction in England than any other foreign bishop, the articles of faith of the new church were declared to consist in the Scriptures and the three creeds, the Apostolic, the Nicene and the Athanasian (see *Creeds*); the real presence, the use of images, the invocation of saints, &c., were still maintained. Under Edward, the new liturgy was composed in English, and took the place of the old mass; the doctrines were also stated in forty-two articles. With the reign of Mary, the old religion was reestablished; and it was not till that of Elizabeth that the church of England was finally instituted. As no change was made in the episcopal form of government, and some rites and ceremonies were retained, which many of the reformed considered as superstitious, this circumstance gave rise to many future dissensions. The controversy concerning the ceremonial part of divine worship commenced with those exiles, who, in 1554, fled from the persecutions of queen Mary, and took refuge in Germany. On the accession of Elizabeth, they returned, and renewed the contest at home, which had begun abroad. These were called *Puritans*, and, at one time, comprised many distinguished members of the English clergy. (See *Puritans*.) On the accession of James, the Puritans hoped for some relief; but an Episcopal hierarchy was more favorable to his views than the Presbyterian form of government, and he publicly adopted the maxim "No bishop, no king." When the English divines returned from the synod of Dort, the king and the majority of the Episcopal clergy discovered an inclination to the sentiments of Arminius, which have since prevailed over Calvinism among the English clergy. Under Charles I, the attempts made, through the instrumentality of Laud, to reduce all the churches of Great Britain under the jurisdiction of bishops, and the suppression of the opinions and institutions that were peculiar to Calvinism, cost the archbishop of Canterbury his head, and had no little effect in imbittering the civil contest be-

tween the throne and the parliament. After the death of Laud, the parliament abolished the Episcopal government, and condemned every thing in the ecclesiastical establishment that was contrary to the doctrine, worship and discipline of the church of Geneva. As soon as Charles II was restored to the throne, the ancient forms of ecclesiastical government and public worship were restored; and, in 1662, a public law, entitled *the act of uniformity*, was enacted, by which all who refused to observe the rites and subscribe the doctrines of the church of England, were entirely excluded from its dominion. In the reign of William III, and particularly in 1689, the divisions among the friends of Episcopacy gave rise to the two parties called the *high-churchmen*, or *non-jurors*, and *low-churchmen*. The former maintained the doctrine of passive obedience, or non-resistance to the sovereign under any circumstance whatever; that the hereditary succession to the throne is of divine institution, and cannot be interrupted; that the church is subject to the jurisdiction of God alone; and, consequently, that certain bishops deposed by king William, remained, notwithstanding, true bishops; and that those who had been appointed in their places were rebels and schismatics, and all who held communion with them were guilty of rebellion and schism. The gradual progress of civil and religious liberty, during the last 150 years, has settled practically many such controversies. The great increase of the dissenters in recent times (they are estimated to be more numerous than the members of the established church) has led to new concessions in their favor; the repeal of the corporation and test acts (q. v.), and the *Catholic emancipation* (q. v.), as it is called, are among the important events of the late reign. We have said, that the doctrines of the church of England are contained in the thirty-nine articles; we are not ignorant that the most eminent English divines have doubted whether they are Calvinistic or Lutheran, that some have denominated them *articles of peace*, and that not a few have written in direct opposition to them. But they are the established confession of the English church, and, as such, deserve a short analysis. The 5 first articles contain a profession of faith in the Trinity; the incarnation of Jesus Christ, his descent to hell, and his resurrection; the divinity of the Holy Ghost. The 3 following relate to the canon of the Scripture. The 8th article declares a belief in

the Apostles', Nicene and Athanasian creeds. The 9th and following articles contain the doctrine of original sin, of justification by faith alone, of predestination, &c. The 19th, 20th and 21st declare the church to be the assembly of the faithful; that it can decide nothing except by the Scriptures. The 22d rejects the doctrine of purgatory, indulgences, the adoration of images, and the invocation of saints. The 23d decides that only those lawfully called shall preach or administer the sacraments. The 24th requires the liturgy to be in English. The 25th and 26th declare the sacraments effectual signs of grace (though administered by evil men), by which God excites and confirms our faith. They are two; baptism and the Lord's supper. Baptism, according to the 27th article, is a sign of regeneration, the seal of our adoption, by which faith is confirmed and grace increased. In the Lord's supper, according to article 28th, the bread is the communion of the body of Christ, the wine the communion of his blood, but only through faith (art. 29th); and the communion must be administered in both kinds (art. 30). The 28th article condemns the doctrine of transubstantiation, and the elevation and adoration of the host; the 31st rejects the sacrifice of the mass as blasphemous; the 32d permits the marriage of the clergy; the 33d maintains the efficacy of excommunication. The remaining articles relate to the supremacy of the king, the condemnation of Anabaptists (q. v.), &c.

In the U. States, the members of the church of England, or Episcopalians, form a large and respectable denomination. When the revolutionary war began, there were only about eighty parochial clergymen of this church to the northward and eastward of Maryland; and they derived the greater part of their subsistence from the English society for the propagation of the gospel in foreign parts. In Maryland and Virginia, the Episcopal church was much more numerous, and had legal establishments for its support. The inconvenience of depending on the mother church for ordination, and the want of an internal Episcopacy, was long severely felt by the American Episcopalians. But their petitions for an Episcopate of their own were long resisted by their superiors in England; and their opponents in the U. States objected to the measure from an apprehension that bishops from England would bring with them an authority which would interfere with the civil institutions

claimed prince of Wales, September 20, 1400. To this measure he is said to have been incited by some traditionary prophecies of Merlin; and certain it is, that many of his countrymen of consideration were induced, by the same motives, to join his standard. He defeated the king's troops under sir Edward Mortimer, and Henry put in motion against him three grand divisions of his army; but Owen, retiring to the mountains, foiled all attempts to bring him to action; and, the rebellion of the Percys breaking out, he joined the coalition, causing himself, at the same time, to be formally crowned, at Machynlaeth, in Montgomeryshire, "sovereign of Wales." The rashness of Henry Percy brought on the fatal battle of Shrewsbury, before all his Welsh auxiliaries had come up. Their prince, however, is said to have been so near as to have reconnoitred the action from the top of a lofty tree; but, seeing all was lost, directly retreated, and continued his marauding warfare. This he kept up with various success, occasionally assisted by Charles VI of France, with whom a treaty of his is yet extant, dated 1404, in which he is styled "Owenus, Dei Gratia Princeps Walliæ." Finding it impossible to subdue him, Henry, in 1415, condescended to treat with him; but Owen died during the negotiation, which was, however, continued and ratified by his son, Meredyd ap Owen, February 24, 1416.

GLOBE, in geometry; a round, solid body, which may be conceived to be generated by the revolution of a semicircle about its diameter. (See *Sphere*.) *Globe*, or *Artificial Globe*, in geography and astronomy, is more particularly used to denote a globe of metal, plaster, paper, pasteboard, &c., on the surface of which is drawn a map, or representation of either the heavens or the earth, with the several circles which are conceived upon them; the former being called the *terrestrial globe*, and the latter the *celestial globe*. The *Celestial Globe* is an inverted representation of the heavens, on which the stars are marked according to their several situations. The diurnal motion of this globe is from east to west, to represent the apparent diurnal motion of the sun and stars. The eye is supposed to be placed in the centre of this globe, but, in fact, it is beyond the stars. The *Terrestrial Globe* is an artificial representation of the earth, exhibiting its great divisions. The diurnal motion of this globe is from west to east.—The axis of the earth is an imaginary line passing through its centre; and the wire on which the artificial globe turns, repre-

sents this line. The poles of the earth are the extremities of this axis; that on the north is called the *arctic*, that on the south, the *antarctic* pole. The celestial poles are imaginary points in the heavens, exactly above the terrestrial poles. The brazen meridian is the circle in which the artificial globe turns, divided into 360 degrees. Every circle is supposed to be divided into 360 equal parts, called *degrees*, each degree into 60 equal parts, called *minutes*, each minute into 60 equal parts, called *seconds*, &c.; a degree is therefore only a relative idea, and not an absolute quantity, except when applied to a great circle of the earth, as to the equator or to a meridian, in which cases it is 60 geographical miles, or 69½ English miles. A degree of a great circle in the heavens is a space nearly equal to twice the apparent diameter of the sun; or to twice that of the moon, when considerably elevated above the horizon. Degrees are marked with a small cipher, minutes with one dash, seconds with two, thirds with three, &c.; thus, 25° 14' 22" 35''' are 25 degrees, 14 minutes, 22 seconds, 35 thirds. In the upper semicircle of the brass meridian, these degrees are numbered 10, 20, &c., to 90, from the equator towards the poles, and are used for finding the latitudes of places. On the lower semicircle of the brass meridian, they are numbered 10, 20, &c., to 90, from the poles towards the equator, and are used in the elevation of the poles. (See *Degree*.) Great circles, as the equator, ecliptic, and the colures, divide the globe into two equal parts. Small circles, as the tropics, polar circles, parallels of latitude, &c., divide the globe into two unequal parts. Meridians, or lines of longitude, are semicircles, extending from the north to the south pole, and cutting the equator at right angles. Every place upon the globe is supposed to have a meridian passing through it, though there be only 24 drawn upon the terrestrial globe; the deficiency is supplied by the brass meridian. When the sun comes to the meridian of any place (not within the polar circles), it is noon or mid-day at that place. The first meridian is that from which geographers begin to reckon the longitudes of places. In English maps and globes, the first meridian is a semicircle, supposed to pass through London, or the royal observatory at Greenwich. The equator (q. v.), a great circle of the earth, equidistant from the poles, divides the globe into two hemispheres, northern and southern. The latitudes of places are reckoned from the equator northward and

southward, and the longitudes are reckoned upon it eastward and westward. The equator, when referred to the heavens, is called the *equinoctial*, because, when the sun appears in it, the days and nights are equal all over the world, viz., 12 hours each. The declination of the sun, stars, and planets, is counted from the equinoctial northward and southward; and their right ascensions are reckoned upon it eastward round the celestial globe, from 0 to 360 degrees. The ecliptic (q. v.) is a great circle in which the sun makes his apparent annual progress among the fixed stars. It is the real path of the earth round the sun. The points at which the ecliptic intersects the equator, at an angle of $23^{\circ} 28'$, are called the *equinoctial points*: the ecliptic is situated in the middle of the zodiac. The apparent path of the sun is either in the equinoctial, or in lines nearly parallel to it, and his apparent annual path may be traced in the heavens, by observing what particular constellation in the zodiac is on the meridian at midnight; the opposite constellation will show, very nearly, the sun's place at noon on the same day. The zodiac (q. v.), on the celestial globe, is a space which extends about 8° on either side of the ecliptic. Within this belt the motions of the planets are performed.—*Signs of the Zodiac.* The ecliptic and zodiac are divided into 12 equal parts, called *signs*, each containing 30° ; and the sun makes his apparent annual progress through the ecliptic, at the rate of nearly a degree in a day. The names of the signs, and the days on which the sun enters them, are given in the article *Ecliptic*. The colures, two great circles passing, one through the points Aries and Libra and the poles of the world, the other through Cancer and Capricorn and the poles of the world, have their uses in mechanical geography. That passing through Aries and Libra is called the *equinoctial colure*; that passing through Cancer and Capricorn, the *solstitial colure*. The tropics are two smaller circles, each $23^{\circ} 28'$ from the equator, with which they are parallel; the northern is called the *tropic of Cancer*, the southern the *tropic of Capricorn*. The tropics are the limits of the torrid zone, northward and southward; and within these boundaries alone is the sun ever seen vertical. The polar circles are two small circles, parallel to the equator (or equinoctial), at the distance of $66^{\circ} 32'$ from it, and $23^{\circ} 28'$ from the poles. The northern is called the *arctic*, the southern, the *antarctic* circle.

Parallels of latitude are small circles drawn through every ten degrees of latitude, on the terrestrial globe, parallel to the equator. Every place on the globe is supposed to have a parallel of latitude drawn through it, though there are generally only 16 parallels of latitude drawn on the terrestrial globe. The hour circle, on the artificial globe, is a small circle of brass, with an index or pointer fixed to the north pole. The hour circle is divided into 24 equal parts, corresponding to the hours of the day; and these are again subdivided into halves and quarters. The horizon (q. v.) is a great circle, which separates the visible half of the heavens from the invisible; the earth being considered as a point in the centre of the sphere of the fixed stars. Horizon, when applied to the earth, is either sensible or rational. The sensible or visible horizon is the circle which bounds our view, where the sky appears to touch the earth or sea. The sensible horizon extends only a few miles; for example, if a man of six feet high were to stand on a large plane, or on the surface of the sea, the utmost extent of his view, upon the earth or the sea, would be only a very few miles. The rational or true horizon, is an imaginary plane, passing through the centre of the earth, parallel to the sensible horizon. It determines the rising and setting of the sun, stars and planets. The wooden horizon, circumscribing the artificial globe, represents the rational horizon on the earth. This horizon is divided into several concentric circles, arranged in the following order: One contains the 32 points of the compass, divided into half and quarter points. The degrees in each point are to be found in the amplitude circle. Another contains the 12 signs of the zodiac, with the figure and character of each sign; and another contains the days of the month, answering to each degree of the sun's place in the ecliptic, and the 12 calendar months. The cardinal points of the horizon are east, west, north and south. The cardinal points in the heavens are the zenith, the nadir, and the points where the sun rises and sets. The cardinal points of the ecliptic are the equinoctial and solstitial points, which mark out the four seasons of the year; and the cardinal signs are, ♈ Aries, ♋ Cancer, ♎ Libra, and ♏ Capricorn. The zenith is a point in the heavens exactly over head, and is the elevated pole of our horizon. The nadir is a point in the heavens exactly under our feet, being the depressed pole of our horizon, and the zenith, or elevated pole, of the horizon of

good English; and this disproportion between two nations, closely united as they are by a regular and established intercourse, must be principally caused by the strangely whimsical pronunciation of the language of the English." (vol. i, p. 143.) "Yet, notwithstanding the indistinctness of their vowels, and their masses of consonants, they lay claim to harmony of language; and we will allow it to them, if, in return, they will admit that this harmony can be felt by themselves alone. They have, too, some advantages which, I think, we cannot deny them. Inversion of language is allowed in their poetry almost to as great an extent as in Italian, that is, much less than in Latin and Greek. Their constructions and poetical forms are bolder, and yet more manageable than ours. They can also employ rhyme, or not, as they please, and can indulge more than we can in the formation of new words." Observations of this kind must, however, be taken with much allowance. Another French writer, cited by Mr. Mitford in his *Harmony of the English Language*, says—"The English speak so much between their teeth, that the French cannot understand them;" and adds—"l'Anglois est la seule langue pour laquelle il ne faut pas une langue." "It is impossible (says Mr. Mitford) not to acknowledge that there is much justice in this imputation." In our article *Americanism* (q. v.), we directed the reader's attention to the important fact, that England and the U. States of America offer the first instance in history of two great, independent and active nations, having a common language, but situated at a great distance from each other, and daily developing new and characteristic features. These relations must, sooner or later, exert a powerful influence upon the common language; for no language is so stable as not to undergo continual changes, if spoken by a people in the full vigor of social and political life. This state of things has already produced some effect on the English language, as we have observed in that article. But, from the deep and natural interest felt by Americans in the literature of England, which must be a part of their own as long as Shakspeare and Milton shall live in their works, the effect has hitherto been inconsiderable, and not greater than we should expect from the mere circumstance of so different and remote local situations. The most material difference, probably, has been in the pronunciation of the lan-

guage, which, however important in our daily conversation, is of secondary importance in relation to the literature and written language of the two countries. It has often been observed by English travellers and others, that the pronunciation of the U. States is far more uniform than that of England; and so nearly alike every where, that the people of any one town or district are perfectly understood in every other part of the country; which is not the case in England. When considered more minutely, however, there has for a long time existed a marked distinction between the pronunciation of the New England and Southern States. In New England, it is supposed by some, that the pronunciation has been, till lately, very nearly what it was in the mother country a century ago or more. However this may be, it is a well-known fact that the New England pronunciation has been materially changed since the publication and general use of Walker's Pronouncing Dictionary, or within the last thirty years. That which prevailed before that period, was probably much influenced by the very general use of a small dictionary published by Perry. (See *Worcester's edit. of Johnson, Pref.*, p. ix.) The pronunciation of some of the Southern and Middle States was more affected by the instruction of Scottish and Irish teachers, who, besides peculiarities of pronunciation, have taught the people of these states to confound the established idiomatic distinction between *shall* and *will*, and *should* and *would*.—The orthography of our language has undergone no material change in the U. States, it being the general inclination to follow that of the best English writers of the age. But English orthography is so irregular, particularly in the use of the vowels, as to make our language more difficult than any other to the European nations. The signs of the sounds are so inconstant, that they do not, when first heard by a foreigner, impress themselves on the memory so distinctly as those of the other European languages do, and, of course, cannot be so easily remembered for future use. To this embarrassment is to be added our custom of throwing back the accent to the first syllables of words, which necessarily produces that hurried and indistinct utterance, of which foreigners so justly complain. We may here add a general remark or two of an intelligent German, who has had much experience in writing English, and whose observations are confirmed by our own experience, so far as

we have had occasion to consider this subject. The English language is peculiarly adapted to exact discussions of all practical matters in society, and to political inquiries. It has also more force than the European languages generally, in descriptive writing, whether prose or poetry; and in poetry, it has more power in epic than in lyric composition; the latter requiring that more metaphysical character of language which is found in the highest degree, probably, in the German. The scholars of Germany, who have studied our language more thoroughly than any other nation has done, remark, that English is much less abstract than their own; and that we admit new formations of words much more reluctantly and capriciously than the Germans do. It is also to be observed, that we adopt new terms from the French, with more facility than from the German, notwithstanding the close affinity of the latter to our own language. This tendency to introduce Gallicisms led doctor Johnson to apprehend, that, unless some check were interposed, the English nation would one day "be reduced to babble a dialect of France." (For further information respecting the English language, see the article *Anglo-Saxon*. For further information respecting English history, see *Great Britain*.)

ENGLAND, LITTLE, beyond Wales, is a portion of country lying along the southwestern coast of South Wales, remarkable for being inhabited by the descendants of a colony of Flemings, who came over from Flanders under king Henry I.

ENGLAND, NEW; the name of the North-eastern States of the North American Union; bounded N. by Canada, E. by New Brunswick and the Atlantic, S. by the Atlantic and Long Island sound, and W. by New York. This division comprises the states of Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut. Lon. 66° 49' to 73° 15' W.; lat. 41° to 48° 12' N. Population in 1810, 1,271,974; in 1820, 1,659,793. For its population, according to the census of 1830, now in progress, see the article *United States*. This census will probably give a population of about two millions in New England, of whom three fourths are farmers. The remainder are engaged in commerce, manufactures, &c. Some of the farmers are, of course, partly engaged in commerce also. The face of the country is generally uneven, and agreeably diversified. A part of it is mountainous. The soil is various, from barren sand to the richest clays and loams. It is generally

better fitted for grazing than tillage. The most important production is grass. Beef, mutton, pork, butter and cheese are abundant. Indian corn, rye, wheat, barley and oats are extensively cultivated. New England is the most populous part of the U. States. The inhabitants are mostly of English descent. There is no country in the world where education is so generally diffused among all classes of people. It is the most manufacturing part of North America. (See, among other articles, *Cotton Manufacture*.) The statement of the secretary of the treasury, of the commerce of the U. States for the year ending Sept. 30, 1829, gives the following results:

	Imports.	Exports.
New England States,	\$14,332,155	10,754,739
Middle States, Ohio,	\$50,667,191	29,958,729
District of Columbia &		
Michigan Territory,	\$9,443,181	31,645,003
Southern States and		
Florida,		
	\$74,492,527	72,358,671

The inhabitants of New England have several peculiarities, distinguishing them from the inhabitants of the other U. States, owing to their descent from the Puritans, and other causes. In the other states, they are familiarly called *Yankees* (q. v.), which name, in Europe, is given to the citizens of all the U. States. The *Notions of a Travelling Bachelor*, by Mr. Cooper, contains some good remarks on New England. The name of New England was once official. Thus a charter was granted to the first settlers at Salem, by the name of "governor and company of Massachusetts bay, in New England." The country was at first called *North Virginia*; but after captain Smith had surveyed it, and presented the map to Charles I, then prince of Wales, he gave it the name of *New England*. Sebastian Cabot (q. v.) discovered the coast of this region, and Plymouth, then called *New Plymouth*, in Massachusetts, was the first settlement here. The first settlers landed Dec. 11 (old style), 1620. Before landing, they signed a solemn covenant, forming themselves into a body politic for the purpose of making equal laws for the general good. They were republicans before they landed, and have virtually remained so ever since—a circumstance always to be considered in comparing the American revolution with that of other countries. This republican spirit showed itself early at several periods. Charles II, after his restoration, sent commissioners to New England (in 1664) to inquire into and examine the state of the

colonies, and to reform the administration of affairs there. A report was made by the commissioners about 1665, which will be found in Hutchinson's Collection of State-Papers, &c., p. 412, &c., in which they give an account of the state of the colonies, and are particularly severe in their animadversions upon the colony of Massachusetts. Before that period, the judicial and other processes issued in some of the colonies of New England, at least in Massachusetts, had been in the name or under the authority of the colony, and not in the name of the king. The commissioners remark (p. 417), that "the colony of the Massachusetts was the last and the *hardest* to use his majesty's name in the forms of justice."* They also added (p. 417), that they "visited all other colonies before this, hoping that the submission and condescension of the other colonies to his majesty's desires would have abated the refractoriness of this colony, which they much feared." "They (the Massachusetts colony) proclaimed by sound of trumpet, that the general court (of the colony) was the supremest judicatory in the province; that the commissioners pretending to hear appeals was a breach of their privileges granted to them by the king's royal father, and confirmed to them by his majesty's own letter, and that they should not permit it." (p. 418.) "They say that king Charles the First gave them power to make laws, and to execute them, and granted them a charter as a warrant against himself and his successors, and that so long as they pay the fifth part of all gold and silver ore, which they shall get, they shall be free to use the privileges granted them; and they are not obliged to the king, but by civility." (p. 420.) They further added—That "they (the Massachusetts colony) did solicit Cromwell, by one Mr. Winslow, to be declared a *free state*, and many times in their laws styling themselves '*this state*,' '*this commonwealth*,' and now believe themselves to be so." (p. 420.) They close by remarking, "Their way of government is *commonwealth-like*; their way of worship is rude, and called *Congregational*; they are zealous in it, for they persecute all other forms." (p. 422.) The declaration of the general court (of the colony) of their rights under the charter in 1661, strongly supports the views which the commissioners gave of the claims of Massachusetts. (1 Hutch. Hist. Mass. supplement, vol. 13, p. 529.) These documents abundantly prove how early

* See 1 Hutchin. Hist. of Mass., 223, 233, note. Id. 452.

the colony aspired to substantial independence, and how slowly it allowed the interposition of the king in any of its internal concerns, and how jealous it was of every exercise of prerogative. A people so alive to their own rights, and so persevering in maintaining them, could not fail of being involved in disputes with the government of Great Britain from a very early period in their history. Down to the annulling of their first charter, and the grant of their new charter by William and Mary in 1692, there was scarcely any harmony between the government in England and that in the Massachusetts colony. In 1643, four of the New England colonies, Massachusetts, Connecticut, Plymouth and New Haven, on account of the dangers from the Indians, from the Dutch at New York, and from the French in Canada and Acadia, entered into a league offensive and defensive. By the articles of this confederacy, each colony was to appoint two commissioners, who were to assemble alternately in the respective colonies, and were empowered to enact ordinances of general concern; and, in case of invasion, each colony was bound to furnish a certain quota of men and money. (See Hubbard's Hist. of New England; Hist. of New England, by Hannah Adams; Hutchinson's Hist. of Massachusetts; Prince's New England Chronology; Tudor's Letters on the Eastern States; See also article New England.)

ENGRAVING is the art of representing, by means of lines and points produced on a metallic surface by cutting or corrosion, the figures, lights and shades of objects, in order to multiply them by means of printing. The engraver is to the painter what the translator is to the author. As it is impossible to give a spirited translation of a work of genius without a portion of the author's fire, so it is essential to a good engraver that he should feel and understand the character of his original, and be initiated into the secrets of drawing, that his copy may be at once correct and spirited. The art of engraving on copper was invented in Europe in the first half of the 15th century. The Chinese seem to have been acquainted with it long before. The Dutch, the Italians and the Germans compete for the honor of its invention in Europe. It is known that the art was exercised by the Italian Finiguerra as early as 1460. The inventors of it were the goldsmiths, who were in the habit of making devices on their wares; and these, being often executed with much elegance, excited the desire to multiply copies by

transferring them to paper. Engraving differs from printing in having its subjects cut into a hard surface, instead of being raised above it, as is the case with types and wood cuts. Many metals and alloys have been employed for the purpose of engraving. The most common is copper, which is soft enough to be cut when cold, and hard enough to resist the action of the press.—We shall now proceed to explain the methods of executing different descriptions of engraving. The graver, an instrument of steel, is principally used in engraving on copper; it is square for cutting of broad lines, and lozenge for the finest, and must be tempered to that exact state, which will prevent the point from breaking or wearing by its action on the metal. The graver is inserted in a handle of hard wood, resembling a pear with a longitudinal slice cut off, which is to enable the artist to use it as flat on the plate as his fingers and thumb will permit. This instrument is used for removing the imperfections discoverable in etchings, and exclusively in engraving writing. In working, this instrument is held in the palm of the hand, and pushed forward so as to cut out a portion of the copper. The scraper is a long, triangular piece of steel, tapering gradually from the handle to the point; the three edges produced by this form, being sharpened on the oil-stone, are used for scraping off the roughness occasioned by the graver, and erasing erroneous lines. The burnisher is a third instrument of steel, hard, round, and highly polished, for rubbing out punctures or scratches in the copper. The oil-stone has been already mentioned. To these may be added the needle, or dry point, for etching, and making those extremely fine lines, which cannot be made with the graver. It is held in the fingers in the same way as a pen or pencil. Various kinds of varnish, resin, wax, charcoal and mineral acids are also employed in different parts of the operation, according to the subject, and the style of engraving which is adopted. The first which we shall describe is

Line Engraving. To trace the design intended for engraving accurately on the plate, it is usual to heat the latter sufficiently to melt white wax, with which it must be covered equally and thin, and suffered to cool; the drawing is then copied in outlines, with a black-lead pencil, on paper, which is laid with the pencilled side upon the wax, and the back rubbed gently with the burnisher, which will transfer the lead to the wax. The design

must next be traced, with an etching needle, through the wax on the copper, when, on wiping it clean, it will exhibit all the outlines ready for the graver. The table intended for engraving on should be perfectly steady. Great care is necessary to carry the hand with such steadiness and skill, as to prevent the end of the line from being stronger and deeper than the commencement; and sufficient space must be left between the lines to enable the artist to make those stronger, gradually, which require it. The roughness or burr occasioned by the graver must be removed by the scraper, the lines filled by the oil-rubber, and the surface of the copper cleansed, in order that the progress of the work may be ascertained. If any accident should occur, by the slipping of the graver beyond the boundary required, or lines are found to be placed erroneously, they are to be effaced by the burnisher, which leaving deep indentings, these must be levelled by the scraper, rubbed with charcoal and water, and finally polished lightly with the burnisher. As the uninterrupted light of the day causes a glare upon the surface of the copper, hurtful and dazzling to the eyes, it is customary to engrave beneath the shade of silk paper, stretched on a square frame, which is placed reclining towards the room, near the sill of a window. Such are the directions and means to be employed in engraving historical subjects: indeed, the graver is equally necessary for the remedying of imperfections in etching; to which must be added the use of the dry point in both, for making the faintest shades in the sky, architecture, drapery, water, &c., &c.

Stippling. The second mode of engraving is that called *stippling*, or engraving in dots. This resembles the last mentioned method in its processes, except that, instead of lines, it is finished by minute points or excavations in the copper. These punctures, when made with the dry point, are circular: when made with the graver, they are rhomboidal or triangular. The variations and progressive magnitude of these dots give the whole effect to stippled engraving. This style of work is always more slow, laborious, and, of course, more expensive, than engraving in lines. It has, however, some advantages in the softness and delicacy of its lights and shades, and approaches nearer to the effect of painting than the preceding method. A more expeditious way of multiplying the dots has been contrived in the instrument called a *roulette*, a toothed wheel, fixed to a handle, which,

by being rolled forcibly along the copper, produces a row of indentations. This method, however, is less manageable than the other, and generally produces a stiff effect.

Engraving of Mezzotintos differs entirely from the manner above described. This method of producing prints which resemble drawings in India-ink, is said by Evelyn, in his history of chalcography, to have been discovered by prince Rupert. Some accounts say that he learned the art from an officer named Siegen or Sichein, in the service of Hesse-Cassel. It was, some years past, a very favorite way of engraving portraits and historical subjects; of the former, the large heads of Fry are of superior excellence. The tools required for this easy and rapid mode of proceeding are, the grounding-tool, the scraper and the burnisher. The copper-plate should be prepared as if intended for the graver, and laid flat upon a table, with a piece of flannel spread under it, to prevent the plate from slipping; the grounding-tool is then held perpendicularly on it, and rocked with moderate pressure backwards and forwards, till the teeth of the tool have equally and regularly marked the copper from side to side; the operation is afterwards repeated from end to end, and from each corner to the opposite; but it is necessary to observe, that the tool must never be permitted to cut twice in the same place; by this means the surface is converted into a rough chaos of intersections, which, if covered with ink and printed, would present a perfectly black impression upon the paper. This is the most tedious part of the process. The rest, to a skilful artist, is much easier than line engraving or stippling. It consists in pressing down or rubbing out the roughness of the plate, by means of the burnisher and scraper, to the extent of the intended figure, obliterating the ground for lights, and leaving it for shades. Where a strong light is required, the whole ground is erased. For a medium light, it is moderately burnished, or partially erased. For the deepest shades, the ground is left entire. Care is taken to preserve the insensible gradations of light and shade, upon which the effect and harmony of the piece essentially depend. Engraving in mezzotinto approaches more nearly to the effect of oil-paintings than any other species. It is well calculated for the representation of obscure pieces, such as night scenes, &c. The principal objection to the method is, that the plates wear out speedily under the press, and, of course, yield

a comparatively small number of impressions.

Etching. Of engravings which require the aid of aquafortis, the principal is etching. He that would excel in this branch of the arts must be thoroughly acquainted with drawing. The ground used in etching is a combination of asphaltum, gum mastic and virgin wax. The proportions of the ingredients should be obtained by experiment. The copper-plate is hammered to a considerable degree of hardness, polished as if intended for the graver, and heated over a charcoal fire; the ground is then rubbed over it, till every part is thinly and equally varnished. The varnish is then blackened by the smoke of a lamp, that the operator may see the progress and state of his work. The next object is to transfer the design to the ground, which may be done by drawing it on thin white paper with a black-lead pencil, and having it passed through the copper-plate printer's rolling press; the lead will be conveyed firmly to the ground, which will appear in perfect outlines on removing the paper. Another method is, to draw the design reversed from the original; rub the back with powdered white chalk, and, laying it on the ground, trace the lines through with a blunt point: this operation requires much precaution, or the point will cut the ground. After the plate is prepared, the operator, supporting his hand on a ruler, begins his drawing, taking care always to reach the copper. Every line must be kept distinct, throughout the plate, and the most distant should be closer and more regular than those in the fore ground, and the greater the depth of shade, the broader and deeper must the lines be made. When the etching of the plate is completely finished, the edges of it must be surrounded by a high border of wax, so well secured that water will not penetrate between the plate and it. The best spirits of aquafortis must then be diluted with water, and poured upon the plate, which undergoes a chemical action wherever it has been laid bare by the needle, while the remainder of the surface is defended by the varnish. The bubbles of fixed air, and the saturated portions of metal, are carefully brushed away with a feather. After the operator thinks the acid has acted long enough, he pours it off, and examines the plate. If the light shades are found to be sufficiently bit in, they are covered with varnish, or *stopped out*. The biting is then continued for the second shades, which are next stopped out: and so on. After

the process is completed, the varnish is melted and wiped off, the plate cleaned with oil of turpentine, and any deficiencies in the lines remedied with the graver. As the acid cannot be made to act with perfect regularity, etchings will always be rough in comparison with line engravings. This very circumstance, however, fits etching for the representation of coarse objects in nature, such as trunks of trees, broken ground, &c., especially on a large scale. In landscape engraving, we generally find a mixture of methods, the coarser parts being etched, the more delicate cut with the graver. Letters and written characters are mostly cut, and seldom etched.

(For the mode of engraving in aquatinta, see *Aquatinta*).

Steel Engraving was introduced by our celebrated countryman, Mr. Perkins. The steel plate is softened by being deprived of a part of its carbon; the engraving is then made, and the plate hardened again by the restoration of the carbon. The great advantage of steel plates consists in their hardness, by which they are made to yield an indefinite number of impressions; whereas a copper plate wears out after 2 or 3000 impressions, and even much sooner if the engraving be fine. An engraving on a steel plate may be transferred, in relief, to a softened steel cylinder by pressure; this cylinder, after being hardened, may again transfer the design, by being rolled upon a fresh steel plate: thus the design may be multiplied at pleasure. Steel plates may also be etched.

Engraving on precious Stones is accomplished with the diamond or emery. The diamond possesses the peculiar property of resisting every body in nature, and, though the hardest of all stones, it may be cut by a part of itself, and polished by its own particles. In order to render this splendid substance fit to perform the operations of the tool, two rough diamonds are cemented fast to the ends of the same number of sticks, and rubbed together till the form is obtained for which they are intended; the powder thus produced is preserved, and used for polishing them in a kind of mill furnished with a wheel of iron; the diamond is then secured in a brazen dish, and the dust, mixed with olive-oil, applied; the wheel is set in motion, and the friction occasions the polished surface so necessary to give their lustre due effect. Other stones, as rubies, topazes and sapphires, are cut into various angles on a wheel of copper; and the material

for polishing those is tripoli diluted with water. A leaden wheel, covered with emery mixed with water, is preferred for the cutting of emeralds, amethysts, hyacinths, agates, granites, &c. &c.; and they are polished on a pewter wheel with tripoli: opal, lapis lazuli, &c., are polished on a wheel made of wood. Contrary to the method used by persons who turn metals, in which the substance to be wrought is fixed in the lathe, turned by it, and the tool held to the substance, the engraver of the crystal, lapis lazuli, &c., fixes his tools in the lathe, and holds the precious stone to them, thus forming vases, or any other shape, by interposing diamond dust mixed with oil, or emery and water, between the tool and the substance, as often as it is dispersed by the rotary motion of the former. The engraving of armorial bearings, single figures, devices, &c., on any of the above stones, after they are polished, is performed through the means of a small iron wheel, the ends of the axis of which are received within two pieces of iron, in a perpendicular position, that may be closed, or otherwise, as the operation requires; the tools are fixed to one end of the axis, and screwed firm; the stone to be engraved is then held to the tool, the wheel set in motion by the foot, and the figure gradually formed. The material of which the tools are made is generally iron, and sometimes brass: some are flat, like chisels, gouges, ferules, and others have circular heads. After the work is finished, the polishing is done with hair brushes fixed on wheels and tripoli.

Engraving in Wood has been practised for several centuries, and originally with tolerable success; it languished for a great part of the 18th century, but revived towards the close, and is still practised in a manner which reflects credit on the ingenuity of the age. The lines, instead of being cut into the substance, are raised, like the letters of printing types, and printed in the same manner. The wood used for this purpose is box, which is preferred for the hardness and closeness of its texture. It is cut across the grain, into pieces of the height of common types, that the engraving may be made upon the end of the grain, for the sake of strength and durability. The surface must be planed smooth, and the design drawn on it with a black-lead pencil; the graver is then used, the finer excavations from which are intended for white interstices between the black lines produced by leaving the box untouched,

and the greatest lights are made by cutting away the wood entirely, of the intended form, length and breadth; but the deepest shades require no engraving. Much of the beauty of this kind of engraving depends upon the printing. A recent improvement has been made in wood engraving, which is this: The blocks are prepared as before, and then covered with flake white. The drawing is then made on this, and the wood engraver has only to cut out the lights. The beautiful wood cuts, executed by Branston and Wright, for the Tower menagerie and zoological gardens (after designs by Harvey), recently published in London, are executed in this manner. Wood engravings have this advantage, that they may be inserted in a page of common types, and printed without separate expense. They are very durable, and may be multiplied by the process of stereotyping.

Colored Engravings. Colored engravings are variously executed. The most common are printed in black outline, and afterwards painted separately in water-colors. Sometimes a surface is produced by aquatinta, or stippling, and different colors applied in printing to different parts, care being taken to wipe off the colors in opposite directions, that they may not interfere with each other. But the most perfect as well as most elaborate productions, are those which are first printed in colors, and afterwards painted by hand.

Engravers, modern. Among modern nations, the Italians, French, Germans, and English have rivalled each other in producing great works in the department of engraving; but, on the whole, the superiority seems to belong to the Italians and French, both for the number and the value of their productions; and more particularly for the excellence of their impressions. Many great works, executed in Germany, are sent to Paris to be struck off. In Germany, Frederic von Müller, whose Madonna di S. Sisto is still a jewel in collections, died too early for the art. C. Rahl distinguished himself by his engraving of Fra Bartolomeo's Presentation of Christ in the Temple, and of Raphael's St. Margaret. K. Hess, Reindel, Umer (lately deceased), Leybold, Lutz and A. Kessler have produced fine cabinet-pieces. John in Vienna, Kobell in Munich, Barth, Amsler and Rushweyh in Rome, are distinguished in different branches. Chodowiecki, Bause, Bolt, Clemens, Gmelin, and many others, have contributed much to advance the art of engraving. In gene-

ral, it may be mentioned as a favorable sign of the times, that all the first artists in Germany apply their talents to great works, whilst the taste for souvenir engravings seems rapidly dying away. Those engravers who have produced the best plates for scientific works, so very important a branch of the art, and those in the department of geography, would deserve to be mentioned, if we had room. France has maintained her early fame, in the art of engraving, down to the most recent times. The engravings of A. Boucher-Desnoyers (for instance, the Madonna di Foligno, La Vierge, dite La Belle Jardinière, Francis I, and Margaret of Navarre, Phædre and Hippolyte, the portrait of the Prince de Benevento) are acknowledged masterpieces. Lignon's St. Cécilia from Domenichino, his Atala, his portrait of Mademoiselle Mars; Massard's St. Cécilia of Raphael, and Apollo with the Muses of Giulio Romano; Richomme's, Dien's, Girodet's, Gudin's, Audouin's plates, no less magnificently than carefully executed; Jazet's large pieces in aquatinta (for instance, from the paintings of Vernet)—all manifest how rich France is in great engravers. Neither ought we to forget the magnificent literary works, almost constantly published in France, which owe their ornaments to the skill of French engravers. In the most recent productions of the French engravers, an imitation of the school of Morghen is observable; whilst some young Italian and German artists have aimed at something higher than even Morghen's productions. Since the art of painting has ceased to produce many works worthy of multiplication by the burin of the first engravers, these have occupied themselves chiefly with ancient masterpieces, and engraving has taken a higher station among the fine arts. Morghen, the pupil of Volpato, and those who have followed him, have produced works before unequalled. The Milanese school of engravers, in particular, has reached a degree of perfection, through Anderloni and Longhi, which no other country can probably equal. Longhi's Sposalizio is as yet the greatest production in the art of engraving. Toschi, of Parma, has acquired immortality by his Entrance of Henry IV into Paris (from Gérard), in 1826; Schiavone, by his Ascension of the Holy Virgin (from the painting of Titian), which may be called perfect, in regard to its picture-like effect. Bettelini, Bonato, Gandolffi, Garavaglia, Fontana Rosaspina, Benoglio, Giberti, Palmerini, Poporati, Pavon (by birth a Spaniard, however),

Rainaldi and Rampoldi have produced beautifully finished engravings; and Luigi Rossini and Pinelli have etched scenes full of life. Splendid works, in which typography and chalcography unite their attractions, have appeared at Florence, Venice, Rome and Milan. But England is richer in such works, as the *sceneries* there form a peculiar and very important branch of the productions of the art. Some of these works, however, exhibit an exaggerated delicacy, bordering on affectation; while others neglect details, and betray too much effort for effect. But the productions of Earlom, Pether, Dixon, Green, &c., must not be confounded with the works just referred to. The plates of Raphael's cartoons, in Hampton court, on which Thomas Holloway and Webber have been engaged, are praised as the highest specimens of the art. In these engravings, the masterly etching, which often permits them to allow the etchings themselves to remain, is worthy of admiration. Smith, Middiman, Byrne, James Mason, James and Charles Heath, William Woollet, William Sharp, John Burnet, and John Browne are known to all collectors. Their works are, comparatively, seldom seen on the European continent, because of their high prices. What Lascinio is for Italy, Moses aims to be for England, by his delicate sketches: among his other productions are his imitations of Retsch's illustrations of Göthe's Faust. But his copies of foreign masters are often deficient in correctness. C. Rolles and E. Finday also deserve mention among distinguished English engravers. The neatness, so much esteemed in England, has been promoted by the new art of *siderography*, which has not yet been applied to the execution of great works; whilst, in France and Germany, lithography, an invention of the latter country, has been preferred. With the Dutch, the burin is, at present, not very successful, if we compare their present artists to the former school of Pontius and Edelinck. But for picturesque etchings and productions by the needle, the skill formerly displayed has been preserved by Troostwyk, Van Os, Overbeck, Jansen, Chalon, and others. For more highly finished productions, in which the burin and needle must unite, in order to produce a tone, as in the engravings of Rembrandt's pictures, Claessens and De Frey are acknowledged masters. What Russia, Denmark and the Netherlands have produced in this branch, is not unworthy of notice. The engravings of Switzerland, mostly in Aberli's manner,

form a class by themselves. In the U. States, engraving has been cultivated with more success than any other department of the fine arts, though it cannot be expected that a country so young, and so distant from the numerous productions of former ages, should rival the great works of the art in Europe. But small engravings, particularly on steel, for souvenirs, have been produced, which may bear comparison with European productions of the kind. Among American engravers, Longacre, Kelly, Durandt, Danforth (now in London), Cheney, Gallaudet, Ellis, Hatch, and others, well deserve to be engaged on subjects of more permanent interest than souvenir engravings. Of the European artists who have been most distinguished in wood engraving, we would mention the names of the Sueurs, Jackson, Moretti, Canossa, Roger, Caron, Papillon, Beugnet, Dugoure. Among the most famous of the living artists, in this line, in England, are Thompson, Branstoun, Wright, Bonner, Slader, Sears, Nesbit, Hughes. In the U. States, Anderson, Adams, Mason, Fairchild, Hartwell, and others, are distinguished. After the art of engraving in mezzotinto was introduced into England, by prince Rupert, it was carried to much perfection there. John Smith, who lived towards the end of the 17th century, has left more than 500 pieces in this style. He and George White formed a new epoch in the art, which the latter particularly improved, by first etching the plates, whereby they acquired more spirit. Of late years, many artists in England have devoted themselves to this branch: among these are McArdeell, Honston, Earlom, Pether, Green, Watson, Dickinson, Dixon, Hudson, J. Smith, &c. (For a list of the most distinguished engravers, from the earliest times, see Elmes, *Dictionary of the Fine Arts*, article *Engraving*.)

ENGROSSING, in law, denotes the writing a deed over fair, and in proper, legible characters; also, the getting into one's possession, or buying up large quantities of corn, or other provisions, with the intention of selling them again.

ENHARMONIC; the epithet given, by the ancient Greeks, to that of their three genera, which consisted of quarter tones and major thirds. They, however, had originally another kind of enharmonic, more simple, and easier of execution than this, and upon which the quarter tones or dieses were considered, by the theorists of the old school, as innovations too refined and artificial.

ENNEPER OR EMPER ROAD (in German, *Enneper Strasse*) extends about 9 miles from Hagen to Gevelsberg, in the Prussian province of Westphalia (formerly the county of Mark), along the river Enneper or Emper, the banks of which are completely occupied with water-works. All sorts of iron-work are manufactured here. It is one of the most industrious parts of Germany, and may be compared to Sheffield or Birmingham, in England. Iron and steel manufactures are the chief. Sythes and blades for cutting straw are here made annually to the number of 30,000 dozens.

ENNIUS, Quintus; a celebrated Latin poet of the earlier times of the republic, born at Rudiae, in Calabria, 239 B. C. Cato the Censor became acquainted with him in Sardinia, was his pupil, and brought him to Rome, where he soon gained the friendship of the most distinguished men (Scipio Africanus the Elder and others), and instructed the young men of rank in Greek. With an extensive knowledge of the Greek language and literature, he united a thorough acquaintance with the Oscan and Latin tongues, and was thereby enabled to exert a great influence on the last. The rough and unpolished style, which is to be attributed to the time in which he lived, was more than compensated by the energy of his expression and the fire of his language. Quintilian extols him highly, and Virgil shows how much he esteemed him by introducing whole verses from his poems into his own works. He attempted every species of poetry, sometimes more, sometimes less, after the Greek manner. He wrote an epic, "Scipio," in hexameters; Roman annals, from the most ancient times to his own; tragedies and comedies, of which we have some fragments; satires and epigrams; and translations. He was presented with the citizenship for his services to the Latin language and poetry, of which the Romans regarded him as the father. The fragments of his works have been collected by Hesselius (Amsterdam, 1707, 4to.).

ENOCH; one of the patriarchs, who lived before the deluge. He became the father of Methuselah at the age of 65 years; and, at the age of 365 years, "God took him." The words quoted are generally understood to mean that Enoch did not die a natural death, but was removed as Elijah was. Paul (*Heb. xi.*) is of the same opinion.

Enoch, the Prophecy of, is an apocryphal book, ascribed to Enoch, by a mis-

understanding of a passage in the Epistle of Jude, v. 14. Several fathers of the church have testified their respect for it, but the Catholic church never has adopted it as canonical. The Abyssinians are said to receive it into the canon. It was for a long time lost, but Joseph Scaliger discovered a part of it. Scaliger, Vossius and others attribute it to a Jew who lived between the Babylonian captivity and Christ's birth. St. Augustine, Tertullian and Origen quote it.

ENOS, the son of Seth and father of Cainan; one of the patriarchs, who lived to the age of 905 years. This family preserved the worship of God, whilst that of Cain was plunged in all kinds of impiety.

ENSEMBLE (*French*, the whole) is used in the fine arts to denote the general effect of a whole work, without reference to the parts. Thus we speak of the *ensemble* of a picture, when we consider the effect of the whole representation on the mind of the spectator. A thing may be excellent in its parts, as, for instance, a comedy, if the different characters are well drawn; yet it may be deficient in its *ensemble*, that is, as a whole. Rousseau uses this word, in the same meaning, in music; but, at present, *ensemble* is used for a composition of several voices, in which the chief voices are independent of each other, as the quintetts and finales in operas and oratorios.

ENSIGN (from the Latin *insigne*, standard). *Ensign bearer*, commonly called *ensign*, is the lowest commissioned officer in the English army, and that of the U. States. In the French army, under Napoleon, the oldest and most distinguished sergeants bore the colors. Napoleon ordered that those sergeants who could not write, and who had distinguished themselves, should be preferred, "because they could not be properly promoted farther, and yet deserved some distinction on account of their bravery." (See *Las Cases*.)—In naval language, *ensign* is a large standard or banner, hoisted on a long pole, erected over the poop, and called the *ensign-staff*. It is more commonly called *flag*. (q. v.)

ENTABLATURE. The horizontal, continuous work, which rests upon a row of columns. (See *Architecture*, vol. i., p. 338, right column.)

ENTAIL, or TAIL (from *entailler*, French, to mortise or cut into a piece of wood, so as to fit another piece into it, and make a joint), is, in law, an estate cut or carved out of the fees, so that the remaining estates, that is, the remainder or reversion,

together with the estate tail, or all the estates tail, will constitute the entail fee. It is, accordingly, always a lesser estate than a fee simple. (See *Estate*.)

ENTERITIS (from *έντερον*, an intestine); inflammation of the intestines. It is known by the presence of fever, fixed pain in the abdomen, costiveness, and vomiting. The causes are acrid substances, indurated fæces, long-continued and obstinate costiveness, spasmodic colic, and a strangulation of any part of the intestinal canal; but another very general cause is the application of cold to the lower extremities, or to the belly itself. It is a disease which is most apt to occur at an advanced period of life, and is very liable to a relapse. It comes on with an acute pain, extending, in general, over the whole of the abdomen, but more especially round the navel, accompanied with eructations, sickness at the stomach, a vomiting of bilious matter, obstinate costiveness, thirst, heat, great anxiety, and a quick and hard, small pulse. After a short time, the pain becomes more severe, the bowels seem drawn together by a kind of spasm, the whole region of the abdomen is highly painful to the touch, and seems drawn together in lumpy contractions; invincible costiveness prevails, and the urine is voided with great difficulty and pain. The inflammation, continuing to proceed with violence, terminates at last in gangrene; or, abating gradually, it goes off by resolution. Enteritis is always attended with considerable danger, as it often terminates in gangrene, in the space of a few hours from its commencement. The treatment must be begun by taking blood freely from the arm, as far as the strength of the patient will allow; but, the disease occurring more frequently in persons rather advanced in years, and of a constitution somewhat impaired, it becomes more important to limit this evacuation, and rely, in a great measure, on the effects of a number of leeches, applied to the abdomen. Another very useful step is to put the patient into a hot bath, which may presently induce faintness; or, where this cannot be procured, fomenting the abdomen assiduously. When the symptoms are thus materially relieved, an ample blister should be applied. It becomes, also, of the first importance to clear out the bowels. After the disease is removed, care should be taken to guard against accumulation of fæces, exposure to cold, or any thing else likely to occasion a relapse.

ENTOMOLOGY (from *έντομα*, insects, and *λόγος*, doctrine) is that branch of zoology

which treats of the structure, habits and consequent arrangement of the third class of articulated animals called *insecta* or insects, which may be briefly characterized as articulated animals, furnished with articulated feet and a dorsal vessel or rudimental vestige of a heart, respiring by means of two principal parallel tracheæ, and provided with two movable antennæ and a distinct head. The observation of this numerous, diversified and interesting class of beings, and, consequently, the origin of entomological science, must necessarily have been coeval with the creation of man. Without, however, insisting upon this, or referring to the sacred volume in proof thereof, we shall content ourselves with dating it in the 80th Olympiad, or five hundred years before Christ, as, according to Pliny, it was about that period when Hippocrates wrote upon insects. Aristotle (*περί των έκτος κοριών των έντομων*) describes them as consisting of three parts—head, trunk and abdomen; he then speaks of what he calls *tribes* of insects, dividing them, from their mode of progression, into those that walk and those that fly, noticing and commenting on their wings, proboscis, antennæ and feet, carefully observing the latter, and exhibiting in this, as in every other department of zoology, that accuracy which so eminently distinguished the philosophical preceptor of Alexander the Great. Pliny is the next author of any note whose attention seems to have been directed to the study in question, for, in his 11th book, he speaks of various bees, wasps, &c. From this period, down to 1519, when the work of Albertus Magnus upon insects was published, the science made a silent but certain progress. Its advance in the succeeding 30 years is visible in the efficient attempt at a better system of classification than had hitherto prevailed, in the *De Animantibus Subterraneis* of the last mentioned author, in 1549. He there divides insects into three classes—those that walk, those that fly, and those that swim, describing several species of each class. In 1552, Wotton published his *De Differentiis Animalium*, and was followed by numerous writers on the subject of insects, whose books possessed more or less merit: some of them were illustrated with figures, and all tended to render the study more worthy of the name of a science. To particularize them within the limited bounds of an article of this nature, is impossible. We must, therefore, be permitted to pass them over with this general notice, the folio of the learned and liberal Aldrovan-

dus, 1602, and Mouffet's *Insectorum Theatrum*, excepted, which richly merit distinction. The *Experimenta*, &c. of Redi, 1671, deserves especial attention for its triumphant refutation of the then popular error of equivocal generation—an error whose origin is buried in the remotest antiquity, upheld by the ancient philosophers, and not even yet eradicated from the minds of the common people. Redi demonstrated the fact, that every living animal is derived from an egg, deposited by a parent every way similar to itself. Previous to this, in 1669, the great work of Swammerdam—*Historia Insectorum Generalis*—was given to the public, but was utterly neglected until the death of the author, in 1680, when it was instantly discovered to be of such value as to demand a translation. No bookseller could be found who would risk the expense of printing the *Biblia Naturæ*, a second work from the same pen, until it accidentally fell into the possession of the learned Boerhaave, who published it, together with the life of Swammerdam, in 1738. In that book, which is still considered as one of the most valuable we possess on the anatomy of insects, he divides them into the four following classes:—1. those whose characters are constant, undergoing no change whatever, and which preserve for life the form in which they leave the ovum; spiders, &c.: 2. those which, on their liberation from the ovum, have the appearance of an insect without wings, but otherwise completely formed, and that pass into the state of a nymph or chrysalis, from which they issue provided with wings, and fitted for continuing the species; dragon-flies, &c.: 3. those which, having existed in the ovum in a disguised form, leave it under the appearance of an insect (caterpillar), which feeds and increases in size, while the various parts of the new animal, into which it is to be converted, are forming under its skin, and finally becomes a nymph; moths, butterflies, &c.: 4. those which, having arrived at maturity, do not divest themselves of their skin, but pass into the chrysalis state under it, remaining there till the metamorphosis is completely effected, when, quitting both skins at once, they come forth in their final and perfect form; ichneumons, &c.—Malpighi and Vallisnieri also enriched the science with the results of their observations, in common with others of less note. The *Mémoires*, &c., of Perrault (Paris, 1671), Lister's book on spiders, the *Historia Animalium Angliæ*, &c. (1678), and those of Ferrand, Mollerus and Berelio,

all tended to the same result. In 1685, a Latin edition of the works of Goedart was published by doctor Lister, just named, a learned entomologist of that period, and physician to queen Anne, who gave a new arrangement to the materials collected by his industrious though not very acute author, who was more of a collector and painter of insects than a scientific observer. In that work, Lister establishes 10 classes of insects:—1. moths with erect wings, or diurnal butterflies; 2. moths with horizontal wings, the perfect insect of the caterpillar, called the *geometra* by Goedart; 3. moths with deflected wings; 4. libellulæ; 5. bees; 6. beetles; 7. grasshoppers; 8. dipterous flies; 9. millepedes; and, 10. spiders. There is nothing, however, in this mode of division, which merits any peculiar praise, or that should prevent us from passing immediately to the microscopical discoveries of the celebrated Leuwenhoeck, from whose inventive genius and patient observations the science received such essential benefit, not more by what he himself discovered, than by the foundation he laid for that system of close and minute observation which alone leads to truth. Our limits will only permit us to designate Blankaart and Geyerus, as occupying a similar rank with Goedart. Ray, however, deserves more particular notice. His descriptions are very exact and detailed, and his various works, *Synopsis Methodica Animalium*, &c. (Lond., 1683), *Synopsis Methodica Avium et Piscium* (Lond., 1713), and the *Historia Insectorum* (Lond., 1710), sufficiently demonstrate his claim to the title of the first true systematist. His was the glory of serving as a zoological guide to the illustrious Swedish reformer, of whom we shall soon have to speak. Ray divides insects into two great classes—those which undergo a metamorphosis after having been produced, and those which do not. He again subdivides each of these classes into orders, characterized by the feet, or by their absence; by their habitations; by the size or conformation of the various parts of the body; by their larvæ, &c. In this arrangement were included certain tribes of *vermes*, subsequently separated by Linnæus. The voluminous productions, upon this subject, of the indefatigable Réaumur, who directed his researches into every department of science, appeared in Paris in 6 vols., 4to., 1734–1742. His *Mémoires pour servir à l'Histoire des Insectes*—for such is its modest title—is an admirable work, both with respect to the number and value of the ob-

servations it contains. It is to be lamented that the 7th volume, which is completed, remains unpublished. The intended remaining ones were not commenced when Réaumur died, in 1757.—But a greater name than any we have yet mentioned is that of the illustrious reformer of the nomenclature of the natural sciences. Notwithstanding the labors of so many ingenious, learned and acute observers of nature, the history of animals, and that of insects in particular, remained in a confused state until the illustrious Linnæus reduced the chaotic pile to order. Directing all the energies of his clear and comprehensive mind to the subject, he produced, in his well known *Systema Naturæ*, 1735, the first truly methodical work. In a final edition of the same book, we find an arrangement of insects differing from that contained in the former; and, as that is the one always referred to at the present day, and as his divisions are, to a certain extent, still retained, we deem it proper to notice it here. He divides insects into *coleoptera*, *hemiptera*, *lepidoptera*, *neuroptera*, *hymenoptera*, *diptera* and *aptera*. In this class were also included the *crustacea* and *arachnides*, now forming the first and second classes of the third great division of the animal kingdom, or the *animalia articulata*. The system of Linnæus, though not a natural one, was well adapted to the limited number of animals then known, and which, with respect to insects, did not exceed 800 or 900. Its subsequent alterations necessarily arose from the immense number of new ones which the increasing zeal of observers detected in every part of the globe. L'Admiral, Detharding, Lesser, Degeer, Roesel, Scopoli and Geoffroy, all contributed, and some of them greatly, to multiply facts and detect errors. Lyonnet, however, merits something more than the bare mention of his name. Animated by a zeal that no disappointment could damp, and armed with a patience that set obstacles at defiance, this untiring inquirer devoted seven years of his life to the anatomy of a single insect—the larva of a species of *cossus* that inhabits the willow. The plates of his work, the *Traité Anatomique de la Chenille du Saule* (4to., 1762), 18 in number, were all engraved by his own hand, with a minuteness, fidelity and elegance that have seldom, if ever, been equalled. The *ensemble* is pronounced, by the greatest authority of our age, a *chef-d'œuvre* both of anatomy and engraving. We cannot stop to notice particularly the labors of Schæffer, Seba, Forster and Drury, each

of whom added something to the general fund of knowledge. With respect to those of Fabricius, it is otherwise. This celebrated entomologist, and pupil of Linnæus, published numerous and valuable works on his favorite science, of which we will only cite the *Entomologia Systematica, emendata et aucta* (4 vols., 8vo., 1792—1794), the *Supplementum Entomologiæ Systematicæ* (1798), and the *Systema Eleutheratorum, Rhyngotorum, &c.* (from 1801 to 1805). He was the first who had recourse to the parts of the mouth, or organs of manducation, as a basis of distribution; and a vast number of new species of insects were described by him, in his remarkably concise but clear manner, with which Gmelin, a naturalist, or rather editor, of a very different class, enriched the *Systema* of Linnæus. The career of this distinguished man, whose love of truth in matters of science is strongly exemplified in his well known emphatic epitaph on John Hill, was prematurely arrested by death in 1807, just as he was preparing to publish his *Systema Glossatorum*, an extract from which is given by Illiger in his *Magazin für Insectenkunde*. The splendid and costly works of Olivier (5 vols., fol., Paris, 1789—1808), Donovan (Lond., 1778—1805), Palisot de Beauvois (Paris, fol., 1805 et seq.), Cramer (4 vols., 4to., with 400 colored plates, Amsterdam, 1779, continued by Stoll, in 1 vol., 4to., 1790 et seq.), together with a multitude of others of a less magnificent description, bring our sketch down to a period in the annals of the natural sciences which is graced by the name of Cuvier. It is to him that we are indebted for what is termed the *natural method*, or an arrangement in which, to use his own words, "all beings of the same genus are placed nearer to each other than to those of all other genera, the genera of the same order similarly disposed with respect to those of all other orders, &c." The energy and discrimination of this modern *oracle of the natural sciences*, as he has justly been styled, aided by untiring industry, have fixed the foundations of zoology upon the immutable basis of comparative anatomy. From the moment his *Tableau élémentaire de l'Histoire naturelle des Animaux*, and his *Leçons d'Anatomie Comparée*, made their appearance, the entomologist, in common with the cultivators of every other branch of zoology, was sensible that he at last held the clew by which he could hope to traverse the hitherto impracticable labyrinth. The study now became a greater object of interest than ever. Lamarck pro-

duced his work upon invertebral animals, and Latreille, guided by Cuvier, soon gave to the world his famous entomological system, an exposition of which will close this necessarily limited, and consequently imperfect sketch. Among the modern writers of eminence on the subject of insects, MacLeay, Leach and Kirby stand preëminent in England. Prussia boasts of her Klug and Illiger; Germany of her Knoch, Mannerheim and Germar; Russia of her Fischer; Sweden of her Paykull, Gyllenhal and Schoenherr; and France, that favorite seat of science, of the greatest entomologist of the age—the venerable Latreille. There, too, count Dejean is at this moment busied with his admirable work on coleopterous insects, 4 volumes of which are already published, and which, when completed, will leave nothing to be desired with respect to that order. Leon Dufour, of the same country, by his various memoirs on the anatomy of a new species of *brachinus*, on that of the *coleoptera*, of the *cicadaria*, of the *cicadella*, of the *forficula*, &c., has given ample proofs of his devotion to the science, and of his title to the rank of the first entomological anatomist of the age. Savigny, also, who sacrificed his sight to his anatomical investigations, and was one of the *savants* who accompanied the expedition to Egypt, has rendered the most important services to this branch of zoology, by his work on the mouths of insects. But while we willingly render justice to these distinguished foreigners, let us not forget what is due to ourselves. Mel-

sheimer (who furnished Knoch with the greater part of his species), Say, Hentz, Le Conte, Harris, and many others, have successfully exerted themselves in detecting and describing the insects of the U. States; and, at this moment, a valuable work on the *lepidoptera* of North America, by Messrs. Boisduval and Le Conte, is publishing in Paris.—The history of the first and second classes of articulated animals, or the *crustacea* (crabs, lobsters, &c.) and *arachnides* (spiders), is so involved with that of the third, or the *insecta* or *insects*, properly so called, that but little separate allusion has been made to it. In all the systems of which we have spoken, these two classes were considered as insects. Brisson was the first who separated them; and his class of the *crustacea*, which he placed before that of *insects*, contains all those animals which have more than six feet, or the *apiropodes* of M. Savigny. It is only, however, within a few years, that a rigorous application of anatomical observations has enabled the French naturalists to arrange them in their natural order. They now form three distinct classes of the third great division of the animal kingdom, which comprises the *animalia articulata*, or articulated animals. The *crustacea* and *arachnides*, being the most perfect of the three, so far as their organization is concerned, are placed first, and the insects last. The subjoined tabular view shows the manner in which they are arranged and divided by Latreille, the great entomologist of the day.

Synoptical View of the Entomological System of Latreille.

<p>CLASS I. CRUSTACEA.</p> <p>FIRST GENERAL DIVISION. MALACOSTRACA.</p> <p>a. <i>Eyes on a movable pedicel.</i></p> <p>ORDER I. DECAPODA.</p> <p>FIRST FAMILY. BRACHYURA.</p> <p>Cancer, <i>L.</i></p> <p>Pinnipedes. Arcuata. Quadrilatera. Orbiculata. Trigona. Cryptopoda. Notopoda. Sub-genera, 62.</p>	<p>SECOND FAMILY. MACROURA.</p> <p>Astacus, <i>Lat.</i></p> <p>Anomala. Locusta. Astacini. Carides. Sub-genera, 42.</p> <p>ORDER II. STOMAPODA.</p> <p>FIRST FAMILY. UNIPELTATA.</p> <p>Squilla, <i>Fab.</i></p> <p>Sub-genera, 5.</p> <p>SECOND FAMILY. BIPELTATA.</p> <p>Phyllosoma, <i>Leach.</i></p> <p>b. <i>Eyes fixed and sessile.</i></p>	<p>ORDER III. AMPHIPODA.</p> <p>Gammarus, <i>Fab.</i></p> <p>Sub-genera, 25.</p> <p>ORDER IV. LÆMODIPODA.</p> <p>Cyamus, <i>Lat.</i></p> <p>Sub-genera, 4.</p> <p>ORDER V. ISOPODA.</p> <p>Oniscus, <i>L.</i></p> <p>Epicarides. Cymothoada. Sphæromides. Idoteides. Asellota. Oniscides. Sub-genera, 35.</p>
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SECOND GENERAL DIVISION.
ENTOMOSTRACA.

ORDER I.
BRANCHIOPODA.

Monoculus, *L.*
Lophyropa.
Phyllopa.
Sub-genera, 13.

ORDER II.
PÆCILOPODA.

FIRST FAMILY.
XYPHOSURA.
Limulus, *Fab.*
Tachypleus, *Leach.*

SECOND FAMILY.
SIPHONOSTOMA.
Caligides, *Lat.*
Lerneiformes, *id.*
Genera and sub-genera, 9.

TRILOBITES.
Genera, 5.

CLASS II.
ARACHNIDES.

ORDER I.
PULMONARIÆ.

FIRST FAMILY.
ARANEIDES.
Mygale, *Walck.*
Aranea, *L.*

Tubiteles.
Inequiteles.
Orbiteles.
Laterigrades.
Citigrades.
Saltigrades.
Sub-genera, 33.

SECOND FAMILY.
PEDIPALPI.
Tarantula, *Fab.*
Scorpio, *L.*
Sub-genera, 4.

ORDER II.
TRACHEARIÆ.

FIRST FAMILY.
PSEUDO-SCORPIONES.
Galeodes, *Oliv.*
Chelifera, *Geoff.*

SECOND FAMILY.
PYCNOGONIDES.
Pycnogonum, *Brun.*
Phoxichilus, *Lat.*
Nymphon, *Fab.*

THIRD FAMILY.
HOLETRA.

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FIRST TRIBE.
PHALANGITA.
Phalangium, *L.*

Gonoleptes.
Siro.
Macrocheles.
Trogulus.

SECOND TRIBE.
ACARIDES.
Acarus, *L.*
Sub-genera, 19.

CLASS III.
INSECTA.

ORDER I.
MYRIOPODA.

FIRST FAMILY.
CHIOGNATHA.
Iulus, *L.*
Sub-genera, 5.

SECOND FAMILY.
CHILOPODA.
Scolopendra, *L.*
Sub-genera, 2.

ORDER II.
THYSANOURA.

FIRST FAMILY.
LEPISMENÆ.
Lepisma, *L.*
Sub-genera, 2.

SECOND FAMILY.
PODURELLÆ.
Podura, *L.*
Sub-genera, 2.

ORDER III.
PARASITA.
Pediculus, *L.*
Sub-genera, 3.

ORDER IV.
SUCTORIA.
Pulex, *L.*

ORDER V.
COLEOPTERA.

FIRST GREAT DIVISION.

Pentamera.

FIRST FAMILY.
CARNIVORA.
FIRST TRIBE.
CICINDELITÆ.
Cicindela, *L.*
Sub-genera, 9.

SECOND TRIBE.
CARABICI.
Carabus, *L.*
Truncatipennes.
Bipartiti.
Quadrirmani.
Simplicirmani.
Patellirmani.
Grandipalpi.
Subulipalpi.
Sub-genera, 123.

THIRD TRIBE.
HYDROCANTHARI
Dytiscus, *Geoff.*
Gyrinus, *L.*
Sub-genera, 6.

SECOND FAMILY.
BRACHELYTRA.
Staphylinus, *L.*
Fissilabra.
Longipalpi.
Denticura.
Depressa.
Microcephala.
Sub-genera, 24

THIRD FAMILY.
SERRICORNES.

Section I.
STERNOXI.

FIRST TRIBE.
BUPRESTIDES.
Buprestis, *L.*
Sub-genera, 4.

SECOND TRIBE.
ELATERIDES.
Elater, *L.*
Sub-genera, 14.

Section II.
MALACODERMES

FIRST TRIBE.
CEBRIONITES.
Cebrio, *L.*
Sub-genera, 12.

SECOND TRIBE.
LAMPYRIDES
Lampyrus, *L.*
Sub-genera, 11.

THIRD TRIBE.
MELYRIDES.
Melyris, *Fab.*
Sub-genera, 6.

FOURTH TRIBE.
CLERII.
Clerus, *Geoff.*
Sub-genera, 10

FIFTH TRIBE.
PTINIORES.
Ptinus, *L.*
Sub-genera, 6.

Section III.
 XYLOTROGI.
Lymexylon, Fab.
 Sub-genera, 4.

FOURTH FAMILY.
 CLAVICORNES.

Section I.
 FIRST TRIBE.
 PALPATOIRES.
Mastigus, Hoff.
 Sub-genera, 2.

SECOND TRIBE.
 HISTEROIDES.
Hister, L.
 Sub-genera, 6.

THIRD TRIBE.
 SILPHALES.
Silpha, L.
 Sub-genera, 9.

FOURTH TRIBE.
 SCAPHIDITES.
Scaphidium, Oliv.
 Sub-genera, 2.

FIFTH TRIBE.
 NITIDULARIÆ.
Nitidula, Fab.
 Sub-genera, 6.

SIXTH TRIBE.
 ENGIDITES.
Dacne, Lat.
 Sub-genera, 2.

SEVENTH TRIBE.
 DERMESTINI.
Dermestes, L.
 Sub-genera, 6.

EIGHTH TRIBE.
 BIRRHII.
Byrrhus, L.
 Sub-genera, 2.

Section II.
 FIRST TRIBE.
 ACANTHOPODA.
Heterocerus, Bosc.

SECOND TRIBE.
 MACRODACTYLA.
Dryops, Oliv.
 Sub-genera, 4.

FIFTH FAMILY.
 PALPICORNES.

FIRST TRIBE.
 HYDROPHILII.
Hydrophilus, Geoff.
 Sub-genera, 9.

SECOND TRIBE.
 SPHÆRIDOTA.
Sphæridium, Fab.
 Sub-genus, 1.

SIXTH FAMILY.
 LAMELLICORNES.

FIRST TRIBE.
 SCARABÆIDES.
Scarabæus, L.
Coprophagi.
Arenicoli.
Xylophili.
Phyllophagi.
Anthobii.
Melitophili.
 Sub-genera, 80.

SECOND TRIBE.
 LUCANIDES.
Lucanus, L.
Passalus, Oliv.
 Sub-genera, 7.

SECOND GENERAL DIVISION.

Heteromera.

FIRST FAMILY.
 MELASOMA.
Pimeliariæ.
Blapsides.
Tenebrionites.
 Sub-genera, 36.

SECOND FAMILY.
TAXICORNES.

FIRST TRIBE.
 DIAPERIALES.
Diaperis, Geoff.
 Sub-genera, 8.

SECOND TRIBE.
 COSSYPHENES.
Cossyphus, Oliv.
 Sub-genera, 2.

THIRD FAMILY.
 STENELYTRA.

FIRST TRIBE.
 HELOPHI.
Helops, Fab.
 Sub-genera, 14.

SECOND TRIBE.
 CISTELIDES.
Cistela, Fab.
 Sub-genera, 3.

THIRD TRIBE.
 SERROPALPIDES.
Dircæa, Fab.
 Sub-genera, 7.

FOURTH TRIBE.
 CÆDEMERITES.
Cædemera, Oliv.
 Sub-genera, 4.

FIFTH TRIBE.
 RHYNCHOSTOMA.
Mycterus, Clairv.
 Sub-genera, 2.

FOURTH FAMILY.
TRACHELIDES.

FIRST TRIBE.
 LAGRIARIÆ.
Lagria, Fab.
 Sub-genera, 2.

SECOND TRIBE.
 PYROCHROIDES.
Pyrochroa, Geoff.
 Sub-genus, 1.

THIRD TRIBE.
 MORDELLONÆ.
Mordella, L.
 Sub-genera, 5.

FOURTH TRIBE.
 ANTHICIDES.
Notoxus, Geoff.
 Sub-genera, 2.

FIFTH TRIBE.
 HORIALES.
Horia, Fab.
 Sub-genus, 1.

SIXTH TRIBE.
 CANTHARIDÆ.
Meloe, L.
 Sub-genera, 12.

THIRD GENERAL DIVISION.

Tetramera.

FIRST FAMILY.
 RHYNCHOPHORA.
Bruchus.
Attelabus.
Brentus.
Brachycerus.
Curculio.
Lixus.
Rhynchænus.
Calandra.
 Sub-genera, 51.

SECOND FAMILY.
 XYLOPHAGI.
Scolytus.
Paussus.
Bostrichus.
Monotoma.
Lyctus.
Mycetophagus.
Trogosita.
 Sub-genera, 23.

THIRD FAMILY.
 PLATYSOMA.
Cucujus, Fab.
 Sub-genera, 2.

FOURTH FAMILY.
 LONGICORNES.

<p>FIRST TRIBE. PRIONII. Parandra. Spondylis. Prionus.</p> <p>SECOND TRIBE. CERAMBICINI. Cerambyx, <i>L.</i> Sub-genera, 16. Obrium. Rhinotragus. Necydalis. Distichocheres. Temesisternus. Tragocerus. Leptocera. Sub-genus, 1.</p> <p>THIRD TRIBE. LAMIARÆ. Acrocinus. Lamia. Sub-genera, 12.</p> <p>FOURTH TRIBE. LEPTURETÆ. Leptura, <i>L.</i> Sub-genera, 6.</p> <p>FIFTH FAMILY. EUPODA. FIRST TRIBE. SAGRIDES. Sagra, <i>Fab.</i> Sub-genera, 3.</p> <p>SECOND TRIBE. CRIOCERIDES. Cricocerus, <i>Geoff.</i> Sub-genera, 6.</p> <p>SIXTH FAMILY. CYCLICA. FIRST TRIBE. CASSIDARÆ. Hispa. Cassida. Sub-genera, 3.</p> <p>SECOND TRIBE. CHRYSOMELINÆ. Cryptocephalus. Chrysomela. Sub-genera, 15.</p> <p>THIRD TRIBE. GALERUCITÆ. Galeruca. Sub-genera, 9.</p> <p>SEVENTH FAMILY. CLAVIPALPI. Erotylus, <i>Fab.</i> Sub-genera, 5.</p>	<p>FOURTH GENERAL DIVISION. <i>Trimeræ.</i> FIRST FAMILY. FUNGICOLÆ. Eumorphus. Sub-genera, 3.</p> <p>SECOND FAMILY. APHIDIPHAGI. Coccinella, <i>L.</i> Sub-genera, 2.</p> <p>THIRD FAMILY. PSELAPHII. Pselaphus. Claviger. Sub-genera, 7.</p> <p>ORDER VI. ORTHOPTERA. FIRST FAMILY. CURSORIA. Forficula. Blatta. Mantis. Sub-genera, 15.</p> <p>SECOND FAMILY. SALTATORIA. Gryllus. Locusta. Acrydium. Sub-genera, 15.</p> <p>ORDER VII. HEMIPTERA. <i>Section I.</i> <i>Heteroptera.</i> FIRST FAMILY. GEOCORISÆ. Cimex, <i>L.</i> Sub-genera, 40.</p> <p>SECOND FAMILY. HYDROCORISÆ. Nepa. Notonecta. Sub-genera, 5.</p> <p><i>Section II.</i> <i>Homoptera.</i> FIRST FAMILY. CICADARÆ. Cicada. Fulgora. Cicadella. Sub-genera, 29.</p>	<p>SECOND FAMILY. APHIDII. Psylla. Thrips. Aphis. Sub-genera, 3.</p> <p>THIRD FAMILY. GALLINSECTA. Coccus, <i>L.</i> Sub-genus, 1.</p> <p>ORDER VIII. NEUROPTERA. FIRST FAMILY. SUBULICORNES. Libellula. Ephemera. Sub-genera, 2.</p> <p>SECOND FAMILY PLANIPENNES. Panorpatae. Myrmeleonides. Hemerobini. Termitinae. Perlides. Genera, 8. Sub-genera, 12.</p> <p>THIRD FAMILY. PLICIPENNES. Phryganea. Sub-genera, 4.</p> <p>ORDER IX. HYMENOPTERA. <i>Section I.</i> <i>Terebrantia.</i> FIRST FAMILY. SECURIFERA. FIRST TRIBE. TENTHREDINETÆ. Tenthredo, <i>L.</i> Sub-genera, 19.</p> <p>SECOND TRIBE. UROCERATA. Sirex, <i>L.</i> Sub-genus, 1.</p> <p>SECOND FAMILY. PUPIVORA. FIRST TRIBE. EVANIALES. Fœnus. Sub-genera, 4.</p> <p>SECOND TRIBE. ICHNEUMONIDES. Ichneumon, <i>L.</i> Sub-genera, 20.</p>
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<p>THIRD TRIBE. GALLICOLÆ. Cynips, <i>L.</i> Sub-genera, 2.</p> <p>FOURTH TRIBE. CHALCIDIÆ. Chalcis, <i>Fab.</i> Sub-genera, 16.</p> <p>FIFTH TRIBE. OXYURI. Bethylus, <i>Fab.</i> Sub-genera, 11.</p> <p>SIXTH TRIBE. CHRYSIDES. Chrysis, <i>L.</i> Sub-genera, 6.</p> <p>Section II. <i>Aculeata.</i></p> <p>FIRST FAMILY. HETEROGYNA. Formica. Mutilla. Sub-genera, 15.</p> <p>SECOND FAMILY. FOSSORES. Scolietæ. Sapygites. Sphegides. Bembecides. Larrates. Nyssones. Crabronites. Sub-genera, 38.</p> <p>THIRD FAMILY. DIPLOPTERA.</p> <p>FIRST TRIBE. MASARIDES. Masaris, <i>Fab.</i> Sub-genus, 1.</p> <p>SECOND TRIBE. VESPARIÆ. Vespa, <i>L.</i> Sub-genera, 9.</p> <p>FOURTH FAMILY. ANTHOPHILA.</p> <p>Section I. <i>Andrenetæ.</i> Sub-genera, 6.</p> <p>Section II. <i>Apiariæ.</i> Sub-genera, 38.</p>	<p>ORDER X. LEPIDOPTERA.</p> <p>FIRST FAMILY. DIURNA. Papilio, <i>L.</i> Sub-genera, 29.</p> <p>SECOND FAMILY. CREPUSCULARIA. Sphinx, <i>L.</i> Sub-genera, 13.</p> <p>THIRD FAMILY. NOCTURNES. Phalæna, <i>L.</i></p> <p>Section I. <i>Hepialites.</i> Sub-genera, 3.</p> <p>Section II. <i>Bombycites.</i> Sub-genera, 2.</p> <p>Section III. <i>Pseudo-Bombyces.</i> Sub-genera, 3.</p> <p>Section IV. <i>Aposura.</i> Sub-genera, 2.</p> <p>Section V. <i>Noctualites.</i> Sub-genus, 1.</p> <p>Section VI. <i>Tortrices.</i> Sub-genera, 4.</p> <p>Section VII. <i>Geometræ.</i> Sub-genera, 3.</p> <p>Section VIII. <i>Deltoides.</i> Sub-genus, 1.</p> <p>Section IX. <i>Tineites.</i> Sub-genera, 12.</p> <p>Section X. <i>Pterophorites.</i> Sub-genus, 1.</p> <p>ORDER XI. RHIPIPTERA. Xenos. Stylops.</p>	<p>ORDER XII. DIPTERA.</p> <p>FIRST FAMILY. NEMOCERA. Culex. Tipula. Sub-genera, 49.</p> <p>SECOND FAMILY. TANYSTOMA. Asilus. Empis. Cyrtus. Bombylius. Anthrax. Thereva. Leptis. Dolychopus. Sub-genera, 45.</p> <p>THIRD FAMILY. TABANIDES. Tabanus, <i>L.</i> Sub-genera, 7.</p> <p>FOURTH FAMILY. NOTACANTHA. Mydas. Chiromyza. Pachystomus. Stratiomys. Sub-genera, 16.</p> <p>FIFTH FAMILY. ATHERICERA.</p> <p>FIRST TRIBE. SYRPHIDÆ Syrphus, <i>L.</i> Sub-genera, 24.</p> <p>SECOND TRIBE. CESTRIDES. Cestrus, <i>L.</i> Sub-genera, 5.</p> <p>THIRD TRIBE. CONOPSARIÆ. Conops, <i>L.</i> Sub-genera, 6.</p> <p>FOURTH TRIBE. MUSCIDES. Musca, <i>L.</i> Sub-genera, 73.</p> <p>SIXTH FAMILY. PUPIPARA. Hippobosca, <i>L.</i> Nycteribia, <i>Lat.</i> Sub-genera, 3.</p>
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ENTRE-DUERO-E-MINHO ; a province of Portugal, bounded north by Galicia, a province of Spain ; east by Tralos-Montes and Spain ; south by Beira, from which it is separated by the river Duero ; and west by the Atlantic : square miles, according to Hassel, 2121 ; others, 3455 : population, according to Antillon, 907,965 ;

Ebeling, 817,167; Barros, 1,123,495: houses, 181,853. It takes its name from its situation between the rivers Duero and Minho, the latter of which waters part of its northern borders, as the former bounds the south: about 60 miles from north to south, and 35 from east to west. The soil is fertile, and the air pure and healthy. It produces corn, wine, oil and flax in abundance, with great numbers of sheep, and plenty of game and fish. It is divided into 6 jurisdictions, which contain 1460 churches, 963 parishes, and 1130 convents. It has several seaports, situated on navigable rivers, which render it very commercial. The principal towns are Braga (the capital), Oporto (the largest town), Viana, Guimaraens, Amarante, Moncao, and Ponte de Lima.

ENTRESOLE. The same as Attic. (q.v.)

ENVOY. (See *Ministers, Foreign, and Diplomacy.*)

EOLIAN HARP. (See *Eolian Harp.*)

EOLIANS. (See *Eolians.*)

EOLIPILE. (See *Eolipile.*)

EOLUS. (See *Eolus.*)

EON, THE CHEVALIER DE. (See *D'Eon.*)

EOS. (See *Aurora.*)

EPACTS (from *ἐπαγος, induco, intercalo*), in chronology; the excesses of the solar month above the lunar synodical month, and of the solar year above the lunar year of twelve synodical months; or of several solar months above as many synodical months, and several solar years above as many dozen of synodical months. The epacts, then, are either *annual* or *menstrual*.

Menstrual Epacts are the excesses of the civil or calendar month above the lunar month. Suppose, for example, it were new moon on the first day of January; since the lunar month is 29 days, 12 hours, 44 minutes, 3 seconds, and the month of January contains 31 days, the menstrual epact is 1 day, 11 hours, 15 minutes, 57 seconds.

Annual Epacts are the excesses of the solar year above the lunar. Hence, as the Julian solar year is 365 days, 6 hours, and the Julian lunar year 354 days, 8 hours, 48 minutes, 38 seconds, the annual epact will be 10 days, 21 hours, 11 minutes, 22 seconds, that is, nearly 11 days. Consequently, the epact of 2 years is 22 days; of 3 years, 33 days, or rather 30, since 30 days make an embolismic or intercalary month. Thus the epact of 4 years is 14 days, and so of the rest; and thus, every 19th year, the epact becomes 30, or 0; consequently, the 20th year, the epact is 11 again; and so the cycle of

epacts expires with the golden number, or lunar cycle of 19 years, and begins with the same; these are Julian epacts: the Gregorian depend upon the same principles, allowing only for the difference of the respective years. As the new moons are the same, that is, as they fall on the same day after every 19 years, so the difference between the lunar and solar years is the same after every 19 years. And, because the said difference is always to be added to the lunar year, in order to adjust or make it equal to the solar year, therefore the said difference respectively belonging to each year of the moon's cycle, is called the *epact* of the said year, that is, the number to be added to the same year, to make it equal to the solar year.

Rule to find the Gregorian Epact. The difference between the Julian and Gregorian years being equal to the difference between the solar and lunar year, or 11 days, therefore the Gregorian epact for any year is the same with the Julian epact for the preceding year; and hence the Gregorian epact will be found by subtracting 1 from the golden number, multiplying the remainder by 11, and rejecting the 30s. This rule will serve till the year 1900; but, after that year, the Gregorian epact will be found by this rule: Divide the centuries of the given year by 4, multiply the remainder by 17; then to this product add 43 times the quotient, and also the number 86, and divide the whole sum by 25, reserving the quotient: next multiply the golden number by 11, and from the product subtract the reserved quotient, and the remainder, after rejecting all the 30s contained in it will be the epact sought. The following table contains the golden numbers, with their corresponding epacts, till the year 1900.

Table of Gregorian Epacts.

Golden Number.	Epacts.	Golden Number.	Epacts.	Golden Number.	Epacts.
I.	0	VIII.	17	XV.	4
II.	11	IX.	28	XVI.	15
III.	22	X.	9	XVII.	26
IV.	3	XI.	20	XVIII.	7
V.	14	XII.	1	XIX.	18
VI.	25	XIII.	12	I.	0
VII.	6	XIV.	23		

EPAMINONDAS; a Theban hero, who, for a short time, raised his country to the summit of power and prosperity. He was descended from the ancient kings of Boeotia, but was without fortune, and lived in seclusion till his 40th year. He was fortunate in enjoying the instructions

of the Pythagorean philosopher, Lysis, who inspired him with the high sentiments which ennobled his life. He made his first public appearance in Sparta, whither he had been sent, with others, at the invitation of the Lacedæmonians, in order to end the war between the two countries by negotiation. In this affair, he displayed as much firmness and dignity as eloquence, and steadfastly opposed the surrender of the towns of Bœotia, in the possession of Thebes. The war was continued, and Epaminondas was made general. With 6000 men, he defeated the invading army, of double the number, at Leuctra (378 B. C.). He led the attack in person on the enemy's phalanx, while his friend Pelopidas, at the head of the sacred band, fell upon their flank. The Spartans lost their king, Cleombrotus, and 4000 men. Two years after, Epaminondas and Pelopidas were made Bœotarchs. They invaded Peloponnesus together, detached several nations from the alliance of Lacedæmon, and delivered the Messenians, whose capital they rebuilt. Epaminondas then marched with his army to Sparta; but this city was so bravely and skilfully defended by Agesilaus, that the Theban hero, finding winter approaching, and the Athenians now in declared hostility with Thebes, evacuated Laconia, after laying waste the low country. An accusation was brought against him, on his arrival in Thebes, because he and Pelopidas had kept the Bœotarchate beyond the legal time. "Yes," he replied, "I have deserved death; yet I pray that you would write on my grave—'The Thebans put Epaminondas to death, because he compelled them, at Leuctra, to attack and overcome those whom they had never before dared to meet; because his victory delivered his country, and made Greece free; because the Thebans were led by him to the siege of Lacedæmon, which thought itself fortunate in escaping total ruin; because he rebuilt Messene, and secured it with strong walls.'"

These words produced a general excitement in his favor, and he was acquitted. After procuring, by his influence, the freedom of Pelopidas, who was kept prisoner by the tyrant of Pheræ, a new war broke out between Sparta and Thebes. Both sides raised large armies. Epaminondas invaded Peloponnesus again, and advanced suddenly upon Lacedæmon, which he expected to find destitute of defenders. But Agesilaus, having been apprised of his march, had hastened back, and was prepared to meet him. The

Thebans, however, attacked him, and forced their way into the middle of the city; but despair stimulated the courage of the Lacedæmonians, and the Thebans were forced to retreat. To make amends for this failure, Epaminondas marched with 33,000 men into Arcadia, where the greatest force of the enemy was assembled. Here was fought the battle of Mantinea. Epaminondas led one of the wings against the Lacedæmonian phalanx, and routed it; but was surrounded by the enemy, while he was pursuing them, and wounded in the breast by a javelin. After a hard conflict, the Thebans rescued his body and shield. On the other wing, the battle was indecisive; and both parties, on hearing of the death of Epaminondas, had retired, after erecting a trophy. The hero was still alive, but was informed by the physicians that he must die as soon as the weapon was extracted from the wound. When news of the victory was brought him, he exclaimed, "I have lived long enough," and drew out the weapon with his own hands. His friends regretting that he left no children, "I leave," said he, "two immortal daughters, the victories at Leuctra and Mantinea." He died 363 B. C., aged 48. He has been extolled no less for his moral purity, goodness and gentleness, than his military talents. He never uttered a falsehood, even in jest. He was a man, as Nepos says, adorned with every virtue, and stained by no vice.

EPAULEMENT, in fortification, is a kind of breastwork, to cover the troops in front, and sometimes in flank. This term is frequently used for any work thrown up to defend the flank of a post, or any other place.

EPAULETTE (the French diminutive of *epaule*, shoulder) signifies a military ornament, worn on the shoulder. It originated, in the time of Louis XIV, from the riband by which the belt sustaining the sword was kept from slipping from the shoulder. In some armies, every officer wears them, as in the Prussian; but there is a sufficient difference between those worn by different ranks, to enable a lieutenant or a captain to be distinguished immediately from a major or a colonel, and these again from the generals—a circumstance sometimes of great importance in battles. This means of distinction has this advantage, that it is not obvious to the enemy, as white plumes, &c., are. In the Russian and Prussian armies, every officer has two epaulettes; in the French army, this is not the case, but the shoulder on which the epaulette is worn distinguishes a cap-

tain or lieutenant. Many troops in the French service wear woollen epaulettes; for instance, the grenadiers; and Napoleon thought them an efficient protection of the shoulder against the blows of swords. Many of his cavalry and infantry had epaulettes. Epaulettes have been introduced into the English navy, and, in that service, the following are the gradations of rank, as distinguished by them. Masters and commanders have one epaulette on the left shoulder; post-captains, under three years, one epaulette on the right shoulder, afterwards two epaulettes; rear-admirals have one star on the strap of the epaulette, vice-admirals two stars, and admirals three stars. Epaulettes are also worn by many civil officers on the continent of Europe, when in uniform.

ÉPÉE, Charles Michael (abbé de l'). This benefactor of the deaf and dumb was born, 1712, at Versailles. He had chosen the clerical profession, but, being unwilling to subscribe to the formulary of faith introduced on the occasion of the Jansenist controversy, he devoted himself to law for a while, but was afterwards preacher, and canon at Troyes. His intimacy with the celebrated bishop Soanen, and the accordance of their religious sentiments, drew upon him the displeasure of the archbishop of Paris, who forbade the abbé, for some time, to hear confessions, even those of his pupils. The idea of bestowing on the deaf and dumb the advantages of society, by means of a language of signs, was not first conceived by him, though, according to his own account, it arose in his mind without any foreign suggestion. As early as the end of the 16th century, a Spanish Benedictine monk, Pedro de Ponce, had educated two children of the constable of Castile, who were born deaf and dumb, so successfully that they were able not only to read and write, but also learned arithmetic, several languages, and the principles of religion, and even gained some knowledge of natural philosophy and astronomy. In England, Switzerland, &c., successful experiments had also been made with the deaf and dumb, and, in 1748, a Spaniard, named Pereira, came to Paris, and exhibited to the academy of sciences some deaf and dumb persons, educated by him, who excited general astonishment by their acquirements. None of these teachers, however, had published any thing on the method employed by them, and, excepting the works of J. P. Bonet and Ramirez, both Spaniards, only im-

perfect accounts of it had ever been given to the world. So that it is plain that De l'Épée was, in some measure, the inventor of this mode of instruction, which he first tried on two sisters, and found his efforts so successful, that he resolved to devote his life to the business. This noble-spirited man was a true father to the unfortunate, for whom he established an institution at his own expense. He spent his whole income, besides what was contributed by benevolent patrons, such as the duke of Penthièvre, in the education and maintenance of his pupils, for whose wants he provided with such disinterested devotion, that he often deprived himself of the necessaries of life. He once, when quite advanced in years, passed the winter without fuel, in order that his adopted children might suffer no want of any thing, and he was often miserably dressed, while they were constantly well clothed. This benevolent zeal he carried so far as to derange his pecuniary affairs, and to excite the displeasure of his relations; and yet he sent a request to Catharine II of Russia, who was desirous to aid him, that she would send him a deaf and dumb boy from her dominions, instead of presents. His compassion for a deaf and dumb youth whom he found in rags, in the streets of Peronne, involved him in much difficulty. He was convinced that this forlorn youth was the injured heir of the rich family of the count of Solar: he took him under his protection, and demanded the restoration of his rights. A lawsuit followed, which was at first decided in his favor; but when he and the duke of Penthièvre (the only protectors of the poor Joseph Solar) were dead, the decision was revoked, and the youth, driven into poverty again, was compelled to enter the army as a common cuirassier, and died soon after in an hospital. (This has been made the subject of a play by Bouilly, *L'Abbé de l'Épée*, which is rather a narration in dialogue than a drama, and which Kotzebue has prepared for the German stage, under the same title.) The abbé de l'Épée died in 1789. Notwithstanding his efforts, he never could accomplish his favorite project, an institution for the deaf and dumb at the public expense, which was first obtained by his successor, the abbé Sicard, who has much improved the mode of instruction. De l'Épée left several writings on the instruction of the deaf and dumb, and the method pursued by him. Of all the societies in Europe, the philanthropic society at Paris was the

only one which did itself the honor of choosing this remarkable man among its members. (See the article *Dumb and Deaf*, where the subject of their instruction is treated at length.)

EPERNAY, a place in France, department of the Marne, five leagues and a half from Rheims, with 5000 inhabitants, is the principal place of the trade in champagne. (q. v.) Near the place are large caves, cut in chalk, in which great numbers of bottles of champagne are stored, arranged according to the vineyards.

EPHEMERA; the name of a genus of insects, belonging to the order *neuroptera*, which is thus characterized: wings four, erect, reticulated, posterior ones much smaller; extremity of the abdomen furnished with three filiform appendages. *May-fly* or *day-fly* is the popular name of the ephemerae, of which there are several species. From the short duration of the existence of these insects, the term *ephemeral* has been derived, which is used to signify any thing short-lived or temporary. The larvæ, or grubs, inhabit standing and running waters, usually abounding in the latter. As baits for fish, they are much esteemed, and the perfect insect is also used for the same purpose. Great numbers fall into the water, and become the prey of fishes and birds; and they exist in such quantities in Carniola, that when dead they are collected in baskets, and even in carts, to be used as manure for the land. We are informed that the country people think they have been unsuccessful, if each does not procure 20 cart-loads of them for that purpose. Those who have witnessed the occasional migrations of locusts and other predatory insects, will not think this incredible. The ephemerae live but a few hours, after becoming perfect insects, appearing generally a short time before sunset, flying about in the most irregular manner, rising and descending like gnats, in immense swarms. They emerge from the chrysalis, on the banks of the stream, and make their exit from the envelope or case. A curious circumstance in their history is, that, after the developement of the perfect insect, it is incapable of performing the offices of reproduction, until it has regularly moulted for the second time. The skin is found attached to walls, twigs of trees, &c., in the situations where they are common. When at rest, these insects preserve the wings in a vertical position, and are found in this position, in a semi-torpid state, a short time previous to their death, which follows almost imme-

diately after the impregnation of the female. In the state of larvæ, they are said to live a year, and in that of the chrysalis or pupa, two years. Respiration is conducted through branchial tufts along the back, and the pupa differs from the larva only in having dorsal appendages, in which the wings are enclosed. One species known to naturalists deviates from the characters of the order in having but two wings, but in other respects corresponding to its brethren. In America, they rarely appear in such quantities as in Europe, and in no part of it, we believe, are they so abundant as to be remarkable.

EPHEMERIDES, in astronomy; tables calculated by astronomers, showing the present state of the heavens, for every day at noon; that is, the places wherein all the planets are found at that time. It is from these tables that the eclipses, conjunctions and aspects of the planets are determined, horoscopes or celestial schemes constructed, &c.

EPHESUS, the capital of Ionia, in Asia Minor, was built, according to Justin, by the Amazons; according to Strabo, by Androchus, the son of Codrus. It was the grand emporium of western Asia, having a convenient and spacious harbor. Though repeatedly destroyed by war and earthquakes, it was soon rebuilt. It was famous for its temple of Diana, called *Artemision*, and situated between the town and the harbor, the chief architect of which was Cheresiphon, or Ctesiphon. It was of the Ionic order. The nations of all Asia Minor were employed 220 years on this edifice, which was 425 feet long, and 200 broad, and was adorned with 127 pillars, each 60 feet high. Still more worthy of notice were the numerous statues and paintings of the most celebrated Grecian masters, to be seen there. It had been destroyed 7 or 8 times before Pliny wrote, particularly by the notorius Erostratus, 356 B. C., whose only object in burning the temple was to perpetuate his name. The temple, however, was rebuilt, with more magnificence than ever, by the Ephesians, whose women contributed their trinkets to the general fund raised for this purpose. Its ruins are now the residence of cowherds and their cattle, and the once splendid city is a poor village, called *Aiasoluk*. Hirt has written on the temple of Ephesus.

EPHIALTES; the same as *incubus*. (q. v.)

EPHIALTES. (See *Aloides*.)

EPHORI; magistrates of Sparta, estab-

lished, as some think, by Theopompus, 745 B. C., or, according to others, by Lycurgus, to conduct the internal administration, particularly the judicial business, during the absence of the kings. They had an especial superintendence over the education of youth. They were five in number, chosen from the people, and held their office only a year; but soon began to lessen the power of the kings, and favoured oligarchy.

EPHRAIMITES. Frederic the Great, in the seven years' war, established a mint at Leipsic, which he let to the Jews Ephraim, Itsig and company. The amount of rent, increasing from year to year, rose at last to \$7,000,000 of the bad money coined there. The Jewish contractors struck off a vast quantity of eight groschen pieces, which depreciated in value every year, so that the fine mark, in 1761, rose to 35 dollars, and the old Augustus and Frederic d'or passed for 20 dollars. To impose on the public, the number of the year 1753 was put upon these small coins. The people gave these eight groschen pieces the name of *Ephraimites*. At the end of the war, they were redeemed by the Saxon government.

EPHRATA; an irregular village built and occupied by a society of Seventh-day Baptists, on the Cocalico creek, in Lancaster county, Pennsylvania, 60 miles from the city of Philadelphia, and 38 from Harrisburg. This society, usually denominated the *Dunkers*, was founded by Conrad Beissel, a German of much intelligence and piety, who had received a regular education at Halle, and took orders as a Calvinistic minister; but, being persecuted for his opinions on some points of theology, which he could not reconcile to his mind, he left Europe, and retired to this place about the year 1720, and soon formed a little colony, called *Ephrata*, in allusion to the Hebrews who used to sing psalms on the borders of the Euphrates. It contains several very ancient and singular buildings, the principal of which are a brother and a sister house. The two houses for the brethren and sisters are very large, and are four stories high: each contains a chapel, and is divided into small apartments, so that six dormitories, which are barely large enough to contain a cot (in former times, a bench and block for the head), a closet and an hour-glass, surround a common room, in which each mess have their meals and pursue their respective avocations. This people are remarkable for their rigid adherence to the precepts and ordinances of the New Testament, even to

the washing of the feet before administering the sacrament; and do not admit of any innovations whatever on the established forms and ceremonies of Christ. They are very observant of the Sabbath (the seventh day). The dress of the brethren and sisters is that of the Franciscans or White Friars. The members of the society are now much dispersed; a large body of them now live in community at the Antietam in Franklin county, Pennsylvania. At one period, about 60 or 70 years since, they were very numerous, exceeding 500 in the cloister. The few that remain in the convent, and the members in the adjacent country, differ in no respect from their neighbors in dress or manners, though they live in the faith of their fathers, and are remarked for their exemplary lives and deportment. The ancient community entertained some opinions, which, in the present day, are deemed visionary, and the product of enthusiasm and speculation. They are much misrepresented, however, by those writers who assert, that they live chiefly upon roots and other vegetables, the rules of the society not allowing them flesh, except on particular occasions; that they consider future happiness to be attained only by penance and outward mortification in this life; and that they disclaim violence, even in cases of self-defence, and suffer themselves to be defrauded or wronged rather than go to law. These writers are also in error when they state that they allow no intercourse between the brethren and sisters, not even by marriage. On the contrary, whenever two wish to engage in the bonds of wedlock, they are aided by the society, though they consider celibacy a virtue. They are peaceful, and their manner of living is temperate; but they enjoy in moderation the same temporal goods and comforts as their fellow men. They are distinguished for their music, which is peculiar, composed and arranged by themselves.

ERI; a Greek preposition (*ἐρι*), having a number of significations—*on, upon, in, over, above, under, before, &c.* This was the reason of its being compounded with many words which passed over into Latin, and thence into English, as a number of the following articles will show.

EPIC; a poem of the narrative kind. This is all that is properly signified by the word, although we generally understand by it a poem of an elevated character, describing the exploits of heroes. Without entering into the various theories of epic composition, we shall state the views

of one of the most distinguished critics of our age—A. W. von Schlegel—on this subject. As action is the object of the drama (q. v.), so narration is that of the epic. But as the event related is something already past, the epic is less stirring than the drama, which represents an action as just happening, and therefore fills the mind with a lively excitement; hence the more quiet tone of the epic, and the pauses which may be allowed in the interest of the description, whilst the character of the drama is to set before the spectator a rapid succession of actions, and completely engross him in the exhibition; hence, too, the poet is allowed to introduce passages of philosophical reflections (the frequency and propriety of which, of course, must be regulated by the taste and judgment of the writer); nay, the very epithets by which the persons and events of the epic poem are designated, are of a descriptive character, and indicate the poet's observation of what is going on; whilst, in the drama, he must not make himself visible at all. The epic is not a hasty journey, in which we hurry towards a certain end, but an excursion, on which we take time to view many objects on the road, which the art of the poet presents to amuse us. Jean Paul Richter, in his *Vorschule der Aesthetik* (Introduction to Aesthetics), says on this point: "The epic poet may fly from region to region, between heaven and hell, but he must, at least, describe his flight and his way. Slow and prolonged description is allowed in the epic. How long does Achilles rage! How slow is the death of Christ!" Hence the propriety of a calm and minute description of the shield of Achilles; hence the propriety of the episode. The multitude of actors retards, like a number of wheels in clock-work, the course of the machine; since each actor requires room for his action. Novels are epic compositions, and follow the same rules. Yorick's journey occupies but three days; the fifth book of Don Quixote is confined to one evening, in a tavern. The action of the poem becomes tedious, it is true, in case of repetition, and stops when action foreign to the main purpose is introduced; but the main action of the poem may be divided into parts without being exposed to the charge of these faults, as the unity of a day is not destroyed by its division into hours." Unity, indeed, is necessary in the epic as in every poem, and, in fact, in every production of art. (See *Drama*.) But

* In Klopstock's *Messias*.

this unity need not be so scrupulously observed as in the drama. A writer of genius may be allowed to overstep the rules, and say, "I do not intend to give you a perfect epic, but merely fragments," as Byron has done in the case of the *Giaour*. Such productions, however, must always remain exceptions to the class of epic compositions. Parts of different operas are sometimes combined for an evening's entertainment; but no one would call such a performance an opera. The fragments of a masterly work of sculpture may be beautiful, and much more beautiful and more valuable than many complete statues; yet fragments are not statues.

From what has been said, it appears that the epic may treat very different subjects, grave and elevated like Dante's and Milton's poems, glowing and romantic like Ariosto's and Wieland's epics, cheerful and ludicrous like Tassino's and Butler's admirable productions. Accordingly, epics have been divided into heroic; mock-heroic, as the excellent *La Secchia Rapita* (The Rape of the Bucket), or Pope's Rape of the Lock, or Boileau's *Lutrin*; romantic as Tasso's *Jerusalem Delivered*; allegoric, as Dante, &c.; but these divisions can never be very definite, as they pass imperceptibly into each other. Whilst Homer is, we might almost say, plastic, Ariosto is almost lyric, and always descriptive in quite another style, and Milton often pours forth his religious sentiments in a lyric strain; yet the poems of all are epics.

As the language and the literature of a nation always mutually affect each other, we trace this influence, of course, in epic poetry. Who can calculate the great influence which Homer probably had on the Greek language? Whilst, on the other hand, it is partly owing to the plastic trait in the two ancient languages, that this characteristic was imparted to their epic poetry. Among the modern languages of Europe, none is so well adapted to description as the English—a circumstance, to which, probably, is partly owing the great number of English epics, or poems of an epic character, of which many are truly beautiful, including all varieties, from the sublimity of *Paradise Lost* to the wit of *Hudibras*. Spenser, Milton, Glover, Butler, Pope, Scott, Byron, Moore, Campbell, Southey, and many other distinguished names, are embraced in the list of English epic writers. In the number of good epics, the Italians are next to the English, among modern nations, and can produce three of the highest character, while the English

have but one of the highest rank to oppose to them: these three are Dante's *Divina Commedia*, one of the grandest productions of the human mind; Ariosto's *Orlando Furioso*, the flower of romantic poetry; and Tasso's *Jerusalem Delivered*, a poem which, if deficient in originality and character, two very important ingredients of an epic, cannot be surpassed in sweetness and harmony, and, in fact, has not, in our opinion, been equalled in these respects. The Italians are very rich in burlesque and satiric epics. The Germans possess one great ancient epic, the *Nibelungenlied* (q. v.), a poem of the grandest design, and of the highest rank in regard to the characters described, excelling in this respect the *Iliad* of Homer; the chief personage of which is violent, self-willed, and incapable of self-government, so as to fall far below the rank of a true hero, whose attributes should be firmness and self-command, a spirit unshaken in adversity, and an intellect adequate to every exigency. But in respect to poetical execution and beauty of language, the *Nibelungenlied* cannot be compared with the Ionic rhapsodies. Of a very early date, likewise, is the satirical epic *Reynard the Fox* (q. v.), a poem alike original in design and execution, in well-conceived and well-executed satire. It may be considered a model of satiric epic poetry. The greatest modern epic of the Germans is the *Messiad*, by Klopstock, which we consider faulty in its very conception, as the life of the Savior offers but little matter suitable for the epic poet, so that the poem in general has little of an epic character. It is not much read in Germany; when perused, it is generally as a task, and from a feeling of duty. In modern times, the Germans have had several epics from Wieland, Schultze and others; but he who has enjoyed Camoens, Ariosto, and the epics of the British poets, will not think that the German epics rise in value by comparison: still less should we think of extolling those German epics which partake more or less of the character of idyllic poetry; and the most celebrated of which is Göthe's *Hermann und Dorothea*, a poem much esteemed by his countrymen in general (but in which we were never able to take any great interest), giving quaint descriptions in incorrect hexameters: it must be remembered, however, that when this poem was written, hexameters, in German, were something new, and the standard of correctness had then not been raised so high as it has since been, chiefly by the exertions of A. W. von

Schlegel. Still less could we ever relish the *Louisa* of Voss, a poem which treats in regular epic style the scenes in the life of a country clergyman, and in which the standing epithet *ehrwürdig* (respectable) is as often and gravely repeated, whenever the "pastor of Grünau" is mentioned, as *swift-footed*, in Homer, with the name of Achilles. Descriptiveness is not so prominent a feature in the German language, as in the English (it is more abstract and metaphysical, hence in poetry more lyrical), and therefore it does not so naturally lead the poet to epic poetry. The most important epic of the Spaniards is Ercilla's *Araucana*, a poem, which, to foreigners, generally appears like a dull chronicle, defective in poetical conciseness of language and originality of ideas. The Spaniards possess several epics of an allegoric-religious character. One of the noblest of epic productions, is Camoens' *Lusiad*, which, like a magnificent flower, sprung naturally out of a heroic and glorious age, and which, in spite of the many animadversions on particular parts of it, in which the taste of the age may have prevailed over the higher claims of poetry, will be prized as long as noble ideas and beautiful descriptions are valued. The French language, the chief traits of which are precision, and an agreeable and often charming vivacity, is not very well adapted for the epic, which, not to become tedious in the slow progress of the narrative, requires a copious and descriptive language; qualities for which the French language is by no means remarkable. The *Henriade* strikes most foreigners as a failure, in which the author's intellect was superior to his genius. Boileau's comic epic, the *Lutrin*, is much esteemed. Of the Greek epics, it is well known that Homer's *Iliad* and *Odyssey* are the principal. Much the most distinguished Roman epic is the *Æneis* of Virgil. Lucan's *Pharsalia* is rather a historical chronicle than an epic. It is intended as an apotheosis of Pompey. The licentious Petronius also wrote an epic on the civil wars of Cæsar and Pompey. Valerius Flaccus, contemporary of Vespasian, wrote an epic on the Argonauts, too close an imitation of the *Argonautica* of Apollonius Rhodius. There are, however, some noble passages in Valerius Flaccus. Silius Italicus wrote an epic on the second Punic war. Statius, contemporary of Domitian, is the author of the *Thebaid*, which he dedicated to this corrupt tyrant. His style is bombastic and affected; but he is a writer of genius. Dante acknowledges this in his poem.

EPICHRMUS OF COS, a philosopher of the Pythagorean school, lived in the latter part of the fifth century before Christ, at Syracuse, and there wrote his celebrated comedies, now lost. Their number is reckoned at 52, and the titles of 40 of them have been preserved. The tyrant Hiero banished him from Syracuse, on account of his philosophical principles, and some allusions in his comedies. He ended his days in his native place, at an advanced age. The Sicilian comedy of Epicharmus, prior to the Attic, grew out of the mimes, which were peculiar to this island, making a sort of popular poetry. He arranged the separate unconnected scenes, exhibited in the mimes, into continued plots, as in tragedy. His comedies were long regarded as models in this species of composition, and are as much distinguished by their knowledge of human nature as by their wit and lively dialogue. The Sicilian comedy, in opposition to the Attic-Ionic, is also designated as the *Doric* comedy.

EPICHRIMA is the name given, in logic and rhetoric, to a conclusion, whose premises are at the same time proved by reasons annexed, so that an abridged compound argument (polysyllogism) is formed.

EPICETUS. This celebrated Stoic, born at Hieropolis, in Phrygia, A. D. 90, lived at Rome, where he was the slave of Epaphroditus, a brutal freedman of Nero, whose abuse and mal-treatment he bore with the fortitude of a Stoic. It is related of him, that, his master once striking a severe blow upon his leg, he calmly remonstrated, telling him that he would break the limb. The tyrant redoubled his blows, and broke the bone. "Did I not tell thee so?" was the only exclamation of the philosopher. He was afterwards set at liberty, but always lived in the greatest poverty. The foundation of his morality was patience and abstinence. The excellence of his system was universally acknowledged. Domitian banished him, with other philosophers, from Rome; for the tyrant could not but hate men whose principles breathed scorn of all injustice and wickedness. Epictetus settled in Epirus, but returned after the death of Domitian, and was in high esteem with Adrian and Marcus Aurelius, and, A. D. 134, was made governor of Cappadocia. Arrian collected the sayings of Epictetus, his teacher; we have them still, under the title of *Enchiridion*. Besides this manual, we have four books more of philosophical maxims, by him. Of both works, especially of the *Enchiridion*, there have been many editions. Schweighäuser has pub-

lished them together (Leipsic, 1799, sqq. 5 vols.). As a proof of the high respect in which Epictetus was held, it is said that his study lamp was sold after his death for 3000 drachmas.

EPICURUS; born at Gargettus, near Athens, 342 B. C. This Greek philosopher was the son of poor parents, and of so studious a disposition, that, in his 12th year, he went to Athens to attend the instructions of the grammarian Pamphilus. Once hearing him repeat a verse of Hesiod, in which Chaos is called the first of all created beings, he inquired who created Chaos, for he must be the first of existences. The grammarian referred him to the philosophers, whom Epicurus henceforth zealously attended. But he was not contented with seeing Athens only. In order to cultivate his mind, and to collect information, he travelled through various countries, and at last, in his 36th year, opened his school in a garden at Athens. He was soon surrounded by crowds of scholars. He taught that the greatest good consists in a happiness, springing not from sensual gratification or vicious pleasures, but from virtue, and consisting in the peace and harmony of the soul with itself. He accordingly renounced vice, and embraced virtue, not for their own sakes, but for their connexion with happiness, vice being as incompatible with it as virtue is essential to it. He recommended wisdom, moderation, temperance, seclusion from political affairs, gentleness, forbearance towards the self-love of men, firmness of soul, the enjoyment of decent pleasures (so far as it does not incapacitate us for new pleasures), and contempt of life. Freedom from pain he regarded as desirable, but, at the same time, he bore with fortitude the most excruciating pains of body. Although he distinctly showed the meaning of his doctrines by his own exemplary life (which some, however, charged with pride and envy), yet they have been often misunderstood or misrepresented. His doctrine of the origin of the universe, borrowed from Democritus, is atomical and material. Proceeding upon the axiom, that nothing can be produced from nothing, he assumed two necessary, eternal and infinite first causes—space, and atoms, or indivisible bodies, arranged in endless variety. These atoms, by virtue of their natural gravity, moved in space, and mingled with one another. To make the union possible, he supposed them to move, not in straight but in curved lines. By these motions, they crossed and hit each other in all possible ways; and from their num-

berless combinations and intervolutions, arose bodies and beings of all kinds. Although single atoms had no other qualities than figure and gravity, they produced, when combined in bodies, the various qualities that affect the senses, as color, sound, smell, &c. He further taught, that as all things arose from the union of atoms, so all things will be again destroyed by their dissolution; that there are multitudes of worlds, formed by chance, which are continually rising and falling. The world, as it has had a beginning, must have an end; and out of its ruins, a new one will be formed. He found no difference between men and brutes, and ascribed the origin of the soul to the same material process above described. The gods, he thought, lived in eternal tranquillity, unconcerned about the world. This doctrine, which was not unjustly charged with atheism and materialism, drew upon him much opposition and calumny. He lived to the age of 72 (270 B. C.). His system found many followers in Rome, among whom Celsus, Pliny the elder, and Lucretius, were the most eminent, although it never attained the reputation of the Peripatetic, Stoic, and Platonic schools. Little is left of his numerous writings. Some fragments of a Treatise on Nature have been found at Herculaneum, and published by Orelli (Leipsic, 1818). The other accounts of his philosophy are only the poem of Lucretius, and the notices of it in Cicero, Pliny the elder, &c., and two letters (published by Schneider, Leipsic, 1813, in a revised and improved edition).—An epicurean, according to the perverted meaning of the epicurean doctrine, is one who is devoted to sensual enjoyments, particularly those of the table.

EPICYCLE, in the ancient astronomy, was a subordinate orbit or circle, which was supposed to move on the circumference of a larger one, called the *different*; by means of which one motion, apparently irregular, was resolved into two that were circular and uniform. And when the observed motion was so irregular and complicated as not to be resolved with one epicycle, others were added, till a nearer approximation was obtained. This system owed its origin to a prejudice that seems to have been extremely ancient, in favor of circular motion; and the problem that principally engaged the attention of astronomers in those times, was to assign the proper proportion of the different and epicycle which should approximate nearest to absolute observation. (See *Astronomy, History of*).

EPICYCLOID, in geometry, is a curve generated by a point in one circle, which revolves about another circle, either on the concavity or convexity of its circumference, and thus differs from the common cycloid, which is generated by the revolution of a circle along a right line; though the latter has sometimes been assimilated with the former, by considering the right line as the circumference of a circle whose diameter is infinite. The invention of epicycloids is ascribed to M. Roemer, the celebrated Danish astronomer.

EPIDAUROS; one of the most considerable towns and commercial seaports of ancient Greece; situated in Argolis, in the Peloponnesus; particularly celebrated for its magnificent temple of Æsculapius, which stood on an eminence not far from the town. An inscription over the entrance declared it to be open only to pure souls. Crowds of invalids resorted to the place, in hopes of obtaining a cure from the beneficent divinity, in whose honor festivals were celebrated yearly.

EPIDEMIC, or EPIDEMIC DISEASE (from *ἐν* and *δημός*, among the people), signifies a state of sickness which prevails in a place or tract of country only for a temporary period. An epidemic always originates in transient external influences, which gradually produce such changes in the bodily system, as finally bring on the sickness. Thus many diseases appear to arise from some peculiar morbid matter in the atmosphere, brought by particular winds; e. g., the influenza, and other diseases: also, poor or scanty food, unwholesome mixtures, &c., may occasion epidemics. Seasons of scarcity, which compel men to have recourse to unusual means of subsistence, (as, for example, in Norway and Sweden, to the bark of trees instead of corn), often occasion epidemics. The ergot in rye is supposed to be the cause of *raphania*. Bad barley, or much mixture of bearded darnel (*lolium temulentum*), makes the beer which is prepared from it unwholesome, and produces sickness in those who partake of it. Causes producing a disturbed state of mind, such as war, sieges, earthquakes, &c., by their effects on the nervous system, may very much favour the production of epidemic diseases, or, at least, render them more malignant. Epidemics sometimes begin with a few, sometimes attack great numbers of persons at once, as commonly happens in a great and sudden change of wind or weather. If, for instance, after a long continuance of a west or south-west wind, with warm

weather, it suddenly changes to an east or north-east wind, we hear people complaining directly of coughs, colds, rheumatisms, &c. An epidemic, at its commencement, is usually mild, and becomes more dangerous as it spreads; as it goes off, it, for the most part, assumes a mild character again. It frequently terminates as gradually as it began, but sometimes suddenly. Many persons are not at all affected by the prevailing epidemic. The cause probably lies in their bodily habit, which is opposed to the prevailing influences, and makes them capable of resisting them longer than other persons. Thus it often happens that men with chronic complaints, hypochondriacs, &c., remain free from epidemic disorders. Epidemics are often confounded with contagious disorders. The first originally are not contagious; their origin and propagation depend on general influences, and they commonly generate no contagious matter, producing the same disease in another body by contact with it. It is only in particular circumstances, especially if the disorder is a violent one, and many patients are crowded into a narrow room, that a contagious matter can be generated, forming a corrupt atmosphere about the sick, and capable of exciting the disease in persons who come near it. Even under these circumstances, contagion does not necessarily take place, and the ignorant generally conceive a hasty and groundless fear of contagion. Thus, for instance, that is frequently ascribed to contagion, which is only the consequence of a violent shock of the nervous system at the sight of a sick person, perhaps in a loathsome state, whereby the disease, to which the body was already disposed, is more quickly developed.

EPIDERMIS (from *ἐπὶ*, upon, and *δέρμα*, the true skin); the scarf-skin. (See *Cuticle*, and *Skin*.)

EPIDOTE. This mineral is found crystallized in rhombic prisms variously modified, both laterally and at its extremities. It cleaves parallel to the sides of a right-oblique-angled prism of $115^{\circ} 36'$, and $64^{\circ} 24'$, which is therefore its primary crystal. Some of its more interesting secondary or actually occurring forms are the following, viz.: 1. the primary crystal, altered by the truncation of its acute lateral edges, and terminated at both extremities by dihedral summits; 2. the same, but terminated by four-sided pyramids, whose apices are truncated; 3. the primary crystal, with all its lateral edges truncated and terminated as in the

last instance. The prisms are generally streaked longitudinally; lustre, vitreous; color, green and gray prevalent. Among the most common shades of the first is pistachio-green; the gray colors pass into white; translucent on the edges, and sometimes transparent; brittle; hardness above that of feldspar, and little inferior to quartz; specific gravity, 3.26 to 3.42. Some of the larger crystals from Norway consist of concentric coats, the outer ones of which, being peeled off, leave a crystal with smooth faces. Thin crystals are often observable. When massive, the individuals are columnar, straight, and either parallel or divergent; they are sometimes granular, and even become, occasionally, impalpable, when they are strongly connected. The deep green varieties are called, in common language, *epidote*, while the gray are denominated *zoisite*; no distinction exists between the two, except what arises out of color. The granular variety has also been distinguished by the separate appellation of *scorza*; and a light reddish-black variety from Piedmont, which is highly charged with oxide of manganese, has been called the *manganesian epidote*. The chemical composition of epidote is as follows, the specimen analyzed consisting of the green variety from Norway: silica, 37; alumine, 21; lime, 15; oxide of iron, 24; oxide of manganese, 1.50. Before the blow-pipe, this species melts, with much intumescence, into a greenish transparent glass. Epidote is found in the oldest rocks, in which it occupies drusy cavities, or narrow veins, being irregularly distributed through them, without ever entering into their composition, as a regular ingredient. Magnificent crystals of it, two or three inches in length, and one or two in diameter, are found at Arendal, in Norway, and are hence called *Arendalite*. Similar varieties occur in Sweden, and at Franconia, New Hampshire. Finely crystallized specimens come from Piedmont; and the zoisite variety is found in the Tyrol, and in a great number of places in the U. States. The transparent crystals, of a fine color, are sometimes wrought by the lapidary; though they are esteemed of little value in jewelry.

EPIGASTRIC (*epigastriacus*, from *ἐπὶ*, upon, or above, and *γαστήρ*, the stomach). That part of the abdomen that lies over the stomach is called the *epigastric region*. It reaches from the pit of the stomach to an imaginary line above the navel, supposed to be drawn from one extremity of the last of the false ribs to the other. Its sides are

called *hypochondria*, and are covered by the false ribs, between which lies the epigastrium.

EPIGLOTTIS (from *ἐπὶ*, upon, and *γλῶττις*, the tongue); the cartilage at the root of the tongue, that falls upon the glottis, or superior opening of the larynx; upper part of the windpipe. Its figure is nearly oval; it is concave posteriorly, and convex anteriorly. Its apex or superior extremity is loose, and is always elevated upwards by its own elasticity. While the back of the tongue is drawn backwards in swallowing, the epiglottis is put over the aperture of the larynx; hence it shuts up the passage from the mouth into the larynx. The base of the epiglottis is fixed to the thyroid cartilage, the os hyoides, and the base of the tongue, by a strong ligament.

EPIGONI; the collective name of the sons of the seven Greek princes, who conducted the first war against Thebes, without success. The name signifies *after-born*, or *successors*, from *ἐπὶ* and *γενέσθαι*, to be born. (See *Thebes*.)

EPIGRAM (from *ἐπὶ*, upon, and *γράφω*, I write); originally an inscription, then a poetical inscription in temples, on tombs, &c. The object requires brevity, but admits of all kinds of sentiments and ideas; and it is a great mistake to suppose the epigram always satirical. From its concise and expressive character, it is, indeed, well fitted for satire, and often employed for satirical purposes, as it was, likewise, with the Romans; but an epigram may be didactic, satiric, comic, lyric, or elegiac. Lessing, in his *Theory of the Epigram*, says, that it is made up of two parts—of an interesting idea and a striking conclusion; but Herder has shown that this is not the essential character of the epigram, though a frequent and agreeable form. It was not, by any means, generally the case with the Greek epigrams. The epigram, with the Romans, flourished most, as was natural, in corrupt times, when satire found most occasion for reproach, and wit took the place of noble ideas. Catullus and Martial were distinguished epigrammatic poets among the Romans. Marot, in the time of Francis I, Piron, J. B. Rousseau, Lebrun, Boileau, and even Racine, are distinguished in this department among the French. The most piquant epigrams of the Romans and French are also the most licentious; and offend as much by their indelicacy as they divert by their ingenuity. The tender and pathetic epigram of the Greeks has been supplied by the mad-

rigal among the Italians, Spanish, Portuguese and French. The French have distinguished themselves beyond most nations in epigram. Lebrun says, in one of his poems,

*Si l'épigramme, à la vingtième fois,
Ne vous plaît mieux, elle n'est assez bonne.*

EPIGRAPH; the inscription (q. v.), e. g., on a temple, or prefixed to a book (motto).—**Epigraphy**; the study or knowledge of inscriptions, a science auxiliary to history. The epigraphic side of a coin is that on which the image and the inscription are impressed: *monepigraphic* is the name given to it, if it has only an inscription; *anepigraphic*, if it has only an image. (For the origin of the word, see *Epigram*.)

EPILEPSY (in Latin, *epilepsia*, from the Greek *ἐπιλαμβάνω*, to seize upon); a nervous disease, depending on various causes, often exceedingly complicated, and incapable of being removed; hence so often an incurable periodical disease, appearing in single paroxysms. It, for the most part, is preceded by a cold vapor (*aura epileptica*), creeping up from the foot or hand to the breast and head; but sometimes there are no precursive symptoms. The patient suddenly falls, commonly with a cry, the thumbs are convulsed, other parts are agitated more or less, entire insensibility succeeds, the breath is short and quick, broken, and accompanied with groans, the mouth foams, the face is convulsed, the teeth gnash together, the eyes are distorted, the urine and other evacuations are discharged involuntarily, the eyes are wide open and staring, and insensible to the light. The paroxysm is usually over in 10 or 20 minutes. The patient awakes as from a deep sleep, entirely unconscious of what has past; he feels nothing unpleasant, except fatigue, and a little pain in his limbs. Sometimes the paroxysms occur 9 or 10 times in an hour, or oftener; sometimes only once a month, at the change of the moon, or every six months, or at still longer periods. During the paroxysm, all that is to be attended to is to prevent the patient from injuring himself. All other attempts, such as forcing open the thumbs, and the like, are of no avail, except to terminate the paroxysm sooner, but, at the same time, occasion a quicker return of it, and render the disease more difficult to cure.

EPILOGUE (from the Greek *ἐπὶ* and *λόγος*, word, speech); the closing address to the audience at the end of a play. The epilogue is the opposite of the *prologue*, or opening address. Many of

Shakspeare's plays have an epilogue as well as prologue, in which the poet sometimes craves the indulgence of the spectators for the faults of his piece and the performance, and sometimes intimates in what light his work is to be considered. The epilogue is sometimes a necessary appendage, to tell us something of a composition, which cannot be gathered from the composition itself. As it is very difficult to prevent prologues and epilogues from sinking into mere common-places, and from injuring rather than aiding the play, they afford an opportunity for real genius to show its powers.

EPIMENIDES; a celebrated philosopher and poet of antiquity, born in Crete, in the 6th century before Christ. By some he is reckoned among the seven wise men, instead of Periander. He is represented as favored with divine communications, and as an infallible prophet. When the Athenians were visited with war and pestilence, and the oracle declared that they had drawn on themselves the divine anger by the profanation of the temple, in which the followers of Cylon had been put to death, and must expiate their offence, they sent for Epimenides who was renowned for his wisdom and piety, from Crete, to reconcile them to the gods. He gratified their wishes, and introduced various useful institutions. On his departure, he refused to accept any presents, and asked no other reward than a branch from the olive consecrated to Minerva. There is a story of his having slept in a cavern, according to some, 40 years, and according to others, a still longer period. On awaking, he found, to his astonishment, every thing changed in his native town. He died in his native country, at an advanced age. This story is the ground-work of Goëthe's poem, the Waking of Epimenides, for the anniversary of the battle of Leipsic.

EPIMETHEUS, in Greek mythology; a son of Japetus and Clymene; he married Pandora, by whom he had Pyrrha, the wife of Deucalion. (*Apollod.* i, 7, 2.) It was Epimetheus who had the curiosity to open the box which Pandora had brought with her, and from which issued a train of evils, that have ever since afflicted the human race. Hope alone remained in the bottom of the box, Pandora having shut it before she could escape, that she might comfort mortals after they had expiated their sins. It is to be remarked, that in this Greek tradition, curiosity and disobedience are made the

origin of evil, as in the Mosaic account of the fall. (See *Pandora*.)

EPINAY, Louise (madame d'). This accomplished lady, celebrated for her connexion with Rousseau, was the daughter of M. Tardieu Desclavelles, who lost his life in Flanders, in the service of Louis XV, and left his family in very moderate circumstances. This, and the favor which Desclavelles had enjoyed at court, excited an interest for the daughter, and she was married to M. Delalive de Bellegarde, who received the office of farmer-general. But the extravagance of the young man soon disturbed the happiness which had been expected from this union. During the earlier part of her life, she formed an acquaintance with the philosopher of Geneva, who, quick and susceptible in all his feelings, devoted himself to the fascinating and accomplished woman with an ardor, the depth and strength of which he describes himself in his Confessions. She was not insensible to the homage of her *beau*, as she used to call him, on account of his eccentricities. She did all that was in her power to place him in a situation corresponding to his wishes. She gave him a cottage (the hermitage, since so famous) in her park of Chevrette, in the vale of Montmorency. Here the author of the *Nouvelle Héloïse* passed many days, rendered happy by his romantic attachment to madame d'Epinaï; until he became jealous of baron Grimm, whom he had himself introduced to his mistress; and in consequence of this feeling, which he took no pains to conceal, a coolness, and finally an aversion took place between him and the lady, which is but too plainly expressed in his Confessions. A defence of the later conduct of madame d'Epinaï towards Rousseau may be found in Grimm's Correspondence, where an account is also given of some works written by her, of which the most celebrated is *Les Conversations d'Emilie*. In this the authoress, in a rather cold, but neat style, sets forth the principles of moral instruction for children, with equal elegance and depth of thought. It obtained, in 1783, the prize offered by Monthion (then chancellor to the count d'Artois) for useful works of this kind, in preference to the *Adèle et Théodore* of madame de Genlis. She also wrote *Lettres à mon Fils*, and *Mes Moments heureux*. An abridgment of her highly interesting memoirs, and her correspondence, showing her relations with Duclos, Rousseau, Grimm, Holbach, Lambert, &c., appeared in Paris, in 3

vols., 1818. They give a true picture of the refined but corrupt manners which prevailed among the higher classes in France during the government of Louis XV. Madame d'Epinaï died in 1783.

EPIPHANY; a festival, otherwise called the *manifestation of Christ to the Gentiles*, observed on the 6th of January, in honor of the appearance of our Savior to the three magi, or wise men, who came to adore him, and bring him presents. The kings of England and Spain offer gold, frankincense and myrrh, on Epiphany, or twelfth day, in memory of the offerings of the wise men to the infant Jesus. The festival of Epiphany is called by the Greeks, the *feast of lights*, because our Savior is said to have been baptized on this day; the baptism is by them called *illumination*. The feast of Epiphany is also called, in Germany, the *festival of the three holy kings*. The primitive church also gave this name to the birthday of our Savior. The Greek church calls the same feast *Theophany* (appearance of God).

EPIPHORA. This figure of rhetoric is the emphatic repetition of a word at the end of several sentences, or stanzas, as the *anaphora* is the repetition of it at the beginning. Thus, in Byron's song, Ζώνη μου, σὰς ἀγῶνας, these words are repeated at the end of every stanza; and in the Spanish *Romance muy doloroso* (translated by Byron), the words *Ay de mí, Alhama!*

EPÍRUS; a province bordering on Greece, and often included in it; the most southerly part of modern Albania. (q. v.) The oracle of Dodona (q. v.), the oldest in Greece, was in Epirus, in a temple of Jupiter, which was built according to the direction of a black pigeon, or rather of an Egyptian priestess. There are no traces remaining of that celebrated city, nor has the grove of oaks, with the never-failing fountains, been yet discovered. Mythology probably derived from this country the infernal rivers of Acheron and Cocytus; and here, too, the poisonous vapors exhaled from Avernus (now called *Vall dell' Orso*). The country is mountainous, but, along the sea-coast, pleasant and fertile. In ancient times, the Chaonians were the most powerful tribe. Several Greek colonies settled among them. The most celebrated of the kings of Epirus was Pyrrhus, who made war upon the Romans. Being delivered from the Macedonian yoke by the Romans, when they conquered Philip II, the Epirots gradually became so powerful, that

they assisted Antiochus and Perseus against the Romans, but thereby only hastened their own downfall. Paulus Æmilius (q. v.) subdued them, and gave up their towns to pillage. Seventy towns were destroyed, and 150,000 men sold into slavery. Epirus, from this time, shared the fortunes of the Roman empire, till it was conquered by the Turks, under Amurath II, in 1432. Castriot (Scanderbeg, q. v.), the last of the royal family in Epirus, and educated at the Ottoman court, threw off the Turkish yoke; but, after his death, his country was again conquered by Mahomet II, 1466. It is principally inhabited by Arnauts. (q. v.)

EPISCENIUM, in modern theatres, the front part of the stage; in ancient theatres, the upper part of the scene.

EPISCOPACY. (See *England, Church of*, and *Roman Catholic Church*.)

EPISODE (Latin *episodium*, from the Greek ἐπισόδιον) is employed by Aristotle, in two significations. Sometimes it denotes those parts of a play which are between the choruses, and sometimes an incidental narrative, or digression in a poem, which the poet has connected with the main plot, but which is not essential to it. In modern times, it has been used in the latter sense only. With the best poets, the episode is not a mere patch or piece to fill out the poem, not an unnecessary appendage, serving merely to swell the size of the work, but it is closely connected with the subject, points out important consequences, or develops hidden causes. Of this kind is the narrative of the destruction of Troy, in Virgil's *Æneid*. This was the cause of the hero's leaving his country, and wandering over the sea; but the poet does not commence with it, because he wishes to bring the plot into a narrower space, in order to make it more distinct and lively. He therefore inserts it in the course of the story, but so skilfully, that we expect it in this very place; and it not only serves as a key to what has gone before, but prepares us for what is to come, viz., the passion of Dido. In this way, the episode becomes an essential part of the whole, as it must necessarily be, if it is of any importance to preserve the unity of the poem. So with the tale in Wieland's *Oberon*; it appears incidental, but explains to us the reason of Oberon's singular interest in the fate of Huon. In epic poetry, there is much more room for the episode than in dramatic, where the poem is confined to a present action. The term *episode* has also been transferred to painting, especially historic paint-

ing, in a sense analogous to that which it has in poetry.

EPISTOLÆ OBSCURORUM VIRORUM (Letters of obscure Men—in the double sense of *obscure*); a collection of satirical letters, which first appeared in 1515, pretending to be written by well known clergymen and professors in the countries on the Rhine, particularly of Cologne, in barbarous Latin, in which, together with theological controversies on different topics, were contained sharp satires on the excesses of the clergy of that time. The celebrated Ulrich von Hutten, with other men of learning, took part in this work. Oldest edition, by Aldus Manutius (Cologne, 1505, 4to.). In 1517, these letters were numbered among the prohibited books by a papal bull. They have been lately republished, in 1826. This was undoubtedly one of the most interesting publications of its time.

EPISTYLUM. (See *Architecture*, vol. 1, page 338, right column.)

EPITAPH (from the Greek *ἐπιτάφιος*, from *ἐπὶ*, upon, and *τάφος*, tomb); the inscription on a tombstone. The Greeks applied this name to those verses which were sung in memory of a deceased person, on the day of his funeral, and on the anniversary of this day. An epitaph should be characterized by brevity and truth. Nothing can be farther from its nature than the long-winded stories on tombs, often as untrue as they are long, and which differ from common prose in nothing but an arbitrary division into long and short lines. The Germans have a proverb, "He lies like a tombstone, and is as impudent as a newspaper." The English are peculiarly addicted to long epitaphs, relating a whole life, with a catalogue of the merits of the deceased. An English churchyard affords much food for reflection. It is plain, that the form of an epitaph should correspond with the character of the subject of it. The epitaphs of men who have performed great actions, known to the whole world, or who have made discoveries in science and art, which are acknowledged by their age, should be as simple as possible, consisting of little else than their name, which is, of itself, enough to bring up a whole history to the memory of the reader. Long panegyric and reflection are out of place here. Who would not prefer, on a tombstone erected to Washington, the single name *Washington*, to any attempt to point out his merits? The column erected to the memory of general Massena, who is buried in the *cimetière de l'Est*, in Paris, contains

only the word *Masséna*. And simplicity is equally essential to give effect to the record of the gentle virtues of domestic life.

We will here give a few epitaphs deserving of remembrance. One of the happiest is that of sir Christopher Wren, in St Paul's, London, of which he was the architect:

Si monumentum quæris, circumspice.

Mercy's epitaph on the field of battle at Nordlingen is also very appropriate. It is,

Sta, viator; heroem calcas.

The marchioness of Santa Cruz caused a monument to be executed by Canova, for her daughter, intending it to cover also her own remains, with this inscription:

Mater infelicissima filiae et sibi.

Count Tessin, governor of Gustavus III of Sweden, ordered the words

Tandem felix

to be inscribed on his tomb. The following is sir Isaac Newton's epitaph:

*Isaacum Newton,
Quem immortalem
Testantur Tempus, Natura, Cælum,
Mortalem hoc Marmor
Fatetur.*

M. Ducis wrote the following epitaph on his friend J. J. Rousseau, buried on the island in the lake of Ermenonville. (q. v.)

*Entre ces peupliers paisibles,
Repose Jean-Jacques Rousseau.
Approchez, cœurs droits et sensibles,
Votré ami dort sous ce tombeau.*

One of the simplest and saddest is that of pope Adrian, written by himself:

*Adrianus, Papa VI, hic situs est,
Qui nihil sibi infelicius
In vita,
Quam quod imperaret,
Duxit.*

The following epitaph, by doctor Johnson, on a celebrated musician, is extremely happy:

*Phillips, whose touch harmonious could remove
The pangs of guilty power and hapless love,
Rest here, distressed by poverty no more;
Find here that calm thou gav'st so oft before;
Sleep undisturbed within this peaceful shrine,
Till angels wake thee with a note like thine.*

But the finest we have ever read is the simple inscription in St. Anne's church, at Cracow, dedicated by count Sierakowski to the illustrious Copernicus:

Sta, sol, ne moveare.

The very words of Scripture, which were used as a pretext for the persecution

of the great truth which he discovered, are here employed to form his epitaph.

Epitaphs, notwithstanding the solemn circumstances with which they are associated, have not unfrequently been made the vehicles of pleasantry, or of satire, as in the following, composed by La Fontaine on himself:

*Jean s'en alla comme il était venu,
Mangeant le fond avec le revenu.
Croyant trésor chose peu nécessaire ;
Quant à son temps, bien sut le dispenser ;
Deux parts en fit, dont il souloit passer
L'une à dormir et l'autre à ne rien faire.*

The quaint humor of doctor Franklin also expressed itself in the following lines:

*The body
of
Benjamin Franklin,
printer,
(like the cover of an old book,
its contents torn out,
and stripped of its lettering and gilding,)
lies here, food for worms ;
yet the work itself shall not be lost ;
for it will (as he believed) appear once more
in a new
and more beautiful edition,
corrected and amended
by
the Author.*

Of satirical epitaphs, one of the best known is that on Piron, written by himself, in a spirit of revenge, against the French academy:

*Ci-git Piron qui ne fut rien
Pas même académicien.*

The following is said to be found in the cemetery of Père la-Chaise:

*Ci-git ma femme. Ah ! qu'elle est bien
Pour son repos et pour le mien.*

The following was made on Montmaur, a man of remarkable memory, but deficient in judgment:

*Sous cette casaque noire
Repose bien doucement,
Montmaur, d'heureuse mémoire,
Attendant le jugement.*

We cannot assert, however, that these three last, any more than the two preceding them, ever appeared, except on paper.

Epitaphs have not unfrequently been written on animals, as the following:

*L'oiseau, sous ces fleurs enterré,
N'enchantait pas par son ramage,
N'étonnait pas par son plumage,
Mais il aimait ; il fut pleuré.*

Byron's misanthropy vented itself in the epitaph on his Newfoundland dog, which he concluded with the following lines:

*To mark a friend's remains these stones arise ;
I never knew but one, and here he lies.*

EPITHALAMIUM (from *θάλαμος*); a nuptial song. Among the Greeks and Romans, it was sung by young men and maids at the door of the bridal chamber of a new married couple. It was accompanied with shouting and stamping with the feet. It consisted of praises of the bridegroom and bride, with wishes for their happiness. Among the Romans, the husband scattered nuts among the young men at the same time. Examples may be seen in Theocritus's epithalamium of Helen, and the epithalamium of Catullus.

EPITOME (from the Greek *ἐπιτομή*, from *ἐπι* (q. v.), and *τεμνω*, I cut); an abridgment, an abbreviation, or compendious abstract.

EPOCH, or ERA, is a certain fixed point of time, made famous by some remarkable event, from whence, as from a root, the ensuing years are numbered or computed. As there is no astronomical consideration to render one epoch preferable to another, their constitution is purely arbitrary, and, therefore, various epochs have been used at different times, and among different nations. The following article is from the Companion to the British Almanac for 1830:—

It will render the comparison of eras much easier, if we give some account of what is meant by a solar and a lunar year. A solar year is that space of time, during which all the seasons have their course. This takes place in 365 days, 5 hours, 48 minutes, and 49 seconds; and an approximation to that time has been adopted by those nations which have had sufficient astronomical science to determine it. But, as it would be impracticable to begin every new year at a different hour of the day, which would be necessary if the perfect year should always be completed before the commencement of a new one, 365 days have been taken as the length of a year, leaving the odd hours and minutes to accumulate until they amount to a whole day, when they are added to the year, making what is called a *leap* year, or *intercalary* year, of 366 days. The various ways of doing this will be detailed when we speak of the different eras. Some nations still use a year of 365 days, without any intercalation; and this is called a *vague*, or *erratic* year, because its commencement varies through all the different seasons. A lunar year consists of 12 moons, or 354 days. This may be convenient enough for short periods, but is so ill adapted for

the computation of a civilized nation, that none but Mohammedans have continued in the use of it, even for a little time. It suits the course of time so ill, that its commencement varies, in a few years, through all the seasons; and many men amongst the nations which use it can remember the fasts and festivals altering from summer to winter, and again from winter to summer, and their seed-time and harvest alternately wandering from the beginning of the year to the end. The luni-solar year is that in which the months are regulated according to the course of the moon, but to which, from time to time, a month is added, whenever the year would range too widely from its original situation. This year is inconvenient, from its varying duration; but as, in a long course of years, the months remain nearly at the same situation, it is less objectionable than the pure lunar year. It was the mode of computation of the Greeks and Romans, and is even now that of the Chinese, Tartars, Japanese and Jews. All these varying modes render the comparison of dates much more difficult than it appears to be at the first view. We shall endeavor so far to simplify the calculation as to enable any arithmetician to compute, within a day or two, the eras of every nation, and to reduce them to the Christian era.

The Roman Era. The Roman year, in its arrangement and division, is that on which our year is entirely founded. The Romans reckoned their time from the date which some of their antiquaries chose to assign for the founding of Rome, viz. the 21st of April, in the 2d year of the 6th Olympiad, or 754 B. C. This era is designated by the letters A. U. C., or *ab urbe condita* (from the building of the city). The first year used by them, and attributed to Romulus, consisted of ten months, from March to December, or 304 days. (For an account of the Roman mode of computing time, see *Calendar*.) The Roman year has been adopted by almost all Christian nations, with no other variation than taking the birth of Christ as the commencement, instead of the building of Rome. If the given Roman year be less than 754, deduct it from 754; if the given Roman year be not less than 754, deduct 753 from it; the remainder gives the year (B. C. and A. D., in the first and second cases respectively) in which the Roman year commences. Examples:—

Required the year 780 A. U. C.
deduct 753
—
27 A. D.

Required the year 701 A. U. C.

754

701

—
53 B. C.

The Olympiads. The Greeks computed their time by the celebrated era of the Olympiads, which date from the year 776 B. C., being the year in which Corcebus was successful at the Olympic games. This era differed from all others in being reckoned by periods of four years instead of single years. Each period of 4 years was called an *Olympiad*; and, in marking a date, the year and Olympiad were both mentioned. The year was luni-solar, of 12 or 13 months. The names of the months varied in the different states of Greece, but the Attic months are most usual. (For a further account of the Greek mode of computing time, see *Calendar*.) To reduce the date by Olympiads to our era, multiply the past Olympiad by 4, and add the odd years; subtract the sum from 777 if before Christ, and subtract 776 from the sum if after Christ; the remainder will be the beginning of the given year. To decide on the exact day would be very difficult, on account of the alterations which the system has undergone. It will be, perhaps, sufficient to observe, that the year begins within a fortnight of the middle of July.—N. B. Some authors, as Jerome and Eusebius, have confounded the Olympiads with the era of the Seleucides, and computed them from the 1st of September.

The Christian Era. The Christian era, used by almost all Christian nations, dates from January 1st, in the middle of the 4th year of the 194th Olympiad, in the 753d of the building of Rome, and 4714th of the Julian period. It was first introduced in the sixth century, but was not very generally employed for some centuries after. The Christian year, in its division, follows exactly the Roman year; consisting of 365 days for three successive years, and of 366 in the fourth year, which is termed *leap year*. This computation subsisted for 1000 years, throughout Europe, without alteration, and is still used by the followers of the Greek church: other Christians have adopted a slight alteration, which will be shortly explained. The simplicity of this form has brought it into very general use, and it is customary for astronomers and chronologists, in treating of ancient times, to date back in the same order from its commencement. There is, unfortunately, a little ambiguity on this head, some persons reckoning the

year immediately before the birth of Christ, as 1 B. C., and others noting it with 0, and the second year before Christ with 1, making always one less than those who use the former notation. The first is the most usual mode, and will be employed in all our computations. The Christian year (or Julian year), arranged as we have shown, was 11' 11" too long, amounting to a day in nearly 129 years; and, towards the end of the sixteenth century, the time of celebrating the church festivals had advanced ten days beyond the periods fixed by the council of Nice, in 325. It was in consequence ordered, by a bull of Gregory XIII, that the year 1582 should consist of 355 days only, which was effected by omitting ten days in the month of October, viz., from the 5th to the 14th; and, to prevent the recurrence of a like irregularity, it was also ordered, that, in three centuries out of four, the last year should be a common year, instead of a

leap year, as it would have been by the Julian calendar. The year 1600 remained a leap year, but 1700, 1800 and 1900 were to be common years. This amended mode of computing was called the *new style*, and was immediately adopted in all Catholic countries, while the *old style* continued to be employed by other Christians. Gradually the new style was employed by Protestants also. The last ten days of 1699 were omitted by the Protestants of Germany, who, in consequence, began the year 1700 with the new style; and in England, the reformed calendar was adopted in the year 1752, by omitting eleven days, to which the difference between the styles then amounted. The alteration was effected in the month of September, the day which would have been the third being called the fourteenth. The Russians continued to use the old style till the present year, 1830, when they adopted the new style.

To turn the Old Style to the New.

From the alteration of style to the 29th February, 1700, add 10 days.	
From 1st of March, 1700, to 29th of February, 1800, " 11 "	
" " " 1800, " " " 1900, " 12 "	
" " " 1900, " " " 2100, " 13 "	

Examples.

17th March, 1801, O. S., is 29th March, 1801, N. S.
19th February, 1703, O. S., is 2d March, 1703, N. S.
24th December, 1690, O. S., is 3d January, 1691, N. S.
20th December, 1829, O. S., is 1st January, 1830, N. S.

There will sometimes be a difference of one year in a date, from the circumstance that, in many countries, the time of beginning the year has varied. In England, until the year 1752, the year was considered to begin on the 25th of March: any date, therefore, from the 1st of January to the 24th of March, will be a year too little. It had been the practice, for many years preceding the change of style, to write both years, by way of obviating mistakes; as, 1st of February, 170 $\frac{1}{2}$ or 1707-8, meaning the year 1708, if begun in January, or 1707, if begun in March. In some countries, Easter day was the first day of the year; in others, the 1st of March; and in others, again, Christmas day; but no certain rule can be given, as, even in the same nation, different provinces followed a different custom. All nations, at present using either the old or new style, begin the year on the 1st of January.

The *Creation* has been adopted as an epoch by Christian and Jewish writers, and would have been found very convenient, by doing away with the difficulty and ambiguity of counting before and af-

ter any particular date, as is necessary when the era begins at a later period. But, unfortunately, writers are not agreed as to the precise time of commencing. We consider the creation as taking place 4004 years B. C.; but there are about 140 different variations in this respect.* The following are those that have been most generally used:—

The Era of Constantinople. In this era the creation is placed 5508 years B. C. It was used by the Russians until the time of Peter the Great, and is still used in the Greek church. The civil year begins the first of September, and the ecclesiastical towards the end of March; the day is not exactly determined. To reduce it to our era, subtract 5508 years from January to August, and 5509 from September to the end.

Era of Antioch, and Era of Alexandria. We place these together, because, although they differed at their formation by 10 years, they afterwards coincided. They were both much in use by the early

* See Companion to the British Almanac for 1828, p. 49.

Christian writers attached to the churches of Antioch and Alexandria. In the computation of Alexandria, the creation was considered to be 5502 years before Christ, and, in consequence, the year 1 A. D. was equal to 5503. This computation continued to the year 284 A. D., which was called 5786. In the next year (285 A. D.), which should have been 5787, ten years were discarded, and the date became 5777. This is still used by the Abyssinians. The era of Antioch considered the creation to be 5492 years before Christ, and, therefore, the year 285 A. D. was 5777. As this was equal to the date of Alexandria, the two eras, from this time, were considered as one. Dates of the Alexandrian era are reduced to the Christian era by subtracting 5502 until the year 5786, and after that time by subtracting 5492. In the era of Antioch, 5492 are always subtracted.

The Abyssinian Era. The Abyssinians reckon their years from the creation, which they place in the 5493d year before our era*, on the 29th of August, old style; and their dates will consequently exceed ours by 5492 years and 125 days. They have 12 months of 30 days each, and 5 days added to the end, called *pagomen*, from the Greek word *ἐπαγομέναι* (added). Another day is added at the end of every 4th year. To know which year is leap year, divide the date by 4, and if 3 remain, the year will be leap year. It always precedes the Julian leap year by 1 year and 4 months. To reduce Abyssinian time to the Julian year, sub-

tract 5492 years and 125 days. The Abyssinians also use the era of Martyrs, or Diocletian, with the same months as in the above.

The Jewish Era. The Jews usually employed the era of the Seleucides, until the fifteenth century, when a new mode of computing was adopted by them. Some insist strongly on the antiquity of their present era; but it is generally believed not to be more ancient than the century above named. They date from the creation, which they consider to have been 3760 years and 3 months before the commencement of our era. Their year is luni-solar, consisting either of 12 or 13 months each, and each month of 29 or 30 days. The civil year commences with or immediately after the new moon following the equinox of autumn. The average length of the year of 12 months is 354 days; but, by varying the length of the months Marchesvan and Chisleu, it may consist of 353 or 355 days also. In the same manner, the year of 13 months may contain 383, 384, or 385 days. In 19 years, 12 years have 12 months each, and 7 years 13 months. The following table of 19 years will show the number of months in each year, as well as the first day of their year, reduced to the new style. The first day will not always be quite accurate, as certain lucky and unlucky days require the postponement of a day in some years. The year must be divided by 19, and the remainder will show the year of the cycle. If there be no remainder, it is the 19th year.

Year of the cycle.		Months.
The 1st	begins about the 2d of October, and consists of . . .	12
2d	22d of September, . . .	12
3d	10th " . . .	13
4th	29th " . . .	12
5th	19th " . . .	12
6th	8th " . . .	13
7th	27th " . . .	12
8th	16th " . . .	13
9th	5th of October, . . .	12
10th	25th of September, . . .	12
11th	14th " . . .	13
12th	2d of October, . . .	12
13th	21st of September, . . .	12
14th	10th " . . .	13
15th	29th " . . .	12
16th	18th " . . .	12
17th	7th " . . .	13
18th	25th " . . .	12
19th	14th " . . .	13

* The Abyssinians place the birth of Christ in the 5500th year of the creation, and consequently eight years after our era.

To reduce the Jewish time to ours, subtract 3761, and the remainder will show the year: the beginning of the year may be ascertained by the above table, and the months must be counted from that time. The ecclesiastical year begins six months earlier, with the month of Nisan. Consequently, when the given year is ecclesiastical, deduct a year in the date from Nisan to Elul, inclusive. The Jews frequently, in their dates, leave out the thousands, which they indicate by placing the letters לבק meaning לברסבן "according to the lesser computation." It will be unnecessary to mention the various other epochs that have taken place from the creation, as those detailed or referred to are the only ones that have been in general use.

The Era of Nabonassar received its name from that of a prince of Babylon, under whose reign astronomical studies were much advanced in Chaldæa. The years are vague, containing 365 days each, without intercalation. The first day of the era was Wednesday,* February 26th, 747 B. C. To find the Julian year on which the year of Nabonassar begins, subtract the given year, if before Christ, from 748, and if after Christ, add it to 747.

The Egyptian Era. The old Egyptian year was identical with the era of Nabonassar, beginning on the 26th February, 747 B. C., and consisting of 365 days only. It was reformed 30 years before Christ, at which period the commencement of the year had arrived, by continually receding, to the 29th of August, which was determined to be in future the first day of the year. Their years and months coincide exactly with those of the era of Diocletian. It appears from a calculation, that, in 30 B. C., the year must have begun on the 31st of August; in which case we must suppose the reformation to have taken place eight years earlier: however that may be, it is certain, that the 29th of August was the day adopted, and the number of the year one more than would have resulted from taking 747 as the commencement of the era. To reduce to the Christian era, subtract 746 years 125 days. The old Egyptian year was in use for above a century after Christ; the reformed year being at first used only by the Alexandrians.

The Julian Period is a term of years produced by the multiplication of the lunar cycle 19, solar cycle 28, and Roman

indiction 15. It consists of 7980 years, and began 4713 years before our era. It has been employed in computing time, to avoid the puzzling ambiguity attendant on reckoning any period antecedent to our era, an advantage which it has in common with the mundane eras used at different times. By subtracting 4713 from the Julian period, our year is found. If before Christ, subtract the Julian period from 4714.

The Era of Diocletian, called also the *Era of Martyrs*, was much used by Christian writers until the introduction of the Christian era in the sixth century, and is still employed by the Abyssinians and Copts. It dates from the day* when Diocletian was proclaimed emperor, at Chalcedon, 29th August, 284. It is called the *Era of Martyrs*, from the persecution of the Christians in the reign of Diocletian. The year consists of 365 days, with an additional day every fourth year. Divide the date by 4, and if 3 remain, the year is bissextile. It contains 12 months of 30 days each, with 5 additional in common years, and 6 in leap years. To reduce the years of this era to those of the Christian, add 283 years 240 days. When the Diocletian year is the year after leap year, it begins one day later than usual, and, in consequence, one day must be added to the Christian year, from the 29th of August to the end of the following February.

The Grecian Era, or *Era of the Seleucides*, dates from the reign of Seleucus Nicator, 311 years and 4 months before Christ. It was used in Syria for many years, and frequently by the Jews until the 15th century, and by some Arabians to this day. The Syrian Greeks began their year about the commencement of September; other Syrians in October, and the Jews about the autumnal equinox. We shall not pretend to great accuracy in this era, the opinions of authors being very various as to its commencement. It is used in the book of the Maccabees, and appears to have begun with Nisan. Their year was solar, and consisted of 365 days, with the addition of a day every fourth year. To reduce it to our era, supposing it to begin 1st September, 312 B. C., subtract 311 years and 4 months.

The Death of Alexander the Great dates from the 12th of November, 324 B. C.†

* Diocletian was not, in reality, proclaimed until some months after this time.

† This would be more accurately 323 B. C., but the above date is more usually adopted.

* This is said, by mistake, to be Thursday, in *L'Art de vérifier les Dates*.

on which day the 425th year of Nabonassar began. This era was computed by years of 365 days, with a leap year of 366 every four years, like the Julian year. The months were of 30 days each, with 5 additional. To compute it, deduct 323 from the given year, and the remainder will be the year of the Christian era. If before Christ, deduct the year from 324.

The Era of Tyre began the 19th of October, 125 B. C., with the month Hyperberetæus. The months were the same as those used in the Grecian era. The year is similar to the Julian. To reduce it to our era, subtract 124; and if the given year be less than 125, deduct it from 125, and the remainder will be the year before Christ.

The Cæsarean Era of Antioch was used in Syria, by Greeks and Syrians. The months are the same as those given under the Grecian era. The Greeks began with Gorpæus, September, in the year 49 B. C., and the Syrians with Tishri I, October, of 48 B. C.

The Era of Abraham is used by Eusebius, and begins the 1st of October, 2016 B. C. To reduce this to the Christian era, subtract 2015 years 3 months, and the remainder will be the year and month.

The Spanish Era, or Era of the Cæsars, is reckoned from the 1st of January, 38 years B. C., being the year following the conquest of Spain by Augustus. It was much used in Africa, Spain and the south of France. By a synod held in 1180, its use was abolished in all the churches dependent on Barcelona. Pedro IV of Aragon, abolished the use of it in his dominions in 1350. John I of Castile did the same in 1382. It continued to be used in Portugal until 1455. The months and days of this era are identical with those of the Julian calendar; and, consequently, to turn this time into that of our era, we have only to subtract 38 from the year. Thus the Spanish year 750 is equal to the Julian 712. If the year be before the Christian era, subtract it from 39.

The Era of Yezdegird III, or the Persian Era, was formerly universally adopted in Persia, and is still used by the Parsees in India, and by the Arabs, in certain computations. This era began on the 16th of June, A. D. 632. The year consisted of 365 days only, and, therefore, its commencement, like that of the old Egyptian and Armenian year, anticipated the Julian year by one day in every four years. This

difference amounted to nearly 112 days in the year 1075, when it was reformed by Jelaledin, who ordered, that, in future, the Persian year should receive an additional day whenever it should appear necessary to postpone the commencement of the following year, that it might occur on the day of the sun's passing the same degree of the ecliptic. This took place generally once in 4 years; but, after seven or eight intercalations, it was postponed for a year. It will be observed, that such an arrangement must be perfect, and that this calendar could never require reformation; but it has the inconvenience of making it very difficult to determine beforehand the length of any given year, as well as that of causing a difference occasionally in the computation of persons living under different meridians; those living towards the East sometimes beginning their year a day after others more westwardly situate; the sun rising in the old sign to those in the former situation, who consequently continued in the old year another day; while the others, having their sun rise in the new sign, began a new year. The present practice of the Parsees in India varies in different provinces, some beginning the year in September, and others in October. The months have each 30 days, and the intercalation of 5 or 6 days occurs at the end of Aban. To reduce this era to the Christian year, add 630 to the given year, and the sum will be the year of our era in which the year begins, according to the practice of the Parsees. Every day of the Persian month has a different name.

The Era of the Armenians. The Armenians began their era on Tuesday, the 9th of July, A. D. 552. Their year consists of 365 days only, and therefore anticipates the Julian one day in every four years. The Armenian ecclesiastical year begins on the 11th of August, and has an additional day at the end of every fourth year; and consequently coincides in division with the Julian year. To reduce ecclesiastical Armenian years to our time, add 551 years and 222 days. In leap years, subtract one day from March 1 to August 10.—The Armenians frequently use the old Julian style and months in their correspondence with Europeans.

For the *French Revolutionary Calendar*, see *Calendar*, vol. 2, page 403. As this plan lasted so short a time, it will take less space to insert a table of years corresponding with the Christian era, than to give a rule for the deduction of one era from another.

1 1792—3	8 1799—1800
2 1793—4	9 1800—1801
3 1794—5	10 1801—2
4 1795—6	11 1802—3
5 1796—7	12 1803—4
6 1797—8	13 1804—5
7 1798—9	14 1805—6

The Mohammedan Era, or Era of the Hegira, dates from the flight of Mohammed to Medina, which event took place in the night of Thursday, the 15th of July, A. D. 622. The era commences on the following day, viz., the 16th of July. Many chronologists have computed this era from the 15th of July, but Cantemir has given examples, proving that, in most ancient times, the 16th was the first day of the era; and now there can be no question, that such is the practice of Mohammedans. The year is purely lunar, consisting of 12 months, each month commencing with the appearance of the new moon, without any intercalation to bring the commencement of the year to the same season. It is obvious, that, by such an arrangement, every year will begin much earlier in the season than the preceding, being now in summer, and, in the course of 16 years, in winter. Such a mode of reckoning, so much at variance with the order of nature, could scarcely have been in use beyond the pastoral and semi-barbarous nation by whom it was adopted, without the powerful aid of fanaticism; and even that has not been able to prevent the use of other methods by learned men in their computations, and by governments in the collection of revenue. It will also be remarked, that, as the Mohammedans begin each month with the appearance of the new moon, a few cloudy days might retard the commencement of a month, making the preceding month longer than usual. This, in fact, is the case, and two parts of the same country will sometimes differ a day in consequence; although the clear skies of those countries where Islamism prevails rarely occasion much inconvenience on this head. But in chronology and history, as well as in all documents, they use months of 30 and 29 days, alternately, making the year thus to consist of 354 days: eleven times in 30 years, one day is added to the last month, making 355 days in that year. Consequently the average length of a year is taken at $354\frac{1}{3}$ days, the 12th of which is $29\frac{1}{3}$ days, differing from the true lunation very little more than 3 seconds, which will not amount to a day in less than 2260 years—a degree of exactness which could not have been attained without long continued observa-

tions. The intercalary year of 355 days occurs on the 2d, 5th, 7th, 10th, 13th, 15th, 18th, 21st, 24th, 26th, and 29th years of every 30 years. Any year being given, to know whether it be intercalary or not, divide by 30, and if either of the above numbers remain, the year will be one of 355 days. To reduce the year of the Hegira to that of the Christian, the following mode, though not strictly accurate, is sufficiently so for most purposes. The Mohammedan year being a lunar year of 354 days, 33 such years will make 32 of ours. We have only, then, to deduct one year for each 33 in any given number of Mohammedan years, and add 622 (the year of our era, from which their computation commences), and we obtain the corresponding year of the Christian era.

Indian Chronology. The natives of India use a great variety of epochs, some of which are but little understood, even by themselves, and almost all are deficient in universality and uniformity, so that the same epoch, nominally, will be found to vary many days, or even a year, in different provinces. The solar, or, more properly, the sidereal year, is that which is most in use for public business, particularly since the introduction of European power into India. This year is calculated by the Indian astronomers at 365 days, 6 hours, 12 minutes, 30 seconds, or, according to others, 36 seconds. Therefore, in 60 Indian years, there will be a day more than in 60 Gregorian years. The difference arises from not taking into consideration the precession of the equinoxes, which is equal, in reality, to something more than 20 minutes, though by them calculated at 23 minutes. The luni-solar computation is not at present so common as it formerly was, although still much used in some parts of India, and common every where in the regulation of festivals, and in domestic arrangements. Both the solar and luni-solar forms may be used with most of the Indian eras, though some more particularly affect one form and some the other. The luni-solar mode varies in different provinces, some beginning the month at full moon, others at new moon. We shall describe that beginning by the full moon, which is used in Bengal; the other method will be easily understood when this is known. Each year begins on the day of full moon preceding the beginning of the solar year of the same date. The months are divided into halves, the first of which is entitled *badi*, or dark, being from the

full moon to the new; and the last, *sudi*, or bright, from new to full moon. These divisions are sometimes of 14 and sometimes of 15 days, and are numbered generally from 1 to 15, though the last day of the *badi* half is called 15, and that of *sudi* is called 30. By a complicated arrangement, a day is sometimes omitted, and again a day is intercalated, so that, instead of going on regularly in numerical order, these days may be reckoned 1, 1, 2, 3, 4, 5, 6, 7, 8, 10. The subject is enveloped in some obscurity; and it will be, perhaps, sufficient to observe, that the time of a lunation is divided into 30 parts, called *tiths*, and, when two *tiths* occur in the same solar day, that day is omitted in the lunar reckoning, and restored by intercalation at some other period. When two full moons occur in one solar month, the month also is named twice, making a year of 13 months. In the case, also, of a short solar month, in which there should be no full moon, the month would be altogether omitted. All these circumstances render the luni-solar computation a matter of much difficulty; and to reduce it exactly to our era, would require a perfect knowledge of Hindoo astronomy. But as the solar reckoning is by far the most general, we shall only observe, that the lunar month precedes the solar month by a lunation at most; and consequently a lunar date may be nearly known from the solar time, which is of easy calculation. The eras which are generally known are the following:—

The Caliyug. This era is the most ancient of India, and dates from a period 3101 years before Christ. It begins with the entrance of the sun into the Hindoo sign *Aswin*, which is now on the 11th of April, N. S. In the year 1600, the year began on the 7th of April, N. S., from which it has now advanced 4 days, and, from the precession of the equinoxes, is still advancing at the rate of a day in 60 years. The number produced by subtracting 3102 from any given year of the *Caliyug* will be the Christian year in which the given year begins.

The Era of Salivahana may be joined here to that of the *Caliyug*, being identical with it as to names of months, divisions and commencement, and differing only in the date of the year, which is 3179 years more recent than that, and therefore 77 years since our era. It is much used in the southern and western provinces of India, and papers are frequently dated in both eras. The years of this era are called *Saca*. The number 77 must

be added to find the equivalent year of the Christian era. Both these eras are most commonly used with solar time.

The Era of Vicramaditya, which has its name from a sovereign of Malwa, may also be placed here, as it uses the same months as the two above mentioned; but it is more generally used with lunar time. This era is much employed in the north of India, and its years are called *Samvat*. It began 57 years before Christ; and that number must be deducted to bring it to our era. In Guzerat, this era is used, but it begins there about the autumnal equinox. The months all begin on the days of the entrance of the sun into a sign of the Hindoo zodiac, and they vary from 29 to 32 days in length, though making up 365 days in the total, in common years, and 366 in leap years. The intercalation is made when and where it is required, not according to any arbitrary rule, but by continuing the length of each month until the sun has completely passed each sign. This will bring about 26 leap years in every century. It would require long and complicated calculations to find exactly the commencement and duration of each month, but we shall not err more than a day or two by considering them to be of 30 and 31 days alternately.

The Bengalee year appears to have been once identical with the *Hegira*; but the solar computation having subsequently been adopted, of which the years exceed those of the *Hegira* by 11 days, it has lost nearly 11 days every year, and is now about 9 years later, the year 1245 of the *Hegira* beginning in July, 1829, and the Bengalee year 1236 beginning 13th of April of the same year. The number 593 must be added to bring this to the Christian era.

The Chinese, like all the nations of the north-east of Asia, reckon their time by cycles of 60 years. Instead of numbering them as we do, they give a different name to every year in the cycle. As all those nations follow the same system, we shall detail it here more particularly. They have two series of words, one of ten, and the other of twelve words; a combination of the first words in both orders is the name of the first year; the next in each series are taken for the second year; and so to the tenth: in the eleventh year, the series of ten being exhausted, they begin again with the first, combining it with the eleventh of the second series; in the twelfth year, the second word of the first series is combined with the twelfth of the second; for the thirteenth year,

the combination of the third word of the first list with the first of the second list, is taken, that list also being now exhausted. To make this clearer, we shall designate the series of ten by the Roman letters, that of twelve by the italics, and the whole cycle of 60 will stand thus:—

1 a a	16 f d	31 a g	46 f k
2 b b	17 g e	32 b h	47 g l
3 c c	18 h f	33 c i	48 h m
4 d d	19 i g	34 d k	49 i a
5 e e	20 k h	35 e l	50 k b
6 f f	21 a i	36 f m	51 a c
7 g g	22 b k	37 g a	52 b d
8 h h	23 c l	38 h b	53 c e
9 i i	24 d m	39 i c	54 d f
10 k k	25 e a	40 k d	55 e g
11 a l	26 f b	41 a e	56 f h
12 b m	27 g c	42 b f	57 g i
13 c a	28 h d	43 c g	58 h k
14 d b	29 i e	44 d h	59 i l
15 e c	30 k f	45 e i	60 k m.

The series of 10 is designated in China by the name of *ten kan*, or celestial signs. The Chinese months are lunar, of 29 and 30 days each. Their years have ordinarily 12 months, but a 13th is added whenever there are two new moons while the sun is in one sign of the Zodiac. This will occur seven times in 19 years. The boasted knowledge of the Chinese in astronomy has not been sufficient to enable them to compute their time correctly. In 1290 A. D., the Arab Jemaleddin composed a calendar for them, which remained in use until the time of the Jesuit Adam Schaal, who was the director of their calendar until 1664. It then remained for five years in the hands of the natives, who so deranged it, that, when it was again submitted to the direction of the Christians, it was found necessary to expunge a month to bring the commencement of the year to the proper season. It has since that time been almost constantly under the care of Christians. The first cycle, according to the Romish missionaries, began February 2397 B. C.* We are now, therefore, in the 71st cycle, the 27th of which will begin in 1830. To find out the Chinese time, multiply the elapsed cycle by 60, and add the odd years; then, if the time be before Christ, subtract the sum from 2398; but if after Christ, subtract 2397 from it; the remainder will be

* Dr. Morrison carries it back to the 61st year of Hwang-te, 2596 B. C., making the present year to fall in the 74th cycle; but, according to the celebrated historian Choofootze, Hwang-te reigned about 2700 B. C., making 75½ cycles from that period, which is, probably, more correct than either of the above statements.

the year required. The Chinese frequently date from the year of the reigning sovereign; and in that case, there is no way of having the corresponding date, but by a list of emperors. We subjoin a list of those who have reigned for the last two centuries.

Tartar Dynasty.

Hi-tsong	began to reign	A. D.	1616.
Hoai-tsong	"	"	1627.
Shun-chi	"	"	1644.
Kang-hi	"	"	1662.
Yong-ching	"	"	1723.
Kien-lung	"	"	1736.
Kia-king	"	"	1796.
Tara-kwang	"	"	1820,
now emperor.			

The Japanese have a cycle of 60 years, like that of the Chinese, formed by a combination of words of two series. The series of ten is formed of the names of the elements, of which the Japanese reckon five, doubled by the addition of the masculine and feminine endings *je* and *to*. The cycles coincide with those of the Chinese; but a name is given to them instead of numbering them. Their years begin in February, and are luni-solar, of 12 and 13 months, with the intercalations as before mentioned under the head of *China*. The first cycle is said to begin 660 B. C.; but this cannot be correct, unless some alteration has taken place, as the Chinese cycle then began 657 B. C. We know, however, too little of Japan to pronounce positively respecting it; but thus far it is certain, that the cycle now coincides with that of the Chinese.

To an article of this nature it may not be thought superfluous to append a slight notice of the manner in which some of the aboriginal tribes of America reckoned their time before its discovery by the natives of Europe. The science of astronomy seems to have advanced there to a much greater extent than is commonly imagined. The extraordinary accuracy of the Mexicans in their computations, surpassing that of the Europeans of their time, cannot be accounted for otherwise than by the supposition that they had derived it from some people more civilized than themselves; and would appear incredible, if not well attested by Spanish authors of the 15th century, as well as by many hieroglyphic almanacs yet remaining, of undoubted antiquity. The Peruvians and Muyscas had lunar years of great accuracy also; but this is less surprising, as the phases of the moon

are sufficiently visible to the eye, and their returns frequent. We shall detail that of the Mexicans only.

The year of the *Mexicans* consisted of 365 days; it was composed of eighteen months of twenty days each, and five additional, called *nemontemi*, or void. At the end of a cycle of 52 years, 13 days were added, and at the end of another cycle 12 days, and so on, alternately, making an addition of 25 days in 104 years. This made the mean year to consist of 365 days, 5 hours, 46 minutes, $9\frac{2}{3}$

seconds, being only $2' 39\frac{1}{3}''$ shorter than the truth. As the wanton destruction of the Mexican monuments and hieroglyphic records, by their cruel and barbarous conquerors, has left little to study, and the extermination of the Mexicans of superior order has done away with their system, we shall not detail the names of their months and particulars of their cycles, which afford striking coincidences with those of the Tartars, Japanese, &c. We shall only add, that their first cycle began in the month of January, A. D. 1090.

List of the Correspondence of Eras with the Year 1830.

[When the commencement of the year coincides with the Christian year, that alone will be given; when it begins at a different season, the month in which the 1st of January, 1830, occurs will be also stated.]

Arrangement in preceding Article.		Correspondence with 1830.	Abbreviations.
1	Roman year	2583	A. U. C.
2	Olympiads 7th month 1st year of	652	Olymp.
3	Year of the world (Constantinopolitan account)	7338	A. M. Const.
4	" " (Alexandrian account)	7322	A. M. Alex.
5	" " (Abyssinian account) 24th Tahsas	7322	A. M. Abyss.
6	" " (Jewish account) 7th Thebet	5590	A. M.
7	Era of Nabonassar 8th month of	2578	Ær. Nab.
8	Egyptian 24th Cohiac	2576	A. Æg.
9	Julian period	6543	Jul. Per.
10	Diocletian, or of Martyrs 24th Cohiac	1546	Ær. Diocl.
11	Seleucides, or Grecian Audynæus	2141	Ær. Seleuc.
12	Death of Alexander 3d month	2153	A. Mort. Alex.
13	Era of Tyre 4th month	1954	Ær. Tyr.
14	Cæsarian of Antioch (Greek account) Audynæus	1878	Cæs. Ant.
15	" " (Syrian account) Canun II	1877	
16	Era of Abraham 4th month	3845	Ær. Abr.
17	Spanish, or of the Cæsars	1868	A. Cæs.
18	Persian era of Yezdegird III (Parsee account) } 4th or 5th month }	1199	A. Pers.
19	Armenian common year 29th Drethari	1279	An. Arm.
20	" ecclesiastical year 12th Kagoths	1278	
21	Hegira 7th Regeb	1245	A. H.
22	Caliyug Poos or Margaly	4931	Cal.
23	Salivahana (Saca) " "	1752	Saca.
24	Vicramaditaya (Samvat) " "	1886	Samvat.
25	Bengalee " "	1236	Beng. Sen.
26	Fuslee (Bengal account) " "	1237	Fusl.
27	" (Telinga account) " "	1239	Fusl.
28	Parasurama 4th month of	1005	Paras.
29	Grahaparivriti 54th year of 21st cycle		Grah.
30	Brihuspotee (Bengal) 35th year of 84th cycle		Cyc. Brih.
31	" (Telinga) 24th year of 83d cycle		
32	Chinese year 11th month of Kechow, 71st cycle		

EPODE (Latin *epodos*, from the Greek *ἐπὸς*, from *ἐν* and *αἶδω*, I sing); the last division in the choral song of the ancients, which was sung when the chorus, after the strophe and antistrophe, had returned to its place (see *Chorus*); so that it was a kind of closing song, or

finale. This epode had a peculiar measure, and an arbitrary number of verses. By the term *epode* is also understood a sort of satirical ode; according to Hephæstion, one which has longer and shorter iambic verses, following each other alternately. This name is also given to the

5th book of the odes of Horace. All the odes in this book, however, are not satirical, and Scaliger therefore supposes, that the name here signifies an appendix to the odes; the epodes having been joined to the other works of the poet after his death.

EPOPEE. (See *Epic*.)

EPOPTÆ (from the Greek *ἐπι* and *ὄπτοι*, I see); inspectors, or spectators, i. e., initiated; a name given to those who were admitted to view the secrets of the greater mysteries, or religious ceremonies of the ancient Greeks.

EPROUVETTE; the name of an instrument for ascertaining the strength of fired gunpowder, or of comparing the strength of different kinds of gunpowder. One of the best, for the proof of powder in artillery, is that contrived by doctor Hutton. It consists of a small brass gun, about $2\frac{1}{2}$ feet long, suspended by a metallic stem, or rod, turning by an axis, on a firm and strong frame, by means of which the piece oscillates in a circular arch. A little below the axis, the stem divides into two branches, reaching down to the gun, to which the lower ends of the branches are fixed, the one near the muzzle, the other near the breech of the piece. The upper end of the stem is firmly attached to the axis, which turns very freely by its extremities in the sockets of the supporting frame, by which means the gun and stem vibrate together in a vertical plane, with a very small degree of friction. The piece is charged with a small quantity of powder (usually about two ounces), without any ball, and then fired; by the force of the explosion, the piece is made to recoil or vibrate, describing an arch or angle, which will be greater or less according to the quantity or strength of the powder.

EPSOM; a place in England, 15 miles south of London, in Surrey; population, 2890. It is celebrated for its medicinal springs, of a purgative quality, and for the downs, on which horse-races annually take place. Near it Henry VIII built a splendid palace, called *Nonsuch*.

EPSOM SALT (sulphate of magnesia, cathartic salt) appears in capillary fibres or acicular crystals; sometimes presents minute prismatic crystals. The fibres are sometimes collected into masses; and it also occurs in a loose, mealy powder: its color, white, grayish or yellowish: it is transparent, or translucent, with a saltish, bitter taste. It is soluble in its own weight of cold water, and effloresces on exposure to the air. It is composed of water, sulphu-

ric acid and magnesia. It is found covering the crevices of rocks, in caverns, old pits, &c., in the vicinity of Jena, on the Harz, in Bohemia, &c., in mineral springs, in several lakes in Asia, and in sea-water. It is obtained for use from these sources, or by artificial processes, and is employed in medicine as a purgative. The English name is derived from the circumstance of its having been first procured from the mineral waters at Epsom, England. (See *Magnesia*.)

EQUATION, in algebra, is the expression of the equality of different indications of the same magnitude; as, for instance, 9 and 2 are equal to 11, in mathematical characters is expressed thus:— $9+2=11$; or, 3 from 4 leave 1, is $4-3=1$. An equation may contain known quantities and unknown quantities. The latter are usually indicated by the last letters of the alphabet; and it is one of the main objects of mathematics to reduce all questions to equations, and to find the value of the unknown quantities by the known, which is sometimes a difficult, but, at the same time, interesting operation; because *x*, or the unknown quantity, may be given under so involved a form as to require the greatest tact to determine its value. The work of Meier Hirsch, already mentioned in the article *Algebra*, is perhaps the best collection of equations for solution. There must always be as many equations as there are unknown quantities; and it is not always easy to form these from the question proposed. The equation is called *simple*, *quadratic*, *cubic*, *bicubic*, *of the fifth*, &c. *degree*, according to the exponent of the unknown quantity; for instance $(x^2 - 4cdy + xp)x^4 = pq - \sin 4p$, is an equation of the sixth degree. Equations are the soul of all algebraical operations.

EQUATION OF PAYMENTS, in arithmetic, is the finding the time to pay at once several debts due at different times, and bearing no interest till after the time of payment, so that no loss shall be sustained by either party. The rule commonly given for this purpose is as follows:—Multiply each sum by the time at which it is due; then divide the sum of the products by the sum of the payments, and the quotient will be the time required. Thus, for example, A owes B £190, to be paid as follows; viz. £50 at 6 months, £60 at 7 months, and £80 at 10 months: what is the equated time at which the whole ought to be paid, that no loss may arise, either to debtor or creditor? By the rule,

$$50 \times 6 = 300$$

$$60 \times 7 = 420$$

$$80 \times 10 = 800$$

$$\begin{array}{r} 190 \\ \hline \end{array} \quad \begin{array}{r}) 1520 \text{ (8 months, equat.} \\ \hline 1520 \text{ time.} \end{array}$$

This rule, however, is founded on a supposition, that the interest of the several debts which are payable before the equated time, from their terms to that time, ought to be equal to the sum of the interest of the debts payable after the equated time, from that time to their terms respectively, which, however, is not correct, as it is the discount that is to be considered, and not the interest, in the latter sums. In most cases, however, that occur in business, the error is so trifling, that the popular rule will probably always be made use of, as being by far the most eligible and expeditious method that we could suggest.

EQUATION OF TIME, in astronomy, denotes the difference between mean and apparent time, or the reduction of the apparent unequal time, or motion of the sun or a planet, to equable and mean time or motion. If the earth had only a diurnal motion, without an annual, any given meridian would revolve from the sun to the sun again in the same space of time as from any star to the same star again, because the sun would never change his place with respect to the stars. But as the earth advances almost a degree eastward in its orbit in the time that it turns eastward round its axis, whatever star passes over the meridian on any day with the sun, will pass over the same meridian on the next day, when the sun is almost a degree short of it, that is, 3 minutes 56 seconds sooner. If the year contained only 360 days, as the ecliptic does 360 degrees, the sun's apparent place, so far as his motion is equable, would change a degree every day, and then the sidereal days would be 4 minutes shorter than the solar. The mean and apparent solar days are never equal, except when the sun's daily motion in right ascension is $59''$; which is nearly the case about the 15th of April, the 15th of June, the 1st of September, and 24th of December, when the equator is $0'$, or nearly so; and it is at its greatest about the 1st of November, when it is $16' 14''$.

EQUATOR. By the celestial equator is understood that imaginary great circle in the heavens, the plane of which is perpendicular to the axis of the earth; it is everywhere 90° distant from the poles of the earth, which are therefore its poles,

and its axis is the axis of the earth. It divides the celestial sphere into the northern and southern hemispheres. During his apparent yearly course, the sun is twice in the equator, at the beginning of spring and of autumn. (See *Equinox*, and *Day*.) Then the day and night are equal,—whence the name of *equator*. The situation of the stars, with respect to the equator, is determined by their declension and right ascension. (q. v.) The equator, or equinoctial, called by mariners simply the *line*, is that great circle of our globe, every point of which is 90 degrees from the poles, which are also its poles, and its axis is the axis of the earth. It is in the plane of the celestial equator. All places which are on it, have invariably equal days and nights. (See *Day*.) Our earth is divided by it into the northern and southern hemispheres. The diurnal revolution of the earth is in the direction of it. It crosses the centre of Africa, the islands of Sumatra, Borneo, Celebes, &c., in Asia, then traverses the Pacific ocean, and crosses South America, in Colombia, thence proceeds through the Atlantic back to Africa. To cross the line, in navigation, is to pass over the equator. The equatorial regions are subject to long calms, alternating with frightful hurricanes. As equal or mean time is estimated by the passage of arcs of the equator over the meridian, it frequently becomes necessary to convert parts of the equator into time, and the converse, which is performed by the following analogy, viz.—as $15^\circ : 1 \text{ hour} :: \text{any arc of the equator} : \text{the time it has been in passing}$. Or, conversely, $1 \text{ hour} : 15^\circ :: \text{any given time} : \text{to the arc of the equator}$.—From this circle is reckoned the latitude of places, both north and south, in degrees of the meridian. (See *Latitude*, and *Longitude*.)

EQUATORIAL, UNIVERSAL, or PORTABLE OBSERVATORY is an instrument intended to answer a number of useful purposes in practical astronomy, independent of any particular observatory. It may be employed in any steady room or place, for performing many useful problems.

EQUERRY, in the British customs; an officer of state, under the master of the horse. There are five equerries, who ride abroad with his majesty; for which purpose, they give their attendance monthly, one at a time, and are allowed a table.

EQUESTRIAN ORDER, in Roman antiquities (*ordo equestris*). The *equites* did not at first form a distinct order, but were

merely selected, 100 from each tribe, as the body-guard of the king, and were called *celeres*, because they were mounted. Their number was afterwards increased; but when the *equites* became a distinct order, or class, is not known with certainty; it was probably soon after the expulsion of the kings. None but those who were named by the censor belonged to the order of *equites*; they were taken from plebeian or patrician families, and those who were of illustrious descent were called *illustres*, *speciosi*, &c. Their number was not fixed. In the latter periods of the republic, property of the value of 400 *sestertia* was required for admission into it. The privileges of a knight or *eques* were, 1. to receive a horse from the state; 2. a gold ring (hence *annulo aureo donari*, i. e. to be made a knight); 3. *angustus clavus*, a narrow strip of purple on the tunic; 4. a particular seat on public occasions. At first, their duty was to serve the republic in war; but, at a later period, they became judges, and farmers of the public revenues. Caius and Tiberius Gracchus wrested the right of being judges from the senate, and gave it to the *equites*. Some authors date the elevation of the *equites* to a third class at this period. Every fifth year, the censor held a review of the *equites*, on which occasion they passed before him, leading their horses. If any one of their number had been guilty of any offence, even if he had only neglected his horse, the censor ordered it to be sold, which was equivalent to degrading him from the order; hence *adimere equum*, to degrade a knight. Others, who had committed slighter offences, for which they were to be deprived of their rank, were omitted in the list, which was read aloud by the censor. The first on the list was called *princeps*. The farmers of the revenue were divided into classes, each having a president, called *magister societatis*: the members were called *publicani*. They were hated in the provinces.

EQUILIBRIST (from the Latin *æquilibrium*); one who keeps his balance, in unnatural positions and hazardous movements. The equilibrist entertains the spectator by his artful motions, attitudes, leaps, &c. Every rope-dancer is an equilibrist. India is the native country of equilibrists; and the accounts given by travellers of the Indian balancers border on the incredible. The French, too, are distinguished as equilibrists. Such performers are met with in all the large cities of Europe and America. The equilibrists

are frequently also buffoons, jugglers, conjurers, &c.

EQUINOCTIAL, in astronomy; a great circle of the sphere, under which the equator moves in its diurnal motion. It is the same as the *celestial equator*. (See *Equator*.)

EQUINOCTIAL GALES; storms which are observed generally to take place about the time of the sun's crossing the equator or equinoctial line, at which time there is equal day and night throughout the world.

EQUINOCTIAL POINTS are the two points wherein the equator and ecliptic intersect each other: the one, being in the first point of Aries, is called the *vernal point*; and the other, in the first point of Libra, the *autumnal point*.

EQUINOX is that time of the year when the day and night are equal: the length of the day is then 12 hours; the sun is ascending 6 hours, and descending the same time. This is the case twice a year, in the spring and in autumn, when the sun is on the equator. When the sun is in this situation, the horizon of every place is, of course, divided into two equal parts by the circle bounding light and darkness; hence the sun is visible every where 12 hours, and invisible for the same time in each 24 hours. (See *Day*.) The vernal equinox marks the beginning of spring, the autumnal that of autumn: at all other times, the lengths of the day and of the night are unequal, and their difference is the greater the more we approach either pole, and in the same latitude it is every where the same. Under the line, this inequality entirely vanishes: there, during the day, which is equal to the night, the sun always ascends 6 hours, and descends 6 hours. In the opposite hemisphere of our earth, the inequality of the days increases in proportion to the latitude: the days increase there, while they diminish with us, and *vice versa*. The points where the ecliptic comes in contact with the equator are called *equinoctial points*. The vernal equinoctial point was formerly at the entrance of the constellation of Aries; hence the next 30 degrees of the ecliptic, reckoned eastward from it, have been called *Aries*; but this point long ago deserted the constellation of Aries, and now stands under Pisces; for it is found by observation, that the equinoctial points, and all the other points of the ecliptic, are continually moving backward, or westward; which retrograde motion of the equinoctial points is what is called the *precession of the*

equinoxes. (See *Precession.*) It appears from the result of calculations, that the path of either of the poles is a circle, the poles of which coincide with those of the ecliptic, and that the pole will move along that circle so slowly as to accomplish the whole revolution in about 25,791 years, nearly. The diameter of this circle is equal to twice the inclination of the ecliptic to the equator, or about 47 degrees. Now, as the ecliptic is a fixed circle in the heavens, but the equator, which must be equidistant from the poles, moves with the poles, therefore the equator must be constantly changing its intersection with the ecliptic. And from the best observations, it appears, that the equator cuts the ecliptic every year 50 seconds .25 more to the westward than it did the year before; hence the sun's arrival at the equinoctial point precedes its arrival at the same fixed point of the heavens every year by 20 minutes 23 seconds of time, or by an arc of 50 seconds .25. Thus, by little and little, these equinoctial points will cut the ecliptic more and more to the westward, till, after 25,791 years, they return to the same point.

EQUISETUM; a genus of plants, belonging to the Linnæan class *cryptogamia*. The species are very common in wet places, and are commonly called *horse-tails*. The fructification is in terminal oval or conical heads, composed of peltate scales; the seeds numerous and very minute; the stem simple or branched, striate, and composed of articulations, each surrounded at base with a scarious sheath, which is toothed on the margin; the branches are verticillate and destitute of leaves. Five species are natives of the U. States, all common to the Eastern continent. The *E. hyemale* (shave-grass or scouring-rush) has a remarkably rough stem, and is used for polishing wood, ivory, and the metals; for this purpose, a piece of iron wire is introduced into the hollow of the stem, which is then rubbed against the substance under operation. The asperity of the cuticle is owing to its containing a proportion of silex. Being a rare plant in England, it is imported into that country in considerable quantities from Holland, and is an article of commerce in other parts of Europe: the value of that exported from the Rhone is estimated at nearly \$2000 annually. We are not aware that this plant has been found very abundantly at any particular locality in the U. States, though it occurs sparingly throughout a great portion of the Union.

EQUITY. We call that, in a moral sense,

equity, which is founded in natural justice, in honesty, and in right, *ex æquo et bono*. So, in an enlarged view (as Mr. Justice Blackstone has observed, 3 *Comm.* 429), "equity, in its true and genuine meaning, is the soul and spirit of all law; positive law is construed, and rational law is made by it. In this, equity is synonymous with justice; in that, to the true and sound interpretation of the rule." Hence Grotius has defined it to be the correction of that, wherein the law, by reason of its generality, is deficient. It is applied to cases which the law does not exactly define, but which it submits to the sound judgment of the proper interpreter, *arbitrio boni viri permittit*. In this sense, equity must have a place in every rational system of jurisprudence; if not in name, at least in substance. It is impossible, that any code, however minute and particular, should embrace or provide for the infinite variety of human affairs, or should furnish rules applicable to all of them. Every system of laws must necessarily be defective; and cases must occur, to which the antecedent rules cannot be applied without injustice, or to which they cannot be applied at all. It is the office, therefore, of a judge, to consider whether the antecedent rule does apply, or ought, according to the intention of the lawgiver, to apply to a given case; and, if there be two rules, nearly approaching to it, but of opposite tendency, which ought to govern; and, if there exist no exact rule applicable to all the circumstances, whether the party is remediless, or the rule furnishing the closest analogy ought to be followed. The general words of a law may embrace all cases; and yet it may be clear that all could not have been intentionally embraced; for, if they were, it would defeat the obvious objects of the legislation. So words of doubtful import may be employed, and of a more or less extensive meaning. The question, in such cases, must be, in what sense the words were used; and it is the part of a judge to look to the objects of the legislature, and to give such a construction of the words as will further those objects. He is not at liberty to set aside the law, but to expound it. *Custos non conditor juris, juvare, supplere, interpretari, mitigare jus civile potuit; mutare vel tollere non potuit* (Taylor's *Elements of Civil Law*, 214). This is an exercise of equitable construction. It is the administration of equity. Hence arises a variety of rules of interpretation of laws according to their nature and operation, whether they are remedial

or penal, or restrictive of general right, or in advancement of public justice. But this is not the place to consider those rules, or the application of them in different systems of law. In the law of England and the U. States, equity has a different and more restrained meaning. We distinguish our remedies for wrongs, or for the enforcement of rights, into two classes—those which are administered in courts of law, and those which are administered in courts of equity. The rights secured by the former are called *legal*; those secured by the latter are called *equitable*. The former are said to be rights and remedies at common law, because recognised and enforced in courts of common law. The latter are said to be rights and remedies in *equity*, because they are administered in courts of equity or chancery, or by proceedings in other courts analogous to those in courts of equity or chancery. Now, in England and America, courts of common law proceed by certain prescribed forms, and give a *general* judgment for or against the defendant. They entertain jurisdiction only in certain actions, and give remedies according to the particular exigency of such actions. But there are many cases in which a simple judgment for either party, without qualifications and conditions, and particular arrangements, will not do entire justice, *ex æquo et bono*, to either party. Some modification of the rights of both parties are required; some restraints on one side or the other; and some peculiar adjustments, either present or future, temporary or perpetual. Now, in all these cases, courts of common law have no methods of proceeding, which can accomplish such objects. Their forms of actions and judgment are not adapted to them. The proper remedy cannot be found, or cannot be administered to the full extent of the relative rights of all parties. Such prescribed forms of actions are not confined to our law. They were known in the civil law; and the party could apply them only to their original purposes. In other cases, he had a special remedy. In such cases, where the courts of common law cannot grant the proper remedy or relief, the law of England and of the U. States (in those states where equity is administered) authorizes an application to the courts of equity or chancery, which are not confined or limited in their modes of relief by such narrow regulations, but which grant relief to all parties, in cases where they have rights, *ex æquo et bono*, and

modify and fashion that relief according to circumstances. The most general description of a court of equity is, that it has jurisdiction in cases where a plain, adequate and complete remedy cannot be had at law; that is, in the common law courts. The remedy must be *plain*; for, if it be doubtful and obscure at law, equity will assert a jurisdiction. So it must be *adequate* at law; for, if it fall short of what the party is entitled to, that founds a jurisdiction in equity. And it must be *complete*; that is, it must attain its full end at law; it must reach the whole mischief and secure the whole right of the party, now and for the future; otherwise equity will interpose, and give relief. The jurisdiction of a court of equity is sometimes concurrent with that of courts of law; and sometimes it is exclusive. It exercises concurrent jurisdiction in cases where the rights are purely of a *legal* nature, but where other and more efficient aid is required than a court of law can afford, to meet the difficulties of the case, and ensure full redress. In some of these cases, courts of law formerly refused all redress; but now will grant it. But the jurisdiction having been once justly acquired at a time when there was no such redress at law, it is not now relinquished. The most common exercise of concurrent jurisdiction is in cases of account, accident, dower, fraud, mistake, partnership and partition. The remedy is here often more complete and effectual than it can be at law. In many cases falling under these heads, and especially in some cases of fraud, mistake and accident, courts of law cannot and do not afford any redress; in others they do, but not always in so perfect a manner. A court of equity also is assistant to the jurisdiction of courts of law, in many cases, where the latter have no like authority. It will remove legal impediments to the fair decision of a question depending at law. It will prevent a party from improperly setting up, at a trial, some title or claim, which would be inequitable. It will compel him to discover, on his own oath, facts which he knows are material to the right of the other party, but which a court of law cannot compel the party to discover. It will perpetuate the testimony of witnesses to rights and titles, which are in danger of being lost before the matter can be tried. It will provide for the safety of property in dispute pending litigation. It will counteract and control, or set aside, fraudulent judgments. It will exercise,

in many cases, an *exclusive* jurisdiction. This it does in all cases of merely *equitable rights*, that is, such rights as are not recognised in courts of law. Most cases of trust and confidence fall under this head. Its exclusive jurisdiction is also extensively exercised in granting special relief beyond the reach of the common law. It will grant injunctions to prevent waste, or irreparable injury, or to secure a settled right, or to prevent vexatious litigations, or to compel the restitution of title deeds; it will appoint receivers of property, where it is in danger of misapplication; it will compel the surrender of securities improperly obtained; it will prohibit a party from leaving the country in order to avoid a suit; it will restrain any undue exercise of a legal right, against conscience and equity; it will decree a specific performance of contracts respecting real estates; it will, in many cases, supply the imperfect execution of instruments, and reform and alter them according to the real intention of the parties; it will grant relief in cases of lost deeds or securities; and, in all cases in which its interference is asked, its general rule is, that he who asks equity must do equity. If a party, therefore, should ask to have a bond for a usurious debt given up, equity could not decree it unless he could bring into court the money honestly due without usury. This is a very general and imperfect outline of the jurisdiction of a court of equity; in respect to which it has been justly remarked, that, in matters within its exclusive jurisdiction, where substantial justice entitles the party to relief, but the positive law is silent, it is impossible to define the boundaries of that jurisdiction, or to enumerate, with precision, its various principles. (Those who wish for more information on the subject may consult the elementary treatises of Fonblanque on Equity, lord Redesdale's Treatise on Equity Pleadings, and Cooper's Equity Pleadings; and the Practical Treatises of Equity by Maddock and Jeremy.)

Equity, Courts of. The equity jurisdiction, in England, is vested, principally, in the high court of chancery. (See *Chancellor*.) The court is distinct from the courts of law. American courts of equity are, in some instances, distinct from those of law; in others, the same tribunals exercise the jurisdiction both of courts of law and equity, though their forms of proceeding are different in their two capacities. The supreme court of

the U. States, and the circuit courts, are invested with general equity powers, and act either as courts of law or equity, according to the form of the process and the subject of adjudication. In some of the states, as New York, Virginia and South Carolina, the equity court is a distinct tribunal, having its appropriate judge, or chancellor, and officers. In most of the states, the two jurisdictions centre in the same judicial officers, as in the courts of the U. States; and the extent of equity jurisdiction and proceedings is very various in the different states, being very ample in Connecticut, New York, New Jersey, Maryland, Virginia and South Carolina, and more restricted in Maine, Massachusetts, Rhode Island and Pennsylvania. But the salutary influence of these powers on the judicial administration generally, by the adaptation of chancery forms and modes of proceeding to many cases in which a court of law affords but an imperfect remedy, or no remedy at all, is producing a gradual extension of them in those states where they have been heretofore very limited. (See *Chancellor, Common Law, and Courts*.)

EQUITY OF REDEMPTION. Upon a mortgage, although the estate, upon nonpayment of the money, becomes vested in the mortgagee, yet equity considers it only a pledge for the money, and gives the party a right to redeem, which is called his *equity of redemption*. If the mortgagee is desirous to bar the equity of redemption, he may oblige the mortgager either to pay the money or be foreclosed of his equity, which is done by proceedings in chancery by bill of foreclosure. (See *Mortgage*.)

EQUIVALENTS, CHEMICAL; a term employed in chemical philosophy, to express the system of definite ratios, in which the corpuscular subjects of this science reciprocally combine, referred to a common standard, reckoned unity. The principal facts relating to chemical combinations require to be stated, in order to render the present subject intelligible. And in the first place, leaving out of view the combinations of liquids with each other, and the common cases of solution in water and alcohol, the first law relating to the combination of substances is, that *the composition of bodies is fixed and invariable*; or, in other words, a compound substance, so long as it retains its characteristic properties, always consists of the same elements, united together in the same proportion. Sulphuric acid, for example, is always composed of sulphur and oxygen,

in the ratio of 16 parts, by weight, of the former, to 24 of the latter; no other elements can form it, nor can its own elements form it in any other proportion. Sulphate of barytes, in like manner, is always composed of 40 parts of sulphuric acid and 78 of barytes. If sulphuric acid and barytes should enter into combination in any other proportion, some new compound, different from sulphate of barytes, would be formed. The second law relating to this subject is, that, *when one body combines with another in different proportions, the larger proportion of one of the ingredients has a simple arithmetical ratio to the smaller proportion*;—the second quantity being a simple multiple of the first; and if there is a third or fourth proportion, the same ratio continues between them. The combinations of the two substances, which, in their gaseous state, form, by their mixture, the atmosphere,—oxygen and nitrogen,—unite in five different proportions, and form a good illustration of this law, these proportions having to each other the simple ratio of 1, 2, 3, 4, 5.

	Nitrogen.	Oxygen.
Nitrous oxide consists of	14	8
Nitric oxide,	14	16
Hypo-nitrous acid,	14	24
Nitrous acid,	14	32
Nitric acid,	14	40

To give an example from the salts,—the bicarbonate of potash contains twice as much carbonic acid as the carbonate; and the oxalic acid of the three oxalates of potash is in the ratio of 1, 2, and 4. This law is often called *the law of multiples*, or of *combination in multiple proportion*. It has been established only by comparatively recent investigations, but the most rigid researches have abundantly evinced that it is a well-founded law.—The third law of combination is no less remarkable than the preceding, and is intimately connected with it. Water and hypo-sulphurous acid may be adduced for its illustration. The former is composed of 8 oxygen to 1 hydrogen; the latter of 8 oxygen to 16 sulphur. Now, the well-known substance sulphureted hydrogen is constituted of 1 hydrogen to 16 sulphur; that is, the quantities of hydrogen and of sulphur, which combine with the same quantity of oxygen, combine with one another. Again, 40 parts of selenium, with 8 of oxygen, form the oxide of selenium, and, with 1 of hydrogen, seleniureted hydrogen; 36 parts of chlorine, with 8 of oxygen, constitute the oxide of chlorine, and, with 1 of hydrogen, form muriatic acid

gas; 16 parts of sulphur combine with 36 of chlorine to form the chloride of sulphur. It is manifest, from these examples, that bodies unite according to proportional numbers; and hence has arisen the use of certain terms, as, *proportion*, *combining proportion*, or *equivalent*, to express them. Thus the combining proportions of the substances just alluded to are,—

Hydrogen,	1
Oxygen,	8
Sulphur,	16
Chlorine,	36
Selenium,	40

When one body combines with another in more than one proportion, then the law of multiples, already explained, comes into action. Thus

Hypo-sulphurous acid is composed of	Sulphur, 16 or 1 pr.	Oxygen, 8 or 1 pr.
Sulphurous acid,	16 or 1 pr.	+ 16 or 2 pr.
Sulphuric acid,	16 or 1 pr.	+ 24 or 3 pr.

The most usual combination is 1 proportion of one body either with 1 or with 2 proportions of another. Combinations of 1 to 3, or 1 to 4, are very uncommon, unless the more simple compounds likewise exist. But this law does not apply to elementary substances only, since compound bodies have their combining proportions, which may likewise be expressed in numbers. Thus, since water is composed of one proportion, or 8, of oxygen, and one proportion, or 1, of hydrogen, its combining proportion is 9. The proportion of sulphuric acid is 40, because it is a compound of one proportion, or 16, of sulphur, and three proportions, or 24, of oxygen; and, in like manner, the combining proportion of muriatic acid is 37, because it is a compound of one proportion, or 36 of chlorine, and one proportion, or 1, of hydrogen. The proportional number of potassium is 40, and, as that quantity combines with 8 of oxygen to form potash, the combining proportion of potash is 48. Now, when these compounds unite, one proportion of the one combines with one, two, three or more proportions of the other, precisely as the simple substances do. The hydrate of potash, for example, is constituted of 48 potash and 9 of water, and its combining proportion is, consequently, 48+9, or 57. The sulphate of potash is composed of 40 sulphuric acid + 48 potash. The combining proportion of this salt is, therefore, 88. The muriate of the same alkali is composed of

37 muriatic acid + 48 potash; its combining proportion is, therefore, 85. The composition of the salts affords an excellent illustration of this subject; and, to exemplify it still further, a list of the proportional numbers of a few acids and alkaline bases is subjoined.

Fluoric acid, . . 10	Lithia, 18
Phosphoric acid, 28	Magnesia, . . . 20
Muriatic acid, . 37	Lime, 28
Sulphuric acid, 40	Soda, 32
Nitric acid, . . . 54	Potash, 48
Arsenic acid, . . 62	Strontia, . . . 52
	Barytes, 78

Now bodies uniting according to their proportional numbers, as has been seen above, the proportion of each base expresses the precise quantity required to neutralize a proportion of each of the acids. Thus 18 of lithia, 32 of soda, and 78 of barytes combine with 10 of fluoric acid, forming the neutral fluates of lithia, soda and barytes, and are termed *equivalents* of each other, as well as of fluoric acid. The same fact is obvious, with respect to the acids; for 28 of phosphoric, 40 of sulphuric, and 62 of arsenic acid unite with 28 of lime, forming a neutral phosphate, sulphate and arseniate of lime, and these acids, in like manner, are equivalents of each other and of lime. These circumstances afford a ready explanation of the fact, that when two neutral salts mutually decompose one another, the resulting compounds are likewise neutral. If 88 parts of neutral sulphate of potash are mixed with 132 of the nitrate of barytes, the 78 barytes unite with the 40 sulphuric acid, and the 54 nitric acid of the nitrate combine with the 48 potash of the sulphate—not a particle of acid or alkali remaining in an uncombined condition. The method of determining the proportional numbers, as might be anticipated from what has gone before, is, to analyze a definite compound of two simple substances which possess an extensive range of affinity. No two bodies are better adapted for this purpose than oxygen and hydrogen, and that compound of these is selected which contains the smallest quantity of oxygen. Water is such a substance; and it is therefore regarded as a compound of one proportion of oxygen to one proportion of hydrogen. But analysis proves that it is composed of 8 parts of the former to 1 of the latter, by which the relative weights of their proportions are determined, that of oxygen being eight times heavier than that of hydrogen. Some compounds are next examined

which contain the smallest proportion of oxygen or hydrogen in combination with some other substance, the quantities of each being the smallest that can unite together. Carbonic oxide with respect to carbon, and sulphureted hydrogen with respect to sulphur, answer this description perfectly. The former consists of 8 oxygen and 6 carbon; the latter of 1 hydrogen and 16 sulphur. The proportional number of carbon is, consequently, 6, and of sulphur, 16. The proportions of all other bodies may be determined in the same manner. Since the proportional numbers merely express the relative quantities of different substances which combine together, it is, in itself, immaterial what figures are employed to express them. The only essential point is, that the relation should be strictly observed. Thus we may make the combining proportion of hydrogen 10; but then oxygen must be 80, carbon 60, and sulphur 160. Doctor Thomson makes oxygen 1, so that hydrogen is eight times less than unity, or 0.125, carbon 0.75, and sulphur 2. Doctor Wollaston fixes oxygen at 10, by which hydrogen is 1.25, carbon 7.5, and so on. According to Berzelius, oxygen is 100. The system of Wollaston becomes the same as doctor Thomson's by merely dividing by 10; that is, by placing the decimal point more to the left by one figure; and then, if we multiply by 8, it is converted into Mr. Dalton's scale, in which hydrogen is the standard.—Tables of the combining quantities of all chemical agents have been drawn up and arranged to guide the chemist in experimental researches. The utility of these tables is very extensive. Through their aid, and by remembering the proportional numbers of a few elementary substances, the composition of a great number of compound bodies may be calculated with facility. By knowing that 6 is the combining proportion of carbon and 8 of oxygen, it is easy to recollect the composition of carbonic oxide and carbonic acid,—the first being 6 carbon + 8 oxygen, and the second 6 carbon + 16 oxygen. 40 is the number of potassium, and potash, being its protoxide, is composed of 40 potassium + 8 oxygen. From these few data, we know at once the composition of the carbonate and bicarbonate of potash. The first is 22 carbonic acid + 48 potash; the second, 44 carbonic acid + 48 potash. These tables are rendered still more useful, if accompanied by a logarithmic sliding scale, the application of which to this purpose was a happy inven-

tion of doctor Wollaston. As it is not possible to include, on a single scale, the names of all substances, those are selected which are the most frequent subjects of reference. These are arranged in the order of their relative weights, and at such distances from each other, according to their weights, that the series of numbers, placed on a sliding scale, can at pleasure be moved, so that any number expressing the weight of a compound may be brought to correspond with the place of that compound in the adjacent column. The arrangement is then such that the weight of any ingredient in its composition, of any reagent to be employed, or precipitate that might be obtained in its analysis, will be found opposite the point at which its respective name is placed. Let us illustrate its use by a few examples. 1. The quantity of any substance, which is equivalent to a given quantity of any other inscribed on the scale, may be learned by inspection; the quantities taken being quite arbitrary, and such as are liable to suit the purpose at any time. Thus, by bringing 50, on the slider (in a scale where the weight of hydrogen is expressed by 1), opposite to magnesia, or to its equivalent, 20, it will be seen that 50 parts of that earth are equivalent to 70 lime, 120 potash, &c. 2. It ascertains the quantity of each base that is equivalent to a given quantity of any acid. Thus 50 on the slider being brought opposite to sulphuric acid, or to its equivalent, 40, it appears that 50 parts of this acid saturate 25 of magnesia, 35 lime, 60 potash, &c. In a similar manner, it is capable of indicating the quantities of different acids required to saturate each base; thus 50 parts of magnesia saturate 100 of sulphuric acid, 135 nitric acid, &c. 3. It enables us to determine, by inspection, the proportions of the components in a given quantity of any substance of known composition. Thus, by bringing 100, on the slider, opposite to 72, the equivalent of dry sulphate of soda, we find 55.5 on the slider, opposite to the equivalent of sulphuric acid, and 44.5 opposite to the equivalent of soda; numbers which, together, make up 100 of the salt. It expresses not only the proximate, but the ultimate elements of compounds. Thus, keeping the slider in the same situation as above, we find 22.4 on the slider, opposite to 16, the equivalent of sulphur, and 33.1 opposite to 24, the equivalent of three proportions of oxygen; and $22.4 + 33.1$ make up, together, 55.5 of sulphuric acid. By reference to the equivalents of sodium and

oxygen, we find, also, that 44 parts of soda are made up of 33 sodium and 11 oxygen. 4. The quantity of any substance required to decompose a given quantity of another, by simple elective attraction, is at once taught by the scale. Thus, if we wish to know the smallest quantity of sulphuric acid adequate to decompose 100 parts of chloride of sodium, by bringing 100, on the slider, opposite to chloride of sodium, or its equivalent, 60, we find 66½, on the slider, opposite to 40, the equivalent of dry sulphuric acid, and opposite to 49, the equivalent of sulphuric acid of commerce, we find 81½ of the latter. We must, therefore, employ 66½ of the former, or 81½ of the latter. Again, to know the quantity of dry sulphate of soda which would result if all the common salt were decomposed, we shall find 120, on the slider, opposite to the dry sulphate, or to its equivalent, 72, and 270 opposite to the crystallized sulphate, or to its representative number, 162. 5. The quantities of salts, each consisting of two ingredients, that are required for mutual decomposition, may be learned by a similar use of the sliding scale. Supposing, for instance, that we have 83 parts of sulphate of potash, and wish to know the quantity of chloride of barium required for their decomposition: bring 83, on the slider, opposite to sulphate of potash, or to 88, its representative, and opposite to 106, the equivalent of chloride of barium; we find 100 on the slider, which is the number required. The results of this decomposition may also be learned by examining the instrument when in the same situation of the slider; for opposite to the equivalent of sulphate of barytes, 118, we find on the slider 111, and opposite to chloride of potassium we find 71.5 on the slider, the two last numbers indicating the resulting quantities of the new compounds. Again, from the weight of a precipitate, it is easy to deduce the quantities of salts which have afforded it. Thus, if we had obtained by experiment 120 parts of dry sulphate of barytes, on bringing that number opposite to its equivalent, 118, we see at once that they may have resulted from 89½ of sulphate of potash, and 108 of chloride of barium; and moreover, that 120 parts of barytic sulphate are composed of 40.6 sulphuric acid, and 79.4 barytes; the sulphuric acid consisting of 16.5 sulphur and 24.1 oxygen, and the barytes of 8.15 oxygen and 71.25 barium. Other applications still, of the scale of chemical equivalents, are pointed out by doctor Wollaston in his memoir, explana-

tive of its principle and uses, in the Phil. Trans. for 1814; but the accurate and ready solution of so many important practical problems as have been noticed above are sufficient to show its importance to the chemist. Doctor Ure remarks of it, that it is "an instrument which has contributed more to facilitate the general study and practice of chemistry than any other invention of man."

ERA. (See *Epoch*, and *Æra*.)

ERASMUS, Desiderius, born at Rotterdam, 1467, was the illegitimate son of a Dutchman of Gouda, by name Gerard, and the daughter of a physician. He was a singing-boy in the cathedral of Utrecht till his ninth year, then entered the school at Deventer, where he displayed such brilliant powers, that it was predicted that he would be the most learned man of his time. After the death of his parents, whom he lost in his fourteenth year, his guardians compelled him to enter a monastery; and, at the age of seventeen, he assumed the monastic habit. The bishop of Cambray delivered him from this constraint. In 1492, he travelled to Paris, to perfect himself in theology and polite literature. He there became the instructor of several rich Englishmen, from one of whom he received a pension for life. He accompanied them to England in 1497, where he was graciously received by the king. He returned soon after to Paris, and then travelled into Italy to increase his stock of knowledge. In Bologna, where he received the degree of doctor of theology, he was one day mistaken, on account of his white scapulary, for one of the physicians who attended those sick of the plague; and, not keeping out of the way of the people, as such persons were required to do, he was stoned, and narrowly escaped with his life. This accident was the occasion of his asking a dispensation from the vows of his order, which the pope granted him. He visited Venice, Padua and Rome; but, brilliant as were the offers here made him, he preferred the invitation of his friends in England, where the favor in which he stood with Henry VIII promised him still greater advantages. When he visited the lord chancellor sir Thomas More without making himself known to him, the chancellor was so delighted with his conversation, that he exclaimed "You are either Erasmus or the devil." He was offered a benefice, but was unwilling to fetter himself by an office of this kind. He was for a short time professor of Greek at Oxford. He afterwards travelled through Germany and the

Netherlands, and went to Bale, where he had his works printed by Froben. He died in 1536. His tomb may be seen at Bale, in the Calvinistic cathedral.—To profound and extensive learning Erasmus joined a refined taste and a delicate wit. Naturally fond of tranquillity and independence, he preferred the pleasures of literary ease and retirement to the pomp of high life. His caution and worldly prudence offended many of the best men of his times. He did great and lasting service to the cause of reviving learning. Although he took no direct part in the reformation, and was reproached by Luther for lukewarmness, he attacked the disorders of monkery and superstition, and every where promoted the cause of truth. He wished for a general ecclesiastical council, to be composed of the most learned and enlightened men, but did not live to see his wish accomplished. He therefore confined his efforts to serve the world by his writings, which will always be prized for their interesting matter and graceful style. The best edition is by Le Clerc, Leyden, 1703, 10 vols. fol. His life has been written by Burigny. Jortin's life of Erasmus is a valuable work. Besides his editions of various classics, and his other philological and theological writings, we will only mention his well known book in praise of folly (*Encomium Morie*), and his colloquies. His letters are very valuable in reference to the history of that period.

ERATO (from *ἔρως*, I love); one of the muses, whose name signifies *loving*, or *lovely*. She has much in common with Terpsichore—the same attributes, the same dress, and frequently a lyre and *plectrum*. She presides over the songs of lovers, and touches, as Ovid, in his Art of Love, informs us, the hearts of the coldest maidens by her tender lays. (See *Muses*.)

ERATOSTHENES, a learned man in the times of the Ptolemies, born at Cyrene, in Africa, B. C. 275, librarian at Alexandria, improved the science of mathematical geography, which he corrected, enlarged, and reduced to system. He gained his greatest renown by his investigations of the size of the earth. He rendered much service to the science of astronomy, and first observed the obliquity of the ecliptics. (See *Ecliptic*.) Of his writings, one only remains complete,—*Catasterismi*,—which treats of the constellations (Schaubach, with a commentary, 1795). Of his geographical works, which were long in high repute, the scattered remains were collected and published by Seidel, 1798.

ERCILLA Y ZUNIGA, don Alonzo de;

knight of St. James, and chamberlain to the emperor Rodolph, the third son of a Spanish jurist, who was also a knight of the above order. When he was born is uncertain, but it was before 1540. His mother, from whom he inherited the name of *Zuniga*, carried him, after the early death of his father, to the court of the empress Isabella, consort of Charles V. The young Alonzo was page to the Infant don Philip, and accompanied him on his travels through the Netherlands and a part of Germany, and through Italy, Poland, Bohemia and Hungary, and, in 1554, went with him to England, on the occasion of his marriage with queen Mary. Soon after this, an insurrection breaking out among the Araucanians, a tribe of Indians on the coast of Chile, Ercilla joined an expedition sent against them. The difficulties which the Spaniards had to encounter, the heroic resistance of the natives, and the multitude of gallant deeds by which the war was signalized, inspired the young and brave Ercilla with the idea of making it the subject of an epic poem, to which he gave the name of *La Araucana*. He began the work on the spot, writing often during the night what had been achieved in the day (*Tomando ora la espada, ora la pluma*), and was obliged sometimes, for want of paper, to use pieces of leather. Ercilla is said afterwards to have come near losing his life by reason of a groundless charge of mutiny, and to have been actually on the scaffold before his innocence was made known. He returned to Spain, very much out of health, and after having finished the first part of his epic. All this he performed before completing his 29th year. In 1570, he married Maria Bazan, at Madrid, whose charms and virtues are celebrated by him in various passages of his poem. In 1577, the first part of his poem, in 1590, the whole, was published. His merits were not rewarded; for he died at Madrid in great poverty and obscurity. The time and circumstances of his death are uncertain; he must have been alive, however, in 1596, as Mosquera, in his book on military discipline, speaks of him as his contemporary. He left no legitimate children, but two natural sons and a daughter.—The *Araucana* is a historical epic in the octave measure, in which the author confines himself, with the exception of some episodes and a few fictions, to the exact historical course of events. Hence the poem often assumes almost the character of a chronicle. Voltaire's judgment on this poem (in his *Essai sur la Poésie épique*) shows that he had not read it. Cervantes,

in the sixth book of *Don Quixote*, ranks it by the side of the best Italian epics; but probably few persons, uninfluenced by patriotic pride, will agree with him. It has been continued by a certain don Diego de Santisteban Osorio. Lope de Vega has taken from the epic of Ercilla the materials for his piece *Arauca Conquered*.—The first part of the *Araucana*, as already stated, appeared in 1577, in 15 cantos; the second part in 1578: the whole, in three parts, 1590, contains 37 cantos; new ed. Madrid, 1776. It has been translated into Italian, and twice into French (but abridged), Paris, 1824. (See *Araucanians*.)

EREBUS; son of Chaos and Darkness. He married his sister, Night, and was the father of the Light and Day. The *Parcæ*, or Fates (q. v.), by some, are called his daughters. He was transformed into a river, and plunged into Tartarus, because he aided the Titans. From him, the name *Erebus* was given to the infernal regions, particularly that part of it which is designated as the abode of virtuous shades, and from which they pass over immediately to the Elysian fields.

ERECTHEUS. (See *Erichonius*.)

EREMITE (from the Greek *ἐρημος*, a desert); one who secludes himself from society. (See *Anachorite*.)

ERESICTHON. (See *Erisicthon*.)

ERFURT; an important Prussian fortress in Thuringia. It was ceded to Prussia at the peace of Paris, since which time its fortifications have been much strengthened. It is situated on the great road which leads from Frankfort on the Maine to the north of Germany, passing, in part of its course, along the mountains called the *Thuringian Forest* (*Thüringer Wald*). In the fifteenth and sixteenth century, Erfurt was a flourishing commercial place, and contained not less than 60,000 inhabitants: at present, there are not more than 21,330, in 2781 houses. The university, established in 1378, was suppressed by the Prussian government in 1816, for the purpose of merging it in one of those great establishments for education, of which Prussia has so many. The inhabitants are mostly Lutherans. There are two forts, called *Petersberg* and *Cyriaksberg*. Erfurt is the capital of a government, and the seat of several courts, and contains a royal academy of practical science, two *gymnasias* (royal schools), an institution for the deaf and dumb, a musical society, and several other institutions. The large bell called *Susanna*, made of the finest bell-metal, and weighing 275 cwt., and the cell in which Luther lived, while an Augustine monk,

from 1505 till 1512, are shown as curiosities. According to tradition, Erfurt was founded as early as the fifth century, by a certain *Bipes*. It was not a free imperial city, but always maintained a sort of independence, notwithstanding the claims of the elector of Mentz. In 1483, it concluded a treaty with Saxony, by which it agreed to pay an annual sum for protection. In the seventeenth century, the elector of Mentz finally obtained possession of it. In 1814, it was granted to Prussia, by the congress of Vienna. The government, of which it is the capital, contains 1404 square miles, with 257,500 inhabitants, in 22 large towns, 12 small towns, and 401 villages. Erfurt is celebrated for the interview between Napoleon, and Alexander (emperor of Russia), several kings, and many princes, in September, 1808, when the French emperor's power was at its acme. The chief object of Napoleon was the entire pacification of Europe, as he believed he had finally succeeded in effecting that of the continent. (See the article *Congress*, vol. iii. p. 431.) He and Alexander jointly invited the king of England to accede to the peace; but their pressing letter was answered only by the minister, who, as Napoleon expressed himself, attempted to renew the questions which had been decided at Jena and Friedland. "He wished me," says he, "to confess that I had been guilty of violence at Bayonne, by acknowledging the cortes of Spain and the regency of Portugal." We add here, that remarkable document, the letter of Napoleon and Alexander to the king of England, which is only a repetition of the sentiments expressed by Napoleon, in his letter to George III, after his adoption of the title of emperor:—"Sire, the present situation of Europe has brought us together at Erfurt. Our first wish is to fulfil the desire of all nations, and, by a speedy pacification with your majesty, to take the most effectual means for relieving the sufferings of Europe. The long and bloody war, which has convulsed the continent, is at an end, and cannot be renewed. Many changes have taken place in Europe; many governments have been destroyed. The cause is to be found in the uneasiness and the sufferings occasioned by the stagnation of maritime commerce. Greater changes still may take place, and all will be unfavorable to the politics of England. Peace, therefore, is, at the same time, the common cause of the nations of the continent and of Great Britain. We unite in requesting your majesty to lend an ear to the voice of humanity, to sup-

press that of the passions, to reconcile contending interests, and secure the welfare of Europe, and of the generation over which Providence has placed us." This letter was answered by Canning, with an open note to Napoleon's minister of foreign affairs. In the answer which Napoleon sent to the letter of the emperor Francis of Austria, which contained the liveliest assurances of his good disposition, the French emperor entreats him, in the most decisive language, to adopt a frank, open and sincere policy.

ERGOT is an elongated, cylindrical excrescence, a little curved, and somewhat resembling a horn, which sometimes takes the place of the grain in several cultivated grasses, particularly in rye, which, when in this state, is commonly called *spurred* rye. It has been considered by some authors as a disease, by others as a fungus, and has been referred by the latter to the genus *sclerotium*. A grain, when attacked, becomes at first soft and pulpy, afterwards hardens, and elongates gradually; when young, it is red or violaceous, afterwards lead colored, and finally black, with a white interior: generally two or three grains in a spike only are affected: wet weather is favorable to its development. When bread containing this substance has been eaten, it has produced very formidable consequences—sometimes gangrene of the extremities and death. Ergot is an important article in *materia medica*; has been found capable of exerting a very powerful and specific action upon the uterus, and is administered in small doses in certain extreme cases. This remedy has been principally used in the U. States. Of late, it has been successfully employed in France.

ERHARD, Christian Daniel, professor of criminal law at Leipsic, was born 1759, at Dresden, and studied law from 1778 to 1781, at Leipsic, where he devoted himself to history, philosophy and the arts. In 1801, the emperor Alexander I appointed him correspondent of the legislative commission at Petersburg, with a pension: many academies, likewise, appointed him an honorary member. He obtained important places as an instructor in his science, and also as a practical jurist. His writings are on the important subjects of philosophical and positive law, and contain many original views. His fame was widely extended by his work on the legislation of Leopold II in Tuscany. In his remarks on the works of Algernon Sidney, on forms of government, in several treatises published by him in his *Amalthæa*,—

a periodical of 1788 and 1789,—in the preface to his translation of the commercial code, and the civil code of France, and in his essays *De Arbitrio Judicis*, and *De Notione Furti*, he has discussed some of the most important subjects of legislation. His translation of the *Code Napoléon* (2d edition 1811), is universally acknowledged to be the best. His last, and, perhaps, his greatest labor, was the sketch of a criminal code for Saxony. As far as it was finished, it has been published by one of his scholars—doctor Friderici. He died in 1813. He united variety of learning, acuteness, wit, and agreeable manners, to the most excellent feelings.

ERHARD, John Benjamin, doctor of medicine at Berlin, was born 1766, at Nuremberg. His father, a poor wire-drawer, who had a good deal of musical and literary taste, endeavored to cultivate the same tastes in his only child. The boy left school at the age of 11 years, and was desirous of learning his father's trade, and becoming acquainted with engraving. He received instruction in drawing, and afterwards in engraving, in French and Italian, and also took lessons on the harpsichord. Being destitute of books, he endeavored to procure philosophical works from the dealers in old books; but he could obtain nothing but a few Latin manuals of the school of Wolf. A love for Latin and Greek was awakened in him; philosophy led him to mathematics; and here, too, the writings of Wolf were his guides. Thus Erhard was engaged till his 13th year, when an epileptic attack obliged him to renounce, for a time, all mental exertion. After his recovery, he resumed his studies in philosophy and the mathematics in his 16th year. At 20, he formed an acquaintance with a celebrated surgeon, Siebold, who was astonished at such proficiency in a young mechanic, and endeavored to engage him in the study of medicine at Wurzburg. Erhard, however, in consequence of his republican principles, continued still to live as a mechanic. He had chosen his guides in morals when a boy of 14, and, in the main, was always faithful to them. He says in a manuscript essay, "One of these guides was a slave and the other an emperor,—Epictetus and Marcus Aurelius,—and by their advice, I determined to desire nothing but what fate forced upon me; while they both taught me to seek for happiness not in external circumstances, but in my own heart." After the death of his mother, in 1787, Erhard resolved to go to Wurzburg to study medicine.

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He remained there two years, and, in 1792, obtained a doctor's degree at Altorf. He had no inclination to the practice of physic, on account of the situation of affairs at that time. The French revolution filled him with fears for the fate of Germany. He was in doubt what part to act, hating the aristocratic party for what they intended to do, and the democratic party for what they had actually done; he determined, therefore, to visit North America. But, having lost all his property in 1793, by the treachery of an agent, he became much embarrassed, and, in 1797, accepted a place in Anspach under the minister Von Hardenberg. Two years after, he went to Berlin, where he received permission to practise physic, to which he afterwards entirely devoted himself. He died in 1827. Among his works, are his treatise on the medical science, and his *Theory of Laws*, which relate to the health of citizens, and the use of medical science in legislation, which was published at Tübingen, in 1800. His treatise *On the Right of the People to a Revolution* (Jena, 1795) expresses the views to which he was led by reflection on the great events of that period.

ERIC. Fourteen kings of this name have reigned in Sweden, the last of whom ascended the throne in 1560. He exhibited much energy of character, but drove his brothers to rebellion by his violence and severity. His tyranny, and a disgraceful marriage, alienated the minds of his subjects; and his brothers, John and Charles, formed a party against him, which deprived him of the crown, in 1568, with the consent of the states. He died (1577) in prison by poison. He was active and industrious. A patron of the arts, he esteemed and patronised artists and mechanics, received the Huguenots with open arms, abolished many superstitious usages in religion, and rendered commerce and navigation flourishing. His judicial institutions, too, are particularly worthy of praise. He created a high nobility in Sweden, by conferring the dignity of count and baron. (See Celsius's *History of Eric XIV*, in Swedish, Greifswalde, 1776.)

ERICTHONIUS, or ERECTHEUS, son of Dardanus and Batea, and grandson of Jupiter, was king of Troas. He was the richest man in his kingdom, having in his meadows 3000 mares with foals. Boreas fell in love with one of these mares, and transformed himself into a horse. The product of this union was 12 colts, which

bounded over the plains without injuring a spire of grass, and skimmed the waves of the sea. Ericthonius obtained the kingdom of Troy by the death of his brother Ilius without children. He married Astyoche, the daughter of Simos, by whom (or, according to some by Callirhoë, the daughter of Scamander) he became the father of Tros.—Another *Ericthonius*, king of Athens, was, as fable relates, the son of Vulcan and Atthis, daughter of Cranaus. Ericthonius was educated in the temple of Minerva, by the goddess herself. When he grew up, he drove Amphitryon from his throne, and reigned in his stead. He erected a statue to Minerva; or, according to some a temple in the citadel, and instituted, in her honor, the festival called *Panathenæon*. The fabulous history of this Ericthonius is differently related. He is said to have had dragon's feet; and, on account of his inability to walk, to have invented a four-wheeled covered wagon to conceal his feet in it. For this reason, Jupiter placed him among the stars, where he became a constellation, under the name of *Boötes* (q. v.)

ERIDANUS (probably the Po, in Italy); a river famous in mythology, mentioned in the return of the Argonauts. When Phaeton, who is also called *Eridanus*, was struck by the thunderbolts of Jupiter, he fell into this river—and his three sisters, the Heliades, lamented him till they were changed into poplars. They did not cease to weep for him even in this condition; and their tears, falling into the water of the river, became transparent amber. It is believed by many, that the amber found on the shores of the Baltic passed, by barter, through several savage tribes, until it reached the Adriatic sea, where Greek and Phœnician merchants came to buy it.

ERIE; a lake of North America, through which the boundary line runs which separates the United States from Canada; about 280 miles in length from S. W. to N. E., from 10 to 63 in breadth, and 658 in circumference; containing about 12,000 square miles. It is 120 feet deep, and its surface is 334 feet above that of lake Ontario, with which it is connected by the Welland canal, and 565 feet above the tide water at Albany, with which it is connected by the great Erie canal; lon. $78^{\circ} 35'$ to $83^{\circ} 10'$ W.; lat. $41^{\circ} 20'$ to $42^{\circ} 50'$ N. This lake is of dangerous navigation, on account of the great number of rocks which project, for many miles together, from the northern shore,

without any shelter from storms. A constant current sets down lake Erie, and, with the prevalence of north-western and south-western winds, renders the up-lake navigation tedious. There are several tolerably good harbors on the south shore, the principal of which are Buffalo and Dunkirk, New York; Erie, Pennsylvania; Sandusky, Ohio, besides the harbor at Put-in-bay island. It discharges its waters at the north-east end into the river Niagara. A battle was fought on this lake, September 10th, 1813, between the American fleet, under commodore Perry, and the English fleet, in which the latter was taken. The lake is now navigated by seven steam-boats. The rapid progress of civilization is also perceptible in the region beyond it. In 1812, the news of the declaration of war against G. Britain by the U. States did not reach the post of Michilimackinac under two months. It is now within ten days' distance from the Atlantic ocean. Its navigation will probably be much increased when the Ohio and Erie canal is finished. (See *Canals*, and *Internal Navigation*.)

ERIGENA (John Scotus). The birth-place of this eminent scholar and metaphysician has been disputed; notwithstanding the patronymic usually affixed to his name, signifying the *Irishman*, the weight of evidence seems to predominate in favor of Ayrshire, in Scotland. At an early age, he visited Greece, and especially Athens, where he devoted himself to the study of Oriental as well as classical literature, and became no mean proficient in logic and philosophy. Charles the Bald, king of France, invited him to his court, and encouraged him in the production of some metaphysical disquisitions, which gave great offence to the church, by the boldness with which he impugned the doctrines of transubstantiation and predestination. But his grand offence was the translating into Latin a pretended work of Dionysius the Areopagite, the supposed first Christian preacher in France. Many passages in this treatise, although popular among the clergy of the east, were extremely obnoxious to the Romish hierarchy; and a peremptory order from pope Nicholas to Charles, commanding the immediate transmission of the culprit to Rome, induced that monarch to connive at his escape into England, in preference to delivering him up to the vengeance of the papal see. Alfred the Great received Erigena gladly, and placed him at the head of the establishment lately founded by him in Oxford, then called

the *King's hall*, and now more generally known as *Brazen-nose college*. Here he continued to lecture on mathematics, logic and astronomy, about the year 879; but, after a residence of little more than three years, disputes arising, traditionally said to have proceeded from the severity of his discipline, he gave up his professorship, and retired to the abbey of Malmesbury, where he again superintended a number of pupils, whom the fame of his learning had drawn to him. The time of his decease, or murder,—for he is said to have been stabbed to death by his scholars, with the iron styles or bodkins then in use for writing,—is variously stated as having occurred in the years 874, 884, and 886; it is, however, more credibly asserted, that the jealousy of the monks, rather than the insubordination of his pupils, was the real cause of his death, inasmuch as his heterodoxy had given great offence to their fraternity. This statement of facts has, however, been, with considerable probability, disputed by other writers, who are of opinion that the English historians have confounded John Scotus Erigena with another, John Scot, abbot of Ethelingay, who taught at Oxford. In proof of the latter supposition, Mackenzie, in his first volume of Scottish writers, quotes a letter from Anastasius Bibliothecarius to Charles the Bald, written in 875, which speaks of Erigena as then dead. Doctor Henry, in his *History of England*, thinks it probable that he died in France. A treatise written by him with great acuteness and metaphysical subtilty, *De Divisione Naturæ*, was published at Oxford, in folio, by doctor Gale, in 1681. A work of his, against transubstantiation, entitled *De Corpore et Sanguine Domini*, is also extant, printed in 1558. He is said to have been as celebrated for his wit as for his learning.

ERINNYES. (See *Furies*.)

ERIPHYLE, daughter of Talaus, and wife of Amphiaraus (q. v.), whom she betrayed for a necklace presented to her by Polynices, so that he was compelled to go to the war of the seven princes against Thebes, where he knew he was to perish. Her son, Alcmaeon, slew her for her treachery; but Æsculapius restored her to life. The necklace was made by Vulcan, and had the power of rendering whoever wore it unlucky.

ERIS, the goddess of discord, daughter of Night, and sister of Nemesis and the Parcæ or Fates (q. v.), not being invited to the marriage of Peleus, she revenged herself by throwing a golden ap-

ple into the room where the gods and goddesses were assembled, with this inscription: *For the most beautiful*. Juno, Minerva and Venus contended for it; hence it was called the *apple of discord*. Jupiter appointed the son of Priam, Paris, then a shepherd on mount Ida, judge. He awarded the apple to Venus, and was rewarded by her with the beautiful Helen, on whose account the Trojan war was kindled.

ERISICTHON, or ERESICTHON, son of Triopas, king of Thessaly. He attempted to cut down a grove sacred to Ceres. Beginning with a large and beautiful oak, the abode of one of the dryads, under the shade of which the rest of the dryads commonly celebrated their dances in spite of all previous warnings, in spite of the blood of the nymph, which flowed from the first stroke, he would not relinquish his design till the oak fell, and its spiritual inhabitant was deprived of life. The rest of the dryads now fled to Ceres, and implored her vengeance on this act of impiety. The goddess despatched the demon of hunger, which overshadowed Erisicthon with its wings while he slept, and breathed into him its poisonous breath. From this moment, a continual craving for food raged within him. He soon consumed all his possessions, and, when food could no longer be procured for him by the art of his daughter, who had many times sold herself for a slave from love to him, and escaped from her purchasers by her power of assuming different forms, which she had received from Neptune, he devoured his own limbs, as far as he could reach them, and died in a dreadful state of despair.

ERLANGEN; a city in the kingdom of Bavaria, circle of the Rezat, on the Regnitz, containing 813 houses, with 11,580 inhabitants; lat. 49° 35' 36" N.; lon. 11° 14' E. The city is distinguished for its university, founded in 1743, by Frederic, margrave of Bayreuth. When Erlangen fell under the Prussian sceptre, the university began to flourish; but, this part of the country being taken from Prussia in 1806, the university remained in a languishing condition until the district was annexed to Bavaria. (See *Anspach*.) It then became important as the Protestant university of the country, and several distinguished scholars were appointed professors. The regular revenue of the university is from 60 to 70,000 rix dollars (from about 40 to 50,000 Spanish dollars); but the government often makes it addi-

tional grants. The library, since that of Altdorf has been added to it, contains 100,000 volumes.

ERMARK; a Turkish word, signifying river, and contained in many geographical names, as *Kizil-Ermak* (Red-river); *Jekil-Ermak* (Green-river).

ERMENONVILLE; a village in the department de l'Oise, about 8 leagues from Paris; the country seat of M. de Girardin, celebrated for its large and handsome park, in which the remains of Rousseau were entombed upon an island of poplars. French and foreigners, particularly the English, frequently go thither from Paris, during the summer, to visit the tomb of Rousseau. In former days, the fair Gabrielle d'Estrées resided at Ermenonville, in a hunting castle, of which a tower still standing, bears the name of that favorite of Henry IV. After her death, Ermenonville fell into the hands of that faithful friend of Henry, whom grief for the loss of his master carried off two days after the king's assassination by Ravallac. Ermenonville has been made still more remarkable in later times. J. J. Rousseau died there, after having lived there only six weeks. His bones were removed from the island of poplars to the Pantheon. The ornaments of art contribute to the embellishment of this beautiful spot, so highly favored by nature. The elder de Girardin, author of a work on horticulture, expended 3,000,000 francs on it in 30 years.

ERMINE (*mustela erminea*, Lin.). This beautiful little animal belongs to the tribe *digitigrada*, or quadrupeds characterized by moving on the extremities of their toes, and endowed with a greater degree of agility than that possessed by the *plantigrada*, or those walking on the whole sole of the foot. The ermine, according to the observations of the prince of Musignano, is the common weasel of the U. States in its winter hair. It is found in the northern parts of this continent, and those of Asia in great abundance; though it is not confined to these regions, since it occurs even in our Middle States, and also in the temperate parts of Europe. In the Middle and Eastern States, it is known as the *weasel*; further north, and in England, it is called *stoat* in its summer, and *ermine* in its winter hair. In France, in summer, it is termed *roselet*, and in winter *hermine*: in this state, it is the *mus Ponticus* of Pliny. The habits of the ermine are very similar to those of the common weasel of Europe, frequenting barns and out-houses, generally making its retreats beneath the

floor and rafters. It feeds on mice and rats, and soon clears its haunts of these pernicious depredators; but it does not always confine itself to this food. It is very destructive to poultry, birds and young rabbits; it is also a great devourer of eggs. In the neighborhood of Hudson's bay, ermine are very abundant, particularly in the barren grounds and open plains. When in pursuit of their prey, they carry their tails horizontally, and display great quickness and agility. During the winter, it is extremely difficult to distinguish them, from their color so closely resembling that of the snow. Like many other species of this genus, the ermine has the faculty of ejecting a fluid of a musky odor. In its summer dress, it is of a light, ferruginous or chestnut-brown color over the head, back, sides and upper half of the tail; the under part is nearly of a pure white; the lower portion of the tail becomes gradually darker, till, at the extremity, it is quite black. Its fur is short, soft and silky. In its winter coat, it is of a pure white over the whole head, body and limbs, the lower half of the tail alone retaining its dark hue. The fur, at this time, is much longer, thicker and finer than in summer. In Norway, it is taken in traps baited with flesh; in Siberia, it is either shot with blunt arrows, or taken in a trap made of two flat stones, propped by a stick, to which is fastened a baited string, which, on the least touch of the animal, releases the stone, which falls and crushes it. The fur of the ermine is in great request, and was formerly one of the insignia of magistrates. When used as linings of cloaks, the black tuft from the tail is sewed to the skin at irregular distances. This animal is not readily tamed: when caught, and kept in a cage, it exhibits every mark of its ferocious and savage character, by killing or injuring every thing within its reach.

ERNESTI, John Augustus, founder of a new theological and philosophical school in Germany, was born at Tennstädt, in Thuringia, 1707. He studied theology at Pforta, Wittenberg and Leipsic. Having been made associate instructor (1731) and rector (1734) of the Thomas-school in Leipsic, he devoted himself principally to ancient literature, and the studies connected with it. In 1742, he was appointed extraordinary professor of ancient literature in the university there, and, in 1756, ordinary professor of eloquence. In 1759, an ordinary professorship of theology was added to his other offices. He performed the duties of both professorships till 1770,

when he resigned the former. He became, in succession, first professor of the theological faculty, canon at Misnia, assessor of the consistory at Leipsic, and president of the Jablonowski academy of sciences at Leipsic. He died 1781. By a careful study of profane philology, he had fitted himself for a thorough study of theology, and was thus led to a more judicious exegesis of the biblical writers, and, in general, to more liberal theological views. Theological criticism, so far as it is founded on philology and grammatical illustrations, was greatly promoted by him. Of his accuracy as a critic and grammarian, his editions of Xenophon's *Memorabilia* of Socrates, the *Clouds* of Aristophanes, Homer's works, Callimachus, Polybius, Suetonius, Tacitus, and, above all, his admirable edition of Cicero's works (first, at Leipsic, 1738), are sufficient proofs. For the elegance of his Latin style, he well deserves to be called the *Cicero of Germany*. His *Opuscula Orat.* (Leyden, 1762), *Oration.* (Leipsic, 1791), *Initia Doctrin. Solidioris* (Leipsic, 1736), have been often published. His theological writings are no less numerous.—ERNESTI, Augustus William, nephew of the preceding, was born 1733, and died 1801. He was professor of philosophy and eloquence, and a distinguished philologist. We are indebted to him, among other works, for a good edition of Livy and Ammianus Marcellinus.

EROS; the Greek name of Cupid and Amor (which see; see also *Anteros*).

EROSTRATUS. (See *Eratostratus*.)

EROTIC (from the Greek *eros*, love); relating to love.—*Erotic Poetry*; amatory poetry.—The name of *erotic* writers has been applied, in Greek literature, particularly to a class of romance writers, and to the writer of the *Milesian Tales*. These writers belong to the later periods of Greek literature, and abound in sophistical subtleties and ornaments. The best of them are Achilles Tatius, Heliodorus, Longus, Xenophon of Ephesus, and Chariton. There is a collection of them—*Scriptores erotici Græci, Cura Mitscherlichii* (Bipont. 1792—1793, 3 vols.).

EROTOMANY (from *eros*, love, and *mania*, madness). This term has been employed, by some writers, to denote that modification of insanity, of which the passion of love is the origin, and in which the love of a particular individual constitutes the predominant idea, occupying the whole attention of the patient. Licentious thoughts and physical excitement do not exist in this disease. Those who are afflicted with erotomania fix their affections

on a certain object, often one which they have had but a single opportunity to see; sometimes also one which cannot return their love. The eye is lively and animated; the look, passionate; but the conduct of the subjects always within the limits of propriety. They forget themselves, and yield a pure, often a secret worship to their idol, whose wishes and caprices they implicitly obey. Sometimes erotomania begins under the form of melancholy, instead of raving; the patient is pensive and silent: it then terminates in a sort of nervous fever. The discovery of it is sometimes difficult: the passion betrays itself, however, at the sight, or even the name, of the loved object; the countenance grows animated; the pulse, quick, strong and spasmodic. Hippocrates, by these symptoms, discovered the love of Perdiccas to his father's mistress; and Erasistratus, the affection of Antiochus for his step-mother, Stratonice. Erotomania sometimes passes into perfect delirium, leads to suicide, hysterics, &c. It depends on the same causes as other mental diseases. Young people are peculiarly subject to it, who have an excitable nervous system and a lively imagination, who give themselves up to excess in pleasure, or are spoiled by reading romances, and rendered effeminate by an injudicious education and indolence. Low and light diet has been recommended in this disease, together with active exertion of body and mind.

ERPENIUS, Thomas (properly *Van Erpen*), a learned Orientalist, was born at Gorcum in Holland, in 1584, and studied at Leyden, where he at first despaired of success. His confidence, however, was soon revived, and he returned to his studies with so much zeal, that his progress justly astonished his instructors. His fame rests principally on his acquaintance with the Oriental languages, which he began to learn under Joseph Scaliger. To extend his knowledge of them, he visited England, France, Italy and Germany, and became acquainted with the most eminent scholars, who gave him advice and instruction. He was received with particular marks of friendship by the great Casaubon. He learned, at the same time, the Persian, Turkish and Ethiopian languages. After a tour of four years, he returned, in 1612, to Holland, and was appointed professor of Arabic and other Oriental languages, except the Hebrew, the Hebrew professorship being already filled. Erpenius discharged the duties of this office with ability and zeal. He established a press at great expense, for the

printing of works of Oriental literature. In 1619, a second Hebrew professorship was founded at Leyden, and committed to Erpenius. Soon after, he received the office of Oriental interpreter to the states-general. The most learned Arabs admired the elegance with which he expressed himself in their language, so rich in delicate peculiarities. His reputation, as a perfect master of the Arabic, became universal, and he was repeatedly invited by the king of Spain to explain inscriptions on the Moorish buildings and monuments. The works of Erpenius (some of which were published after his death) are held in the highest estimation. It was his intention to publish an edition of the Koran, with a Latin translation and a commentary, a *Thesaurus Grammaticus* of the Arabic, and an Arabic dictionary; but he was carried off by a contagious disease, in 1624, at the age of 40. Beside his *Grammatica Arabica*, his *Grammatica Hebraica*, and other grammatical works, his most valuable and celebrated publication is his *Elmacini Historia Saracenica* (1625, folio).

ERROR, in astronomy, is the difference between the places of any of the heavenly bodies, as determined by calculation and observation. Thus the error in the lunar tables is the difference between the place of the moon, as given in the tables, and as determined by observation; and this error is marked with the sign $+$ or $-$, according as it is to be added to or subtracted from the tabular result.

ERSCH, John Samuel; the father of modern German bibliography. He was born at Grossglogau, in Lower Silesia, June 23, 1766, and, while a mere tyro, showed uncommon love for bibliography. Being encouraged in this pursuit by Tabri and other learned men, he published the *Repertory of the German Journals*, and other *Periodical Collections of Information on the Subjects of Geography, History, and Sciences connected with them*, 1790—1792, 3 vols. Becoming known to Schütz and Hufeland, they engaged him in the editing of their *Universal Repertory of Literature*, 1785—1790. This work was published in 1793, and was followed in 1799 by the *Quinquennium*, extending from 1791 to 1795; and, in 1806, by another, extending from 1796 to 1800. These works contain notices of all the separate publications which appeared during that period, and even all the essays printed in the journals and other periodicals. They are executed with accuracy, on a good plan, and with a general account of reviews, whose character for partiality or

impartiality is illustrated by examples. At the same time, Ersch began to prepare a *Universal Dictionary of Modern Authors*, which he afterwards limited to European writers. This was the origin of his *Gelehrtes Frankreich* (Literary France,) Hamburg, 1797—1806, 3 vols., with two supplements. In the year 1803, he was made professor of geography and statistics in the university of Halle, where he published his *Manual of German Literature*, from the Middle of the 18th Century till the latest Times (Amsterdam and Leipsic, 1812, 2 vols. 8vo., 2d edition, Leipsic, 1822), and the *Universal Encyclopædia of Arts and Sciences* (Leipsic, 1818, 4to): 16 parts had appeared in 1827. By the former work, he first gave a systematic character to modern German bibliography; and its completeness, accuracy and arrangement make it a model for such a work. What knowledge, what attention and industry, are requisite to conduct a work like the *Encyclopædia*, as he has done it, needs no explanation. He died in January, 1828.

ERSKINE, Thomas, lord Erskine, an eminent lawyer, was the third and youngest son of David Henry Erskine, tenth earl of Buchan, in Scotland. He was born in the year 1750, and was educated partly at the high school of Edinburgh, and partly at the university of St. Andrews. The contracted means of his family rendering a profession necessary, he was embarked at Leith as a midshipman, and, from this time, did not revisit Scotland until a few years before his death. He never obtained a commission in the navy, which he quitted after a service of four years, and entered into the royals, or first regiment of foot, in 1768. In 1770, he married, and went, with his regiment, to Minorca, where he spent three years. He served in the army six years, and, during that time, acquired considerable reputation for the acuteness and versatility of his talents in conversation; and it is supposed that this circumstance, and the earnest persuasion of his mother,—a lady of uncommon acquirements and penetration,—induced him, at the age of 26, to embrace the legal profession. He entered as a fellow-commoner at Trinity college, Cambridge, in 1777, merely to obtain a degree, to which he was entitled as the son of a nobleman, and thereby to shorten his passage to the bar; and he, at the same time, entered himself a student of Lincoln's Inn. He also became a pupil in the office of Mr., afterwards judge Buller, then an eminent special pleader, and subsequently in that of Mr., afterwards baron

Wood. He was called to the bar in 1778, and his success was immediate. Accidentally introduced to captain Baillie, who had been removed, by the earl of Sandwich, from the superintendence of Greenwich hospital, he was employed by that gentleman to oppose a motion of the attorney-general, for leave to file an indictment against him for a libel on the earl. He showed so much eloquence and spirit on this occasion, that, on leaving the court, he received 30 retainers from attorneys who happened to be present. This occurrence took place in the Michaelmas following the Trinity term in which he had been admitted; and, in a few months afterwards, he was equally favored by being chosen to appear at the bar of the house of commons, as counsel for Mr. Carnan, the bookseller, against a bill introduced by lord North, then prime minister, to restore to the universities the monopoly in almanacs, which Mr. Carnan had succeeded in abolishing by legal judgment. His speech in opposition to this impolitic proposal was much admired, and, the bill being lost by a considerable majority, his reputation became so established, that he was henceforward engaged either for plaintiff or defendant in the most important causes during a practice of 25 years. In May, 1783, he received a silk gown, and, the same year, was elected member of parliament for Portsmouth. The latter honor he acquired from the reputation he obtained there when acting as counsel on the celebrated trial of admiral Keppel; and he was unanimously rechosen for the same borough on every succeeding election, until raised to the peerage. The rights of juries he firmly maintained on all occasions, but particularly in the celebrated trial of the dean of St. Asaph for libel, when justice Buller refused to receive the verdict of "guilty of publishing only," as returned by the jury. In 1789, he found another fortunate opportunity for the display of his peculiar eloquence, in a defence of Mr. Stockdale, the bookseller, for publishing what was charged as a libellous pamphlet in favor of Mr. Hastings, whose situation at the time (being then about to take his trial) gave him admirable scope for the animated appeal to feeling, by which his oratory was so felicitously distinguished. In 1792, being employed to defend Thomas Paine, when prosecuted for the second part of his *Rights of Man*, he declared that, waiving all personal convictions, he deemed it right, as an English advocate, to obey the call: by the maintenance of which principle, he

lost his office of attorney-general to the prince of Wales. The most arduous effort, however, in his professional life, arose out of the part cast upon him, in conjunction with Mr., afterwards sir Vicary Gibbs, in the trials of Hardy, Tooke, and others, for high treason, in 1794. These trials lasted for several weeks; and the ability displayed by Mr. Erskine on this eventful occasion was admired and acknowledged by all parties. He was a warm partisan of Mr. Fox, and a strenuous opposer of the war with France; on which subject he imbodyed his sentiments in a pamphlet, entitled *A View of the Causes and Consequences of the War with France*; when such was the attraction of his name, that it ran through the unprecedented number of 48 editions. In 1802, the prince of Wales not only restored him to his office of attorney-general, but made him keeper of his seals for the duchy of Cornwall. On the death of Mr. Pitt, in 1806, when lord Grenville received the commands of George III to form a new administration, Mr. Erskine was created a peer by the title of lord Erskine, of Restormel castle, in Cornwall, and raised to the dignity of lord high chancellor of Great Britain; but was soon removed by the dissolution of the brief administration of which he formed a part. Owing to a decay in fortune, originating in an unfortunate landed purchase, and a great fall of income from the loss of professional emoluments, the latter years of his life were, notwithstanding the extreme buoyancy of his spirits, exceedingly embittered. Nor were these difficulties abated by the circumstance of an unhappy second marriage, and some eccentricity of conduct, exceedingly incompatible with his age and station. In his leisure, he amused himself by editing several of the state trials. The preface to Mr. Fox's *Speeches* was also written by him, as well as a political romance, in two volumes, entitled *Armata*, and some pamphlets in support of the Greek cause. He died in 1823, of an inflammation of the chest. The talents of lord Erskine were peculiarly those of the accomplished advocate, in which character he exhibited a power of commanding, at the instant, all the resources of his mind, and a dexterity of applying them, which no one at the English bar ever exceeded. This faculty, united with great spirit and courage, rendered him peculiarly able on the defensive side of political persecution; and some leading, but disputed constitutional doctrines have been firmly established by his exertions. As a senator-

rial orator, his claims were but secondary; nor as a political writer is he entitled to much distinction. Many of Erskine's speeches at the bar have been published under the following titles: Speeches of the Hon. Thomas Erskine, now Lord Erskine, when at the Bar, on Subjects connected with the Liberty of the Press and against Constructive Treasons, in 4 vols. 2d edition, London, 1813; and Speeches of Lord Erskine, when at the Bar, on Miscellaneous Subjects, 1810, by Ridgway.—David Montague, the eldest of his sons, now Lord Erskine, was for some time minister plenipotentiary to the U. States, and afterwards resident at the court of Würtemberg.

ERUPTION, in medicine; a sudden and copious excretion of humors, and the same with *exanthema*, or breaking out; as the pustules of the plague, small-pox, measles, &c.

ERWIN OF STEINBACH; a celebrated architect in the 13th century. (See *Strasburg, Minster of*.)

ERYNGO (*eryngium*); a genus of plants, belonging to the natural order *umbellifera*. The species are herbaceous, and have something of the aspect of the thistle; the leaves are alternate, simple or divided, and are furnished with spines on their margins; the flowers are sessile, often of a bluish color, capitate, and surrounded by a common receptacle. The *E. campestre* was formerly much employed in Europe as a tonic, and as proper to excite appetite; but its virtues are feeble, and it has now gone out of use, except as a sweetmeat. Several species of *eryngium* inhabit the southern and south-western parts of the U. States, and one is found as far north as Philadelphia.

ERYSIPELAS (from *ερυσ*, I draw, and *πελας*, adjoining; named from the neighboring parts being affected by the eruption); the rose, or St. Anthony's fire. This disease is an inflammatory affection, principally of the skin, when it makes its appearance externally, and of the mucous membrane, when it is seated internally; and is more liable to attack women and children, and those of an irritable habit, than those of a plethoric and robust constitution. Erysipelas sometimes returns periodically, attacking the patient once or twice a year, or even once every month; and then, by its repeated attacks, it often gradually exhausts the strength, especially if the patient be old and of a bad habit. Every part of the body is equally liable to it; but it more frequently appears on the face, legs and feet, than any where else, when seated externally. It is brought on

by all the causes that are apt to excite inflammation, such as injuries of all kinds, the external application of stimulants, exposure to cold, and obstructed perspiration; and it may likewise be occasioned by a certain matter generated within the body, and thrown out on its surface. A particular state of the atmosphere seems sometimes to render it epidemical. A species of erysipelatous inflammation, which most usually attacks the trunk of the body, is that vulgarly known by the name of *shingles*, being a corruption of the French word *ceinture*, which implies a belt. Instead of appearing a uniform inflamed surface, it consists of a number of little pimples extending round the body a little above the *umbilicus*, which have vesicles formed on them in a short time. Little or no danger ever attends this species of erysipelas.

ERZERUM, or **ARZERUM**, or **ARZ-ROUM** (anciently *Arze*); a city and the capital of Turkish Armenia, or Turcomania, and also of a pachalic to which it gives name; 250 miles N. N. E. of Aleppo, 510 E. by S. of Constantinople; lon. 40° 57' E.; lat. 39° 58' N.; population, according to Hassel, Cannabich, Maite-Brun, &c., only 25,000. According to the Edinburgh Gazetteer, 100,000, or 130,000. Mr. Morier, who visited this city in 1808, gives the following estimate: Turkish families, 50,000; Armenian, 4 or 5000; Greek, 100; Persians living in a caravansary, about 1000. Mr. Morier mentions, that from the original estimate he deducted more than one third of the number of Turkish families; but the reduced statement, at the rate of five persons to a family, makes the Turkish population amount to 250,000. It is an Armenian archbishop's and Greek bishop's see. Erzerum is situated near the head of the Euphrates, on a rising ground, at the base of a chain of mountains, which are usually covered with snow. The climate is healthy, but the cold in winter intense. It is surrounded by a double stone wall, with four gates. It is well built; the houses generally of stone, with rafters of wood, and terraced, having grass growing on the tops, and sheep and calves feeding there; so that, when seen from a distance, the roofs of the houses can hardly be distinguished from the plain at their foundation. The streets are mostly paved, the bazars are spacious and well stocked, and the place exhibits an appearance of much industry. It contains about 100 mosques, 1 Greek and 2 Armenian churches, and 16 baths. It has considerable manufactures, and an extensive trade in copper, and articles from

Persia, and countries north-west of Hindostan. It is a very ancient town; the inhabitants date its foundation from the time of Noah. Population of the pachalic, according to Hassel, 300,000. Square miles, 21,400.

ERZGEBIRGE (German; meaning the *ore mountains*); a chain of mountains running between Saxony and Bohemia, till they meet the Riesengebirge, on the frontiers of Silesia. The highest summits, which are on the side of Saxony, rise to 3800 or 3900 feet above the level of the sea. The Erzgebirge consist chiefly of the gneiss granite formation, and in this the principal beds of ore are to be found. Masses of porphyry and basalt are found on and in this formation. Towards Saxony, beds of clay slate rest on the granite and gneiss; and above the clay slate are granite and syenite. Towards Bohemia, the primitive formation is covered for a considerable extent by brown coal mountains, and the remainder by clay slate. These mountains are rich in mines of silver, iron, copper, lead, cobalt, arsenic, &c. Erzgebirge is also the name of one of the five circles of the kingdom of Saxony, comprising 2456 square miles, with 450 to 500,000 inhabitants. The whole circle is one of the most industrious in Germany. Mining occupies more than 12,000 of the people. Freiberg, Annaberg, Schneeberg, &c., have become important by means of the neighboring silver and tin mines, the smelting works, the manufactories of arsenic and of a blue color from cobalt. The Erzgebirge is the chief manufacturing district in Saxony. Annaberg is the chief seat of the lace-making business. There are manufactories of calico, cloth, stockings, arms, needles, gold and silver lace, of flax and wool, and cotton. Chemnitz and Zwickau, towns in this circle, carry on an active business in the sale of the manufactured goods, which are exported to many parts of the world.

Es, or Eis (*is* or *ice*); a Greek preposition, signifying *to*. It has been added, in the Romaic language, to several geographical names, and has contributed to corrupt the ancient names; for instance, Setines, the modern name of Athens, is formed from *es Athinai*, to Athens; Stives, for *es Thivai*, to Thebes; Istamboul, or Stamboul (Constantinople), for *es tin polin*, literally translated, *to the city*.

ESCALADE, in war; a furious attack of a wall or a rampart, carried on with ladders, to pass the ditch or mount the rampart, without proceeding in form, breaking

ground, or carrying on regular works to secure the men.

ESCAPE, in law, is where a person arrested gains his liberty before he is delivered by law. Escapes are either in civil or criminal cases; and may be distinguished into voluntary and negligent; voluntary, where it is with the consent of the keeper; negligent, where it is for want of due care. In civil cases, after the prisoner has been suffered voluntarily to escape, the sheriff can never after retake him, and must answer for the debt; but the plaintiff may retake him at any time. In the case of a negligent escape, the sheriff, upon fresh pursuit, may retake the prisoner, and the sheriff shall be excused if he has him again before any action is brought against himself for the escape. In criminal cases, an escape of a person arrested is an offence against public justice, and the party is punishable by fine and imprisonment.

ESCHEAT, in law, denotes an obstruction of the course of descent, and a consequent determination of the tenure by some unforeseen contingency; in which case, the land naturally results back to the original grantor, or lord of the fee.

ESCHENBACH, Wolfram von, who flourished in the first half of the 13th century; one of the most voluminous and also of the most distinguished German poets of the Suabian period. Of a lively imagination and penetrating spirit, rich and original in his descriptions, and a complete master of language and versification, he elevated himself to a high rank among epic poets. Nothing is known of his private circumstances, except that he belonged to a noble family, probably in the Upper Palatinate. He was knighted at Henneberg, and passed his life in the performance of the duties of chivalry, being supported by his poetical genius and the liberality of princes. He distinguished himself among the minnesingers (q. v.) of the Wartburg. Towards the end of his life, he returned to the castle of his fathers, and was buried in the church of Our Lady of Eschenbach. (See an account of him in the Museum of ancient German Literature and Art, published by Hagen, Docen and Büsching, vol. 1st.) His poems are partly original, and partly imitated from the French and Provençal literature. The most esteemed of his numerous works are, *The Parcival* (printed 1477, 4to., found also in Müller's Collection), the *Titurell*, or the *Guardian of the Graale* (printed in 1477, 4to.), the *Margrave of Narbonne*, *Lohengrin* (edited by Görres, Heidelberg, 1813), *William*

of Orange, and Godfrey of Boulogne. Some of his poems are in the Collection of Manessi.

ESCHENBURG, John Joachim, professor in the Carolinum at Brunswick, was born at Hamburg, in 1743, and died at Brunswick, in 1820. He received his early education at Hamburg, then studied at Leipsic, under Ernesti, Gallert, Morus and Clodius, and at Göttingen, under Heyne and Michaelis. He afterwards went to Brunswick as a tutor; and, on the death of the poet Zacharias, he was appointed to the professorship in the Carolinum there—an office which he filled till his death. Germany is indebted to him for an acquaintance with many good English writers on æsthetics; for example, Brown, Webb, Burney, Fuseli (properly, *Fucssly*) and Hurd. Eschenburg translated their works, with valuable additions to some of them. He also published, in different periodicals, accounts of English literature, and thus contributed to make the literary treasures of England, an object of great admiration among the Germans. His most valuable work was a translation of Shakspeare (Zurich, 1755—87, 14 vols., also 1798—1806, 12 vols.). Wieland had engaged in this undertaking before Eschenburg; but the translation of the latter is the most complete which has yet been made, and is still esteemed, though inferior to Schlegel's in elegance, harmony and verbal accuracy. He extended his reputation by the publication of his lectures, delivered in the Carolinum, by his *Theorie und Literatur der schönen Wissenschaften, nebst einer Beispielsammlung dazu*, and by his *Handbuch der classischen Literatur*.

ESCHINES. (See *Æschines*.)

ESCHYLUS. (See *Æschylus*.)

ESCLEPIADES. (See *Æsclepiades*.)

ESCLEPIADIC. (See *Æsclepiadic*.)

ESCOQUIZ, don Juan, the confidential friend of Ferdinand VII, born in 1762, of an ancient family of Navarre, was, in his youth, page to Charles III. From an inclination for serious studies, he chose a religious in preference to a military life, and received a canonicate in the cathedral at Saragossa. His amiable qualities acquired for him many friends and patrons at court, and he was appointed instructor to the prince of Asturias. He soon succeeded in winning the favor of the prince. The courage and frankness with which he expressed himself to the king and queen in 1797, 1798, on the subject of the calamities which pressed so heavily on

Spain, drew upon him the enmity of the prince of peace (Godoy), who procured his banishment to Toledo. Escoiquiz sought, even in his exile, by memorials, which he sent to the king, to undeceive the royal family as to the favorite, but ineffectually. The prince of peace gained a continually increasing influence with the king, so that the prince of Asturias, in March, 1807, wrote to Escoiquiz, "that he was in fear for his crown," and "looked to him for advice and assistance." Escoiquiz immediately hastened to Madrid, where the revolting affair of the Escorial was agitated. He defended the prince of Asturias with so much ability as to effect a decided change in public opinion. When Ferdinand ascended the throne, in 1808, Escoiquiz was made counsellor of state. He advised the journey to Bayonne, and accompanied Ferdinand thither. He was present at the interview with Napoleon, who knew his influence, and labored to gain him. Escoiquiz constantly exhorted the king of Spain not to abdicate the throne, whatever consequences might ensue. The abdication, however, took place, and Escoiquiz accompanied Ferdinand to Valençay, but was soon after separated from him, and removed to Bourges, where he lived in retirement four and a half years. He returned to Valençay, December, 1813, when the course of events had rendered Napoleon inclined to a reconciliation with Ferdinand VII and the Infant, and took part in all the proceedings which seated the Bourbons on the throne of Spain, immediately before the final fall of Napoleon. In 1814, he left the court, and retired to Saragossa. He fell into disgrace, because he had advised the king to accept, at least in part, the constitution of the cortes. He behaved with firmness when arrested by order of the king. Some time after, he was recalled, but was disgraced a second time. Escoiquiz also acquired some reputation as an author, and translated into Spanish Young's Night Thoughts, Milton's Paradise Lost, and other works. His explanation of the motives which induced Ferdinand to go to Bayonne, is an important document for the history of the time. He died in exile, at Ronda, in Andalusia, in 1820. His life is a fair commentary on Ferdinand's character.

ESCORT; a guard; a body of armed men which attends an officer or baggage, provisions or munitions conveyed by land from place to place, to protect them. This word is sometimes used for naval

protectors ; but the proper word in this case is *convoy*. (q. v.)

ESCUPIUS. (See *Æsculapius*.)

ESCURIAL (*el Escorial*), a celebrated building, is situated midway up the ascent of the chain of mountains which bounds Old Castile, 22 miles from Madrid. The choice of this rugged situation by Philip II indicates the stern and melancholy character which history ascribes to that prince. It was erected in consequence of a vow made by Philip, on the day of the battle of St. Quentin, at which, however, he was not present. He dedicated it to St. Lawrence, whose festival was on that day. Every thing in the Escorial reminds us of the instrument of the martyrdom of this saint—a gridiron. It is seen upon the doors, windows, altars and sacerdotal habits; the edifice itself is in that form. It is a quadrangular building, with the principal front to the west, behind which is a mountain; the opposite side, which faces Madrid, has the form of the shortened handle of a gridiron; and the four legs are represented by the four little square towers which rise above the four angles. The exterior of the Escorial is not magnificent in the architecture. It has rather the austere simplicity of a convent than the elegance of a palace. In front of the door of the church is a fine peristyle; over the front of which are six colossal statues of the kings of Israel, which appear as if just balanced on their slender pedestals. The two in the middle are David and Solomon. The sculptor has endeavored to give to these two statues the features of Charles V and Philip II. The number of windows, doors and courts has been exaggerated to a ridiculous degree, in the descriptions of the abbé de Vayrac and señor Colmenar. They state that there are 11,000 doors. In the whole, there is something striking, but it does not correspond to the idea formed of it from the accounts given by those writers. The edifice is built of hewn stone, of a species of granite; its color has become brown with time, and adds to the austerity of the building. It is a quadrangle, 740 feet in length, by 580 in breadth. The Escorial is said to have cost 50,000,000 dollars. The most remarkable pictures are the Virgin Mary, by Guido; the Woman taken in Adultery, and St. Jerome writing, by Vandyke; the Martyrdom of St. Ursula, and the Fall of the Angels, by Pellegrino Tibaldi, in the church, where are also some good paintings by Navarrete and by Lucas Cambiano. In the two vestries

are several pictures of Paul Veronese, Rubens, Spagnoletto, and Titian; an Assumption, by Annibal Carracci, and the Lord's Supper, by Tintoretto. The altar piece in the vestry, by the Portuguese Claudio Coelho, is one of the most striking; it is Charles II, accompanied by the nobility, on his knees before the holy sacrament. The pictures of St. Sebastian, of natural size, and the Savior disputing with a doctor of the law, are some of the best among those of Titian. Three by Raphael—one, called *the pearl*, on account of its superior excellence, is a Holy Family; another, the Visitation, in which the modesty of the virgin, and her embarrassment on appearing before Elizabeth, with the unexpected signs of her pregnancy, cannot be too much admired. The Pantheon is a subterranean apartment, situated immediately beneath the grand altar of the chapel. A long, arched stairway, lined on all sides with polished marble, and descending far below the surface of the earth, conducts to this apartment. The whole interior is lined with dark marble, beautifully veined, and of great lustre. This is the burying place of the Spanish royal family. The bodies of the princes who have not reigned are deposited in one chamber, those of the kings and queens in another. The remains of the duke of Vendome rest in the Pantheon, as those of marshal Turenne do in the church of St. Denis. A superb lustre, pendent from the cupola, is lighted up on extraordinary occasions. The coffins which contain the bodies of the kings and queens are placed on each side of an altar, in three rows, and in different compartments. The cases are of bronze and porphyry, and simple yet noble in their form. The two great cloisters are painted in fresco; the paintings are by Tibaldi, and the figures are of colossal size. Guercino, Velasquez, and other celebrated painters, have ornamented several galleries and cloisters. Here is the famous picture of Raphael, called the *Madonna del Pez*. This picture represents the young Tobit, conducted by the angel Raphael, offering, with a timid air, the tribute of his fish. The group is composed, beside the angel and Tobit, of Christ, the virgin Mary, and St. Jerome, in a cardinal's habit, reading the Bible to them. The library, founded by Philip II, and much augmented by his son, is remarkable for the large number of Greek and Arabic manuscripts, and for the paintings. There are several pleasure-houses at a short distance from the con-

vent, belonging to the Infantes. The monks are very liberal, and allow any person, of decent dress and demeanor, free access to the library and all its books. The royal family used to pass six weeks here every year, before king Ferdinand's reign; it is now scarcely ever visited by his majesty or his brothers. The number of monks is now (1830) 140 or 150.

ESCUTCHEON, in heraldry, is derived from the French *écusson*, and that from the Latin *scutum*. It signifies the shield whereon coats of arms are represented.

ESKI; a Turkish word, signifying *old*, contained in several geographical names; as, *Eski cheher*, old city.

ESKIMAUX. (See *Esquimaux*.)

ESMENARD, Joseph Alphonse; a poet, born in 1769, at Pélissane, in Provence. After having finished his education at Marseilles, he made a voyage to St. Domingo, and, on his return, formed an acquaintance with Marmontel, which developed his literary tastes. At the beginning of the revolution, he belonged to the club of Feuillans, and on its downfall was obliged to leave the country. He travelled five years in England, Germany and Italy, and, on his return from Constantinople, settled in Venice, where he formed the design of his poem *La Navigation*. He returned to France, was again banished for his political writings, returned after the revolution of the 18th Brumaire, and labored with La Harpe and Fontanes on the *Mercur de la France*. He accompanied Le Clerc to St. Domingo, and, after his return, received a place in the ministry of the interior. His *Naviga-tion* appeared in the year 1805. He is blamed for many defects, but his talent for describing scenes on the ocean is universally admired. In 1808, he brought upon the stage an opera, entitled *Trajan*, and was banished once more by Napoleon, after having been assailed by numerous enemies, and made a member of the institute. After three months, he returned from exile, and died in 1811.

ESMERALDAS; a province of Colombia, on the coast of the Pacific ocean, abounding in wax, copal, balsams, manilla, indigo, tobacco and excellent cacao. Its mountains are covered with rare and valuable woods, and contain gold mines. Fine emeralds are also found in this province.—*Esmeraldas* is likewise the name of a river and a seaport of this province.

ESNEH, ESNE, or ASNA (called, by the Egyptians, *Sné*, or *Sna*); a city of Upper Egypt, in the Thebaid, on the left bank of the Nile, about 27 miles S. of the ruins

of Thebes, and 350 S. S. E. of Cairo; lat. 25° 17' 38" N.; lon. 32° 34' 56" E. Esneh stands on the site of the ancient Latopolis. Among the ruins there is a beautiful portico of 24 columns, which is one of the most perfect remains of Egyptian architecture. The ceiling contains a zodiac, which has been supposed to be 2000 years older than that of Denderah; but Champollion, in one of his letters, dated 1829, is decidedly of the opinion that the *great temple of Esne*, as it is called, instead of being one of the most ancient buildings of Egypt, is one of the most modern. He draws this conclusion from the rudeness and stiffness of the bass-reliefs and hieroglyphics, as well as from the inscriptions. The latter contain merely the names of different Roman emperors. "The real age of the *pronaos* of Esneh," says M. Champollion, "is, therefore, not of a more remote period than the reign of the emperor Claudius; and the sculptures, among which is the famous zodiac, are as late as the time of Caracalla." The marquis Spineto, in his Lectures on the Elements of Hieroglyphics, is of the same opinion. Esneh is of considerable importance in a commercial point of view. The great caravan coming from Sennaar stops at this place, and a camel market, famous throughout all Egypt, is held here. Among the population of Esneh are 300 Coptic families. Not far from it are the ruins of another temple, with a zodiac, not so well preserved, however, as that in the ceiling. Feb. 25, 1799, the French were attacked here by the Mamelukes.

ESOP. (See *Æsop*.)

ESOPUS. (See *Æsopus*.)

ESOTERIC (*Greek*; secret, revealed only to the initiated). In the mysteries or secret societies of the ancients, the doctrines were distinguished into the *esoteric* and *exoteric*, the former for the initiated, who were permitted to enter into the sanctuary itself (the *Esoterics*), and the latter for the uninitiated (the *Exoterics*), who remained in the outer court. The same distinction is also made, in philosophy, between those doctrines which belong peculiarly to the initiated, and those which are adapted to the limited capacities of the unlearned.

ESPAGNOLETTO. (See *Spagnoletto*.)

ESPALIERS; rows of trees planted about a garden, and trained up regularly to a lattice of wood-work, in a close hedge, for the defence of tender plants.

ESPINASSE, Julie Jeanne Eléonore. This amiable lady, who united the most brilliant talents to a heart susceptible of

the warmest love, was born at Lyons, 1732. She was an illegitimate child, but passed for the daughter of a citizen, whose name she bore. She was selected as a companion by the marchioness du Defand, whose offers she gladly accepted, being in a state of extreme indigence. At first, the two ladies lived together in the greatest harmony; but the superior attractions of Julie, which captivated even d'Alembert, a most devoted admirer of du Defand, soon made the marchioness regard her as a dangerous rival, and their connexion was broken off. Mlle. l'Esplanasse, however, had already made many friends, and the king, by the recommendation of the duke de Choiseul, granted her a pension. From this time, she shone in the great world, surrounded by a brilliant circle of admirers. D'Alembert endeavored in vain to obtain her affections; he only succeeded in obtaining her esteem. The marquis of Mora, a young Spanish nobleman, loved her, and was loved in return; but was soon superseded in her affections by colonel Guibert, celebrated for his connexion with Frederic II. Her letters show the strength of her sensibility and the caprices of her love, which was blindly lavished without regard to reciprocation. She died in 1776.

ESPIRITU-SANTO, or SPIRITU-SANTO (the Spanish for *Holy Ghost*); a name often occurring in geography. For instance, it belongs to a place on the island of Cuba; to a bay of Florida; to an island in the gulf of California; to a bay of Mexico, &c.

ESPLANADE, in fortification; the sloping of the parapet of the covered way towards the open country; the same with *glacis*.

ESPRÉMÉNIL, James Duval d', a native of Pondicherry, counsellor of the parliament of Paris, and deputy from the nobility to the states-general in 1789, was distinguished for talent and virtue. D'Espréménil had entertained the project of restoring to France the states-general; and, at the session of the parliament, Nov. 19, 1787, he spoke with energy in favor of that scheme, and in opposition to the measures of the ministry. He renewed his animadversions, May 3, 1788, in consequence of which he was seized and banished to the isle of St. Margaret. Being recalled to Paris in 1789, he was nominated a deputy to the states-general, when he defended the monarchy against innovators with as much warmth as he had before opposed the despotism of the ministry. He made a speech

against the union of the different orders, and, when he saw the minority of the nobles about to leave the chamber of session, he exclaimed, "We are on the field of battle: the cowards desert us: but let us close our ranks, and we are still strong enough." In opposing the establishment of paper money, in September, 1790, he made the singular proposition to reestablish the monarchy in the full plenitude of its power. He afterwards endeavored in vain to curb the revolutionary fury, to which he was destined to fall a victim. On the 27th of July, 1792, he was assailed by a band of armed men, by whom he was badly wounded, and narrowly escaped being killed. His friends then entreated him to leave France; but he refused, saying he ought to await the consequences of a revolution of which he had been one of the prime movers. He was at length condemned by the revolutionary tribunal, and perished on the scaffold in 1793. D'Espréménil was 48 years of age at the time of his execution.

ESPRIT, in French, signifies *spirit*. In English, the phrase *esprit de corps* is not unfrequently used in the sense of attachment to the class or body of which one is a member.

ESQUIMAUX; an Indian nation of North America, occupying nearly all of the northern part of the continent, from Prince William's sound along the coasts of the Icy sea and of Hudson's bay to the borders of the Atlantic on the Labrador coast. Those to the N. W. of Hudson's bay are of a larger size than those of Labrador, but they are all dwarfish. Their origin is uncertain; but they are evidently different from the aborigines generally diffused over the country, in language, character, habits of living, complexion and stature. Their features are harsh and disagreeable, their cheek bones prominent, their noses small and flat, their eyes small and black, and their lips thick. They are clothed in the skins of marine animals, which constitute their principal subsistence. Besides taking seals and whales, they hunt the reindeer, the bear, wolves, and other wild beasts. Their domestic animals are a large kind of dogs, which they use for draught and the chase, and which they prefer to the reindeer. Their arms are bows and arrows, spears and knives. Their canoes are composed of a frame of wood or whalebone, covered with seal skins. The smaller kind, capable of containing only one person, are called *kayaks*. They sometimes use a larger kind, called *oomiak*, for transport-

ing luggage and removing their families, which afford accommodations for twenty persons. There is no authentic account of their numbers. They are represented as being without any kind of government, and nothing is known of their religious notions. They wrap up the dead in skins, and deposit the body, with the arms of the deceased, in the hollow of a rock. In 1764, the Moravian Brethren from Greenland established a mission in Labrador. They have induced the Esquimaux within their influence to abolish the custom of putting to death widows and orphans, and that of abandoning the aged who were incapable of procuring their own subsistence. The missionaries are of opinion that the Esquimaux originated from Greenland, on account of the great similarity of their manners and customs, and of their language, to those of the Greenlanders.

ESQUIRE; anciently, the person that attended a knight in the time of war, and carried his shield. Those to whom the title of *esquire* is now due in England, are, all noblemen's younger sons, and the eldest sons of such younger sons; the eldest sons of knights, and their eldest sons; the officers of the king's courts, and of his household; counsellors at law, justices of the peace, &c., though the latter are only esquires in reputation: besides, a justice of the peace holds this title no longer than he is in commission, in case he is not otherwise qualified to bear it; but a sheriff of a county, who is a superior officer, retains the title of *esquire* during life, in consequence of the trust once reposed in him. The heads of some ancient families are esquires by right of prescription.

Ess, Charles van, born in 1770, at Warburg, in the bishopric of Paderborn, entered the Benedictine abbey of Huysburg, near Halberstadt, in 1788, where he subsequently became prior; but, on the suppression of the abbey, in 1804, he became a parish preacher at this place. In 1811, the bishop of Paderborn appointed him episcopal commissioner, with the full powers of vicar-general in the departments of the Elbe and Saal. In this situation, he evinced a great predilection for the Roman see. It is said that he took but little part in the translation of the New Testament which was published under his and his brother's name, and he subsequently disclaimed any coöperation in it. In 1810, he wrote a *History of the Abbey of Huysburg*, and, at the time of the Protestant jubilee, in 1817, a *Short*

History of Religion, which was publicly burnt by the scholars in Halberstadt, at the celebration of the festival of the reformation, and which was answered by some scholars in the vicinity. He died Oct. 22, 1824.—His brother, Leander van Ess, Benedictine of the abbey of Marienmünster, in the territory of Paderborn, and, at a later period, a parish priest at Schwahlenberg, in the principality of Lippe, and, since 1813, professor extraordinary of theology, and preacher at Marburg, also one of the directors of the seminary for teachers at that city, has distinguished himself by his translation of the New Testament, published at Sulzbach, by Seidel. The pope, it is true, has lately prohibited this translation; but, in 1820, a new edition appeared, under the name of Leander only. This translation has had a great influence upon the German Catholics.

ESSAYING. (See *Assaying*.)

ESSENES, or **ESSÆANS**; a sect among the Jews, the origin of which is unknown, as well as the etymology of their name. They are first mentioned in the book of Maccabees, about B. C. 150. They lived in solitude, and had all their possessions in common. Certain examinations preceded the admission of candidates to their society. Philo says, that they sacrificed no living creature, and that they shunned cities. Josephus says, that they sent presents to the temple, but offered no sacrifices there. They had purer ideas of God than the Jews commonly entertained, a strict code of morals, and a Pythagorean manner of life. Instead of performing external rites, they devoted themselves to prayer and silent devotion, scrupulously observed the Sabbath, were extremely abstinent, and healed diseases of every kind by roots and herbs. They rejected the subtleties of the Pharisees and the epicureanism of the Sadducees. History nowhere supports the supposition that Jesus and John were members of this body. (See Bellermann's *Ancient Accounts of the Essenes and Therapeutæ*, Berlin, 1821.) The principal ancient writers who give an account of this sect are Josephus, Philo and Pliny.

ESSENTIAL OILS. This name is applied to those volatile fluids usually obtained from aromatic plants, by subjecting them to distillation with water. The oil is volatilized with the aqueous vapor, and is easily condensed; a small portion of it is retained in solution by the water; but the greater part separates, and is obtained pure from the difference in their specific gravity. In some instances, as, for exam-

ple, in the rind of the orange and lemon, the oil exists in distinct vesicles, and may be obtained by expression. The principal volatile or essential oils are those of turpentine, aniseed, nutmeg, lavender, cloves, caraway, peppermint, spearmint, sassafras, camomile and citron. The taste of these oils is acrid and burning; and their odor very pungent, generally resembling the taste and smell of the vegetables affording them. They are generally fluid, and remain so even at a low temperature; but some congeal at a very moderate degree of cold, and others are naturally concrete. They are extremely volatile, and boil at a temperature considerably above that of boiling water; thus oil of turpentine boils at 315°. They are very soluble in strong alcohol, but, on adding water largely, are precipitated. They are soluble in ether in like manner, but do not form soaps with the alkalies, by which they are distinguished from the fixed oils. They are readily inflamed by strong nitric acid; especially with the precaution of adding a little sulphuric acid to render the former more concentrated. Exposed to the action of the air, they undergo an alteration in consequence of the absorption of oxygen, become thickened, and gradually change into a solid matter, resembling the true resins. When digested with sulphur, they unite with it, forming what have been called *balsams of sulphur*. One of the most useful and abundant of the essential oils is that of turpentine, commonly called *spirit of turpentine*. It is obtained by distilling turpentine and water, in due proportions, from a copper alembic. It is perfectly limpid and colorless, has a strong smell, a bitterish taste, boils at 316°, and is extremely inflammable. It is the solvent employed in making a variety of varnishes; but for purposes of nicety, it requires to be rectified by a second distillation. In general, the volatile oils are used in the practice of medicine, or as perfumes. Those applied to the latter use, as the essence of rose, of jasmine, violet, &c., are possessed of a more feeble odor, and, being obtained from the flowers of their respective plants, require much care in their preparation. This is done by spreading upon white wool, impregnated with olive oil, the petals of the flowers, and leaving them for some time, covered over with a woollen cloth, upon which flowers are also scattered. The flowers are renewed from time to time, until the olive oil employed appears to be saturated with the oil of the flowers, when this last is separated by digesting the wool in alcohol.

ESSEQUIBO; a river of English Guiana, which flows into the Atlantic; lon. 58° 30' W.; lat. 7° N. It is 20 miles wide at its mouth, but difficult of navigation, on account of the sand banks, which run in different directions across its entrance. It contains a number of islands. The influence of the tide is felt about 100 miles up the river.

ESSEQUIBO; a settlement of English Guiana, on the borders of the above river, originally belonging to the Dutch, but, after having several times changed possessors, was finally ceded to Great Britain in 1814. The settlement is flourishing, the country well cultivated, and extremely fertile, in coffee, cotton, cocoa and sugar.

ESSEX, earl of, (See *Devereux*.)

ESSEX; a post-town in Essex county, New York, on the western shore of lake Champlain; 14 miles south-west of Burlington, 16 from Elizabethtown. There is a flourishing village on the lake in this township, which has considerable trade. The celebrated *split rock* is in this township, 5 miles south of the village. It projects 50 yards into lake Champlain; the point, consisting of about half an acre, and covered with trees, is separated from the main rock about 20 feet. The height of the rock, on each side of the opening, is about 20 feet. It appears to have been separated by some great convulsion, and is esteemed a great curiosity.

ESSLINGEN. (See *Aspern*.)

ESTACHAR, or **ESTAKAR**, or **ISTACHAR**; a town in Persia, in Chusistan; 30 miles N. N. E. of Schiras, 160 S. S. E. of Ispahan; lon. 53° 40' E.; lat. 30° 5' N. Near it are the ruins of ancient Persepolis. These ruins are on a plain, 6 miles in breadth, and 105 in length, from north-west to south-east. It is usually called *Murdasjo*, and the inhabitants pretend that it included 880 villages. The soil is chiefly converted into arable land, and watered by a great number of rivulets. According to Le Bruyn, no traces of the city now remain; the magnificent ruins which he saw in the year 1704, and of which he has given a description, with many plates, are those of the royal palace of the ancient kings of Persia, which the Persians call *Chilminar*, or *Chalmenaer*, which signifies *forty columns*. Among other ruins are those of a tomb, supposed to be the tomb of Darius.

ESTAFET; a particular kind of courier, who goes only a certain distance, when he is relieved, like a mail-carrier. He rides on horseback, and is furnished by the post-office. Estafettes travel faster

than the mails, and may be had at any time on the European continent. They are often employed by merchants to convey information of fluctuations in the stocks, the early knowledge of which is often of the highest importance. Estafettes are bound to perform the different stages in a certain time, and not to carry any other letters than those of their employer, without his permission. In Italian, the word is *staffetta*, in German, *staffette*, in French, *estafette*, in Spanish, *estafeta*, the Italian being the original. It is probably derived from *staffa*, a stirrup, *staffetta* signifying a small stirrup, perhaps formerly used in preference by estafettes.

ESTAFFETTE D'ALGER, L. At the time of the French expedition to Algiers, in 1830, a semi-weekly paper of this name was published in Africa; it was a political, military, commercial and maritime journal, containing the bulletins, &c., of the armies, describing the engagements with lithographic plans, giving sketches of the African commerce, and of the resources and customs of the country, military anecdotes, &c. Such a paper is unique. We cannot help wishing that Scipio had published a *Cursor Africanus*, or Alexander an *Ἀγγελὸς Ἀσιαρδὸς*. But we should then, probably, complain as much of the mass of information as we now do of its defectiveness. The *Estafette* is regularly sent to France by steam-boats.

ESTAING, Charles Henry, count d', admiral and lieutenant-general of the armies of France before the revolution, was a native of Ravel, in Auvergne, and was descended from an ancient family in that province. Count d'Estaing commenced his career by serving in the East Indies under Lally, when he was taken prisoner by the English, and sent home on his parole. Having engaged in hostilities again before he had been regularly exchanged, he was taken a second time, and imprisoned at Portsmouth. During the American war, he was employed as vice-admiral. At the capture of the island of Grenada he distinguished himself; but on every occasion he showed more courage than conduct or professional skill. He promoted the revolution; and, in 1789, he was appointed a commandant of the national guards at Versailles. In 1791, he addressed to the national assembly a letter full of protestations of attachment to the constitution, on the occasion of the approaching trial of the king. He suffered under the guillotine, 1793, as a counter-revolutionist, at the age of 65.

ESTAMINET (*French*); a public place where smoking is permitted, which, in France, is not allowed generally in coffee-houses, &c. In the Netherlands, public houses in general are called *estaminets*, because smoking is permitted in all. *Estaminets*, with their floods of beer and clouds of smoke, furnish an important part of a Dutchman's happiness. In London, also, the same name has been given to coffee-houses where smoking is permitted.

ESTATE, in law, signifies the title or interest which a person has in lands, tenements, hereditaments, or other effects, the word being derived from the Latin *status*, which means the condition or circumstance in which a person stands in regard to his property. Estate is real or personal. The phrase *personal estate* is applicable not only to movables, goods, money, bonds, notes, but also to some fixtures temporarily attached to lands or buildings; and the distinction between those fixtures which are temporarily such, and those which belong to, and form a part of the house, or other real estate, is of importance, as this distinction will determine how it is to be attached on mesne process, or seized and sold, or set off on an execution, and also how it descends on the decease of the proprietor. But personal estate also applies to some interests in lands or houses; thus a lease of them for a certain number of years, though it be more than a hundred, and so longer than any person is likely to live, is personal estate; and yet an estate for the life of the owner, or of any other person, in these subjects, though the person, by whose life the interest is limited, may be ever so old or infirm, and likely to survive ever so short a time, is real estate, and is subject to the law regulating such estate, in regard to sales and descents. Real estate in lands is of various kinds and descriptions, according to the quantity of interest, its duration, or the time by which it is limited in respect to its commencement or termination, and the number and condition of the owners. A *fee simple* is the amplest estate which the law admits of. (See *Fee*.) A *freehold* is an estate for the life of any person or persons, or any greater estate. An estate in tail is one limited to certain heirs. (See *Entail*.) Only real estate and a freehold greater than for the life of one person, can be entailed; but such an estate is of various kinds, such as *tail-male*, where it descends, in successive order, to the male heirs of the grantee in direct descent; *tail-female*, where it is thus limited to the female de-

scendants: if it goes in successive order to his descendants without any distinction, it is called an estate in *tail-general*; if it is limited to certain descendants, as the children of a certain wife, it is an estate in *tail-special*. An estate in *remainder* is one of which the owner is to come into possession after the expiration of an intermediate estate of another person, or number of persons or heirs; and so also is an estate in reversion: thus, if one grants an estate tail, this estate tail may expire, in which case the lands will come back or revert to the grantor, and his estate, which still remains to him after he has granted the estate tail, is therefore called a *reversion*. As to the number of owners, an estate in *common* is a freehold belonging to more than one proprietor, in undivided shares; and so also is an estate in *joint-tenancy*; but there is this distinction between these two kinds of estates, that when one joint-tenant dies, his share goes to the other joint-tenants, which is not the case in tenancies in common. An estate in *coparcenary* arises when an estate in fee simple descends, on the decease of the owner, to his daughters, sisters, aunts, or female cousins, or their representatives, being females; and they are called *coparceners*, or, for brevity, *parceners*. Real estate left to any one by will is called a *devise*, or an estate *by devise*, in distinction from a bequest of personal property, which is called a *legacy*.

ESTATES (in politics). Man, in the rudest state of human existence, lives almost entirely independent. We cannot properly speak of liberty in such a state, because liberty, truly so called, implies the protection of each man's rights by the laws of an organized society, the main object of political institutions being to secure individual liberty, by affording equal protection to all. But what a number of gradations are to be found between the lawlessness of the savage and the rational independence of the citizen of a free state. There are several prominent stages in the progress of man from the one to the other of these points:—*a*. The state of unsettled and roving tribes, the hunters and nomades. Though very great difference exists among nations in this state, yet all political development is so much checked by the non-existence of landed property (the beginning of proper civilization), that we may class them all together. *b*. The patriarchal state, in which the authority and power of the father of a family (*patria potestas*), that of the magistrate and of the priest are united in one person: this is the first rude begin-

ning of political civilization.* *c*. The state in which the authority of the father and the magistrate are separated, but that of the priest and the magistrate still remain blended. This is the theocratic state. In this, priests form a separate caste, and are the rulers. *d*. When the authority of the father, priest and magistrate are separated, and the distinction between the family and state is clearly understood, but yet birth decides to what class an individual belongs. This is the state of castes. The whole people is divided into different classes, with different privileges. *e*. That state of government, which prevails in many parts of Europe, where the nobility have hereditary privileges, and correspond to the castes in the East, whilst the other subjects are divided into classes distinguished by their occupations, as peasants, citizens, &c. *f*. That state of political society in which all the members have equal privileges and rights, and are subject to equal burdens. In this class must be included several of the republics of antiquity, not-

* We cannot abstain here from a few remarks on the gross error of many politicians of Europe, of whom Charles Louis de Haller must be considered the head, on account of his notorious work *Restauration der Staatswissenschaft, oder Theorie des natürlichen geselligen Zustandes, der Chimere des Künstlich-bürgerlichen entgegengesetzt*, Winterthur, 1816—1820, 4 vols. (Restoration of the Science of Politics, or Theory of the natural-social State, in Opposition to the Chimera of the artificial-civil). These absolutists ridicule the idea of a social contract, as the basis of the political constitution of a nation, deriving all their arguments against it from the patriarchal origin of the political state. Political unions, say they, no where began with such a contract, but grew out of the relations of families. Haller calls it an idea communicated to him from Heaven, that, the father being the natural ruler of the children, the master stands in the same relation to his slaves, and the prince to his subjects. He says there is no foundation for the notion that princes are made for their subjects, but both are correlative—a very logical deduction, certainly, from the original condition of men! as if the highest branches of mathematics, particularly the exalted and abstract theory of functions, were visionary and groundless, because mathematics began with simple calculations applied to the most ordinary business of life, geometry, with the surveying of the banks of the Nile after its inundation! as if the laws of architecture applied to the erection of the stately cathedral were chimerical, because architecture began with the construction of miserable huts! as if grammatical writing were nonsense, because language began with inarticulate sounds! as if the laws of war, by which its horrors are mitigated, were unfounded, because war began with common murder! Yet Mr. Haller's theory is so well received by the illiberal party in Germany, that a production which most probably would not even have found a publisher in England or the U. States, is there held up as a standard work! (See *Constitutions*.)

withstanding a large portion of the inhabitants were in servitude ; for the slaves, in these cases, were not considered as belonging to the state, were not members of the political society. Such an anomalous form of government as existed in Algiers, where a tribe of soldiers, kept up by perpetual recruits from abroad, and excluding their own children from any share in their political privileges, elected their ruler, and tyrannised over the other inhabitants of the country, without allowing them any rights (although they did not actually treat them as slaves, at least not as the property of individuals),—such a government does not fall under any one of the established divisions, and, in fact, can hardly be regarded in a different light from an association of robbers. That condition of government mentioned under *e* forms the subject of this article. Estates are those political bodies which partake, either directly or by representation, in the government: they are different from corporations (*q. v.*), which very often had, and still have, certain political privileges. Estates are of Teutonic origin, being found only in countries occupied by the descendants of Teutonic tribes. They are to be considered as a consequence of the feudal system, which originated from certain customs prevalent among the Germans, and from their conquests. (See *Feudal System*.) From the feudal system sprang the modern hereditary nobles—a privileged body, partaking essentially in, or, in some instances, chiefly forming the government. (See *Nobility*.) Bondage became gradually established—an institution, in many cases, of much more recent date than those who profit by it maintain. (See *Villénage*.) At the same time that the high nobility began to constitute a distinct and hereditary class (which is of much later date than the origin of feudalism), the high clergy, in many countries, began to participate in the government as a body, which they were, in those barbarous times, as much entitled to do as the warlike nobility; since they were the only members of society with whom the little knowledge which had survived the fearful storms of the dark ages had taken refuge. More or less distinct from each other, and from the lower orders of their respective classes, the high nobility and clergy continued to form the estates, which, together with the prince, constituted the general government so far as any general government can be said to have existed, when every feudal lord was, in most respects, entirely independent, and the higher clergy were almost always

feudal lords, so that a conflict of innumerable interests, privileges and liberties prevented any general and orderly administration of government and justice. “That prodigious fabric (as Hume calls it), for several centuries, preserved such a mixture of liberty and oppression, order and anarchy, stability and revolution, as was never experienced in any other age, or any other part of the world.” But the time appeared when cities began to claim and assume political rights, the time to which we may apply, in respect of all Europe, what Spelman applies to England at the time of the Norman conquest, *Novus seclorum nascitur ordo*. It is to the cities that we owe the origin of the third estate, or citizens, from whom, through their contests with the other estates or estate (if the nobility and clergy were united), and through their greater number, which rendered a representation of them necessary, originated more general views of the administration of government and justice, more equitable laws, and more correct notions of individual liberty. To the historian, who sees, amid the conflicts of feudalism, the beginning of the political importance of the cities, it is like the first appearance of the rays of morning after a long and stormy night. (See *Cities*.) But the power of the other estates was too great; nor was it to be expected that the third estate should be in advance of the age: a general representation was not yet founded. The period from the downfall of the Roman empire to the establishment of the constitution of the U. States, may be called, by way of distinction, *the time of privileges*, hardly any part of the political system being established, or administered on general principles, or a well organized plan, but almost every thing being done by special privileges and grants; common rights arising from citizenship being hardly recognised, the individual enjoying only certain privileges, as a member of a favored class. The privileges of these three estates, arising from different causes, and acquired in different ways, were, of course, very different. However, the right to grant taxes was common to all, because taxes were at first considered as a mere gift to the prince, it being customary in all the Teutonic estates for the monarch to defray the expenses of government, particularly of war, on account of the large share of property which was every where set aside for him, as has been shown in the article *Civil List*. (See also *Domain*.) However, in many countries, the estates were not called together; in

others, their conduct rendered them very unpopular. Both their own incapacity and the power of the government rendered them, in most countries, either useless or obnoxious; and, in many countries, both the people and the government were equally desirous to abolish them, though for different reasons. The time of the French revolution approached, and views of general justice and legal equality became popular throughout Europe. Every reader knows that the system of the estates was abolished in France, and all the countries where the French obtained an ascendancy in the new formation, or the reformation of governments. Since the downfall of Napoleon, many governments have reestablished the estates, or endeavored to satisfy the spirit of the age, which calls for a secure individual liberty, by a new organization of them. This subject has been particularly treated in the article *Constitution*. (q. v.) In Sweden, there is a fourth estate—that of the crown peasants. Circumstances have changed so entirely, civilization has so nearly equalised the different orders, the interests of men have become so generalized, that the institution of estates has become unsuited to the wants of the age: they have had their time, and have become obsolete. They are directly contrary to the spirit of our age, as is the whole feudal system, and can only be considered as remnants of former times, forms from which the spirit has long since departed. They serve at present only to frustrate the most just and reasonable demand of society—individual liberty, protected by equal laws and an equal representation.

ESTE; one of the most ancient and illustrious families of Italy. Muratori traces its origin to those petty princes who governed Tuscany in the time of the Carlovings (10th century). In later times, they received from the emperors several districts and counties, to be held as fiefs of the empire, viz. Este, Rovigo, Montagnana, Casal Maggiore, Pontremoli and Obertenga, with the title of marquis. Of this family was Guelfo IV, who, having received the investiture of the duchy of Bavaria, founded the house of Brunswick, which, from this circumstance, was called the *Estensian Guelf*. During the 12th, 13th, and 14th centuries, the history of the house of Este is connected with the vicissitudes of the other ruling families and free states of Upper Italy. In the contests between the Guelfs and Ghibelines, the marquises of Este, as leaders of the Guelf party, acquired the territories of Ferrara and

Modena, notwithstanding many reverses. This house was much distinguished for its patronage of the arts and sciences. Nicolas II (died 1388) first made the court of Ferrara the seat of refinement and taste. The reign of Nicolas III (died 1441) was still more brilliant. He opened, in 1402, the university of Ferrara, founded by his father, Albert, and which had been suppressed during his minority; he also founded that of Parma. His liberality attracted the most distinguished men of the age, among whom were Guarini of Verona, the ancestor of the celebrated poet, and Giovanni Aurispa. He transmitted his love of literature to his sons, Lionel and Borso, who endeavored to render Ferrara the country of scholars and poets. The reign of Lionel was distinguished neither by conquests nor other great political occurrences; but no prince of the house of Este was more beloved by his contemporaries for his amiable disposition, the charms of his wit, and the elegance of his manners. He encouraged industry and commerce, the arts and sciences, by every method, and was himself a model of eloquence in the Latin and Italian languages. He corresponded with the most distinguished men of Italy, and contributed more than any prince of his time to restore ancient literature to that splendor which rendered the 16th century so illustrious. Under his brother and successor, Borso, (died 1471), agriculture, commerce, and all the arts of peace, were in a flourishing condition. Borso was fond of pomp, but, as he neither maintained fortresses nor armies, his expenditures did not exhaust his finances. The emperor Frederic III, enchanted with his reception by Borso, on his passage through Ferrara, conferred on him the title of duke of Modena and Reggio. Borso also obtained from the pope, Pius V, the duchy of Ferrara, which he held as a fief of the church. His successor, Ercole I (died 1505), suffered much from the Venetians and their allies, who wished to deprive the house of Este of its territories; but Milan, Florence and Naples took arms in his defence, and a general war was the consequence. After concluding a disadvantageous peace in 1484, Ercole maintained a neutrality for 21 years, although important revolutions took place in Italy. During this period, his subjects enjoyed all the blessings of peace, and his capital was distinguished for elegance and refinement. Boiardo, count of Scandiano, the celebrated author of *Orlando Innamorato*, was his friend and minister. Ariosto, yet

very young, already enjoyed the ducal favor, and the court of Ferrara was adorned by the most celebrated geniuses of the period. His son, Alfonso I (died 1534), succeeded him. His second wife was the famous Lucretia Borgia, whose brilliant talents and love of literature contributed in some measure to obliterate the infamy of her early years. Ariosto was in the service of Alfonso's brother, the cardinal Ippolito, a patron by no means worthy of such a poet. His sacred office could not restrain him from violence and crime; and he caused the eyes of his brother Julius, his rival in the affections of a lady, to be put out, because she had praised their beauty. Alfonso suffered this barbarous act, at which all Ferrara was indignant, to go unpunished; but the injured Julius and his brother Ferdinand entered into a conspiracy to dethrone him, for the purpose of rendering his revenge on Ippolito more sure. The conspiracy was detected, and the punishment of the two brothers was commuted into perpetual imprisonment, at the moment when the axe was suspended over their heads. Alfonso also displayed great military talents. He entered into the league of Cambray, in 1509. The Venetians, under Angelo Trevisani, appeared at the mouth of the Po, and spread terror through the whole province of Ferrara. He enclosed this fleet, which ascended the river, within the fire of his batteries constructed on both banks, captured part, and burnt the rest: this victory was commemorated by the most celebrated Italian poets. Pope Julius II abandoned the league of Cambray, and joined the Venetians; he laid Alfonso, whom he could not persuade to follow his example, under an interdict, and declared all his papal fiefs forfeited. By this measure of Julius, Alfonso lost Modena, and was deserted by his allies. The French, however, continued in their alliance with him, and he contributed to the victory which they gained at Ravenna in 1512. But, the French being soon after obliged to leave Italy, Alfonso stood alone. Meanwhile Julius died; but his successor, Leo X, refused to restore to Alfonso the cities of Modena and Reggio, which Francis I, who favored the house of Este, had obliged him to promise. The papal court even attempted the assassination of the duke, by the captain of his guard. Alfonso, thus menaced on all sides, was preparing to defend himself, when the death of Leo X (1521) delivered the house of Este from the impending ruin. Adrian

VI revoked the censures of the church; but Clement VII, his successor, seemed to have inherited the hatred of his uncle Leo; he kept Alfonso out of possession of Modena, and even endeavored to deprive him of his other states. Soon afterwards, the capture of Rome (1527) enabled the emperor Charles V to restore to him his ancient possessions, and to confirm the claims of the house of Este. Alfonso excelled all the Italian princes of his time, in uniting military glory with political talents; none of them was surrounded by more distinguished men, and none has been celebrated by nobler poets; among whom Ariosto is the most illustrious. His successor, Ercole II (died 1559), was attached to Charles V, who, by his great preponderance, subjected all Italy to his influence. His brother Ippolito, at Rome, on the contrary, was attached to the French interest. This cardinal, who built the splendid *villa d'Este*, at Tivoli, was the most munificent patron of the arts and sciences of that age. Alfonso II (died 1597) inherited, it is true, from his ancestors, a love of letters, but a still greater fondness for pomp and luxury. His disputes with the grand-duke of Tuscany, regarding the precedence, and his efforts to obtain the crown of Poland, which involved him in great expense, occupied his whole political career. His finances were exhausted, and his subjects burdened with taxes. The first poets, and most distinguished men of Italy, continued, however, to adorn his court; but the persecutions of Tasso suggest only melancholy or disgraceful recollections for the house of Este. The seven years which the poet passed in a mad-house, either for having dared to love the princess Leonora, sister of the duke, or because, in the excess of his passion, he had so far forgot himself as to offend the pride of his sovereign, bear witness to the cruelty of Alfonso. Although he was married three times, he was childless; and he appointed his cousin Cæsar (died 1628), son of a natural son of Alfonso I, his successor. On Cæsar's accession to the dukedom, pope Clement VIII declared the choice to have been illegal, and all the papal fiefs held by the house of Este to have reverted to the church. Cæsar possessed so little firmness of character, that he immediately yielded to the menaces and armies of the pope, and surrendered Ferrara, together with the other ecclesiastical fiefs. Fortunately, the emperor did not dispute his succession to the imperial fiefs; he remained in possession of Modena and

Reggio, but was obliged to dispute the possession of Garfagnano in two wars with the republic of Lucca, until the contest was finally settled by the mediation of Spain. The violent temper of his son and successor, Alfonso III, at first excited apprehensions of a cruel and tyrannical reign; but the death of his wife, Isabella of Savoy, to whom he was warmly attached, effected such a change in his character, that he resigned the government into the hands of his eldest son, Francis, and retired to a capuchin monastery in the Tyrol, under the name of Giovanni Battista of Modena, where he passed his days in religious meditation and acts of piety. Since the loss of Ferrara, the house of Este has been distinguished only for its ancient splendor. Francis I, son of Alfonso III, died in 1658; Alfonso IV, in 1662; Francis II, in 1694; Rinaldo I died in 1737. The last mentioned prince, who was in early life a cardinal, married Charlotte Felicitas of Brunswick, daughter of the duke of Hanover, and thus reunited the two branches of the house of Este, which had been divided since 1070. His son Francis III (died 1780) deserves to be mentioned as a patron of literature. Muratori and Tiraboschi were his subjects, and received pensions from him. Ercole III, the last duke of Modena, Reggio and Mirandola, married his only daughter, Maria Beatrice, to the arch-duke Ferdinand of Austria: a fruit of this marriage was the second wife of Francis of Austria. Ercole had accumulated great treasures, but lost the affections of his subjects, and, on the approach of the French armies, in 1796, he fled to Venice. Modena and Reggio were included in the Cisalpine confederacy (republic), and the house of Este was definitively deprived of the sovereignty by the treaty of Campo-Formio (q. v.), Oct. 17, 1797. (See *Modena*.)

ESTHER; originally a Jewish girl, a prisoner in Persia. Her beauty gained her the love, and made her the queen, of the king Ahasuerus. Her intercession delivered the Jews from a general proscription, to which they had been subjected by Haman, a minister and favorite of the king. The history of this event is the subject of the book of Esther. Many writers suppose that this Ahasuerus is the Artaxerxes of the Greeks. There are many different suppositions respecting the author of the book of Esther.

ESTHETICS. (See *Æsthetics*.)

ESTHONIA, or the GOVERNMENT OF REVAL; the northern part of the Russian prov-

ince of Livonia, consisting of 7000 square miles, and containing 302,600 inhabitants. Though much of its soil is sandy, it produces grain, hemp, flax, cattle, horses, &c. Reval is the capital. The Esthonians, a Finnish tribe, anciently belonged to the Russian monarchy, and were called *Tschuds*. They afterwards attempted to deliver themselves from the Russian yoke; and, after 1385, when the country was sold to the Teutonic knights, it made a part of Livonia, with which, after being 100 years subject to Sweden, it reverted to Russia. Under Catharine II, it received the name of the *government of Reval*, but, in 1797, was again called the *government of Esthonia*. Much has been written on the unhappy situation of the serfs in Livonia and Esthonia. The Esthonians live in mean habitations, are rough and hardy, and profess the Christian religion. The emperor Alexander did much towards alleviating the condition of the peasants; and servitude has been, to a certain extent, abolished in this country.

ESTRAYS and WAIFS. Estrays are any valuable beasts, not wild, found within a lordship, and whose owner is not known, such as are commonly impounded, and not claimed. They are then to be proclaimed in the church and two nearest market towns, on two market days, and, not being claimed by the owner, belong to the king, and now commonly, by grant of the crown, to the lord of the manor, or the liberty.—*Waifs* are goods which are stolen, and waved, or left by the felon on his being pursued, for fear of being apprehended, and forfeited to the king or lord of the manor.

ESTRÉES, Gabrielle d' (duchess of Beaufort), the mistress of Henry IV of France, born about 1571, was the daughter of Antoine d'Estrées, a descendant of one of the noblest houses in Picardy, for a long time *grand maitre de l'artillerie*, who distinguished himself in the defence of Noyon against the duke of Mayenne, for which Henry IV made him governor of the Isle de France. Gabrielle was about 20 years of age when Henry first saw her on a visit to Cœuvres castle; and her beauty immediately captivated him. Gabrielle, however, who was attached to the duke of Bellegarde, was at first little inclined to gratify the wishes of the king. But Henry still urged his suit, and often stole by the sentinels of his enemies, in the dress of a peasant, to see the object of his love. The heart of the lady was at length moved by such ardor and de-

votion. She became the mistress of the chivalric monarch, who never loved any other woman so passionately. To escape the severe scrutiny of her father, Henry married her to a nobleman named Damerval, of Liancourt; but, says Sully, *il sut empêcher la consommation du mariage*, and subsequently dissolved the marriage, on the ground of Damerval's impotency, although this nobleman had had 14 children by a former wife. Henry intended to raise Gabrielle to the throne as his lawful wife. For this purpose, he not only procured a divorce from Margaret of Valois, but also raised the county of Beaufort to a duchy, which he bestowed on Gabrielle, thus giving her a high rank at court. This design was strongly opposed by Sully, who often represented to the monarch the bad consequences of such a measure. Gabrielle, therefore, became his bitter enemy, and, instigated by the enemies of the minister, she once so far forgot herself as to urge the king to discharge him. Henry's reply was, "By God, madam, if I must lose one of you, I would rather give up ten mistresses like you, than one servant like him." So ardent, however, was his passion for Gabrielle, that he once wrote to her in a moment of danger, "If I am conquered, you know me too well to believe that I shall flee. My last thought shall be God's, my last but one yours." Notwithstanding the determination of the king, and the wishes of Gabrielle, their marriage never took place. Just before Easter, in 1599, when negotiations were already in train for the divorce of the king, she retired from court, by the advice of René Benoît, the king's confessor, and went to Paris to spend Passion week. On Maundy Thursday, having eaten an orange after dinner, she was suddenly seized with convulsions, which distorted her beautiful countenance, and, on Saturday, she died in the most excruciating torments. Apoplexy, with convulsions, was the cause assigned for her death; but no one can doubt that she was poisoned. The king's grief for her loss was excessive; and, what is seldom the case, the royal mistress was universally lamented. Her amiable disposition, the gentleness of her character, and the modesty which prevented her from meddling with public affairs, won her general favor. She had three children by the king, Cæsar and Alexander, afterwards dukes of Vendôme, and a daughter, Catharine Henrietta, afterwards the wife of the duke of Elbeuf. Her biography, which appeared some years ago, in France, is accompanied by

an interesting correspondence between Gabrielle and her royal lover.

ESTREES, Louis Césaire (duc d'), marshal of France, and minister of state, born at Paris, in 1695. He fought against the Spaniards, under the duke of Berwick, and distinguished himself so much that he was raised to the rank of field-marshal, and inspector-general of the cavalry. In the war of 1741, he obtained the confidence of marshal Saxe, by the passage of the Maine at Seligenstadt, his conduct at the battle of Fontenoy, and the sieges of Mons and Charleroi. In 1756, he received the baton of marshal of France, and appeared in Germany at the head of 100,000 men. His audience with Louis XIV, closed with these words: "By the 1st of July, I shall have driven the enemy beyond the Weser, and shall be preparing to enter Hanover." He kept his word, and gained a decisive victory over the duke of Cumberland at Hastenbeck. The Hanoverians were preparing to leave the electorate, when the marshal was recalled by court intrigues, and succeeded by Richelieu. After the defeat at Minden, he was sent to Giesen, where he assumed no command, but was content to assist Contades with his advice. At the close of the war, he was created duke. He died 1771, without issue. He merited his dignities by his services, and was not less esteemed as a citizen than as a soldier.

ESTREMADURA; the name of a Spanish and a Portuguese province. The Spanish province of

Estremadura is bounded N. by Leon and Old Castile, E. by New Castile, S. by Andalusia, and W. by Portugal; about 90 miles each way. It formerly made part of Portugal, but, being separated from that country, it is sometimes called *Estremadura of Castile*. The country is mountainous, and the air in summer is exceedingly hot, wholesome to the natives, but insupportable to strangers. Spring water is scarce, and the inhabitants are compelled to use principally that of ponds. The soil is fertile in grain, grapes, and other fruits. Cattle and fine wool constitute their principal commerce. The principal towns are Badajoz, Merida, Truxillo, Xerez de los Caballeros, Ellereña, Coria, and Placentia. Population in 1797, 428,393. Square miles, 14,478. This country has furnished excellent generals to Spain.

Estremadura, the province of Portugal, is bounded N. by the province of Beira, E. and S. by Alentejo, and W. by the

ocean. Its mean length, from north to south, is 124 miles; its width 77 miles. The Tagus divides it into two nearly equal parts. The northern part is mountainous. It contains some mineral springs. Earthquakes are more frequent here than in any other part of Portugal. The soil in general is fertile, but in the south sandy. Agriculture is so neglected, that the production hardly suffices for the consumption. Cattle abound in the mountains, fish in the rivers, and metals in the earth; but industry is wanting. The population is about 700,500, and is less active than that of the northern provinces.

ETANIA, in the Basque language, signifies *dwelling*, and is the origin of the terminations of Lusitania, Aquitania, &c.

ETCHING; one species of engraving on copper, the lines being corroded in with aqua fortis, instead of being cut with a graver, which, for many purposes, is superior to engraving; but there are others in which the subjects must be graved, not etched. In general, in engravings on copper executed in the stroke manner, etching and graving are combined; the plate is begun by etching, and finished with the graver. Landscapes, architecture and machinery receive most assistance from etching, which is not so applicable to portraits and historical designs, though in these, also, it has a place. (For an account of the process of etching, see *Engraving*.)

ETEOCLES and POLYNICES; sons of Œdipus and Jocasta. After their father's banishment, A. C. 1230, they agreed to rule in Thebes, each a year alternately. Eteocles violated this compact, and Polynices fled to implore the assistance of Adrastus, king of Argos, who marched against Thebes, with Polynices and six other Grecian princes. The city made an obstinate defence. The two brothers fell by each other's hand; and Creon, their uncle, ascended the throne of Thebes. He prohibited the interment of Polynices, under penalty of death; but Antigone, sister of the deceased, yielding to the voice of nature, resolved to perform this last rite for her deceased brother. She was discovered, and buried alive by the order of Creon. This act of cruelty recoiled on himself; for his son, Hæmon, who was in love with her, killed himself on her grave. (See *Thebes*.)

ETHELBERT, king of Kent, succeeded his father, Hermenric, about 560, and soon reduced all the states, except Northumberland, to the condition of his dependants. In his reign Christianity was first

introduced into England. Ethelbert married Bertha, the daughter of Caribert, king of Paris, and a Christian princess, who, stipulating for the free exercise of her religion, brought over with her a French bishop. Her conduct was so exemplary as to prepossess the king and his court in favor of the Christian religion. In consequence, pope Gregory the Great sent a mission of forty monks, headed by Augustin, to preach the gospel in the island. They were well received, and numbers were converted; and the king himself, at length, submitted to be baptized. Civilization and knowledge followed Christianity, and Ethelbert enacted a body of laws, which was the first written code promulgated by the northern conquerors. He died in 616, and was succeeded by his son Edbald.

ETHELBERT, king of England, son of Ethelwolf, succeeded to the government of the eastern side of the kingdom in 857, and in 860, on the death of his brother Ethelbald, became sole king. His reign was much disturbed by the inroads of the Danes, whom he repulsed with vigor, but without success, as, whenever they were driven from one part of the country, they ravaged another. He died in 866.

ETHELRED I, king of England, son of Ethelwolf, succeeded his brother Ethelbert in 866. The Danes became so formidable, in his reign, as to threaten the conquest of the whole kingdom. Assisted by his brother Alfred, Ethelred drove them from the centre of Mercia, where they had penetrated; but, the Mercians refusing to act with him, he was obliged to trust to the West Saxons alone, his hereditary subjects. After various successes, the invaders continually increasing in numbers, Ethelred died, in consequence of a wound received in an action with them, in 871.

ETHELRED II, king of England, son of Edgar, succeeded his brother, Edward the Martyr, in 978, and, for his want of vigor and capacity, was surnamed *the Unready*. During his reign, the Danes, who had for some time ceased their inroads, renewed them with great fury. After having repeatedly obtained their departure by presents of money, he effected, in 1002, a massacre of all the Danes in England. Such revenge only rendered his enemies more violent; and, in 1003, Sweyn and his Danes carried fire and sword through the country. They were again bribed to depart; but, upon a new invasion, Sweyn obliged the nobles to swear allegiance to him as king of England; while Ethelred,

in 1013, fled to Normandy with his family. On the death of Sweyn, he was invited to resume the government. He died at London in 1016.

ETHELWOLF, king of England, succeeded his father, Egbert, in 838, and, soon after his accession, associated his son Athelstan with him, giving him the sovereignty over Essex, Kent and Sussex. In 851, the Danes poured into the country in such numbers, that they threatened to subdue it; and, though opposed with great vigor by Athelstan and others, they fixed their winter quarters in England, and next year burnt Canterbury and London. During these troubles, Ethelwolf made a pilgrimage to Rome, with his son Alfred, where he staid a year, and, on his return, found Athelstan dead, and succeeded by his next son, Ethelbald, who had entered into a conspiracy with some nobles, to prevent his father from again ascending his throne. To avoid a civil war, the king gave up the western division of the kingdom to his son, and soon after, summoning the states of the whole kingdom, solemnly conferred upon the clergy the tithes of all the produce of the lands. He survived this grant about two years, dying in 857.

ETHER; a very volatile fluid, produced by the distillation of alcohol with an acid. The ethers are a very important class of compounds, differing in their qualities according as they are produced by the different acids; but they also agree in the possession of certain general properties. They are highly volatile, odorous, pungent and inflammable; miscible with water, and capable of combining with alcohol in every proportion. They receive their names from the acids by whose action on alcohol they are produced; as sulphuric ether, nitric ether, muriatic ether, &c. (for a particular account of which, see the respective articles under these denominations).

ETHER, in philosophy. (See *Ether*.)

ETHEREGE, sir George, one of the wits of Charles's day, chiefly known as a writer of comedy, was born about 1636. He is supposed to have been for some time at Cambridge, then to have travelled, and, on his return, to have been entered at one of the inns of court. He appears, however, to have paid little attention to any thing but gay pursuits. In 1664, he presented to the town his first comedy, entitled the Comical Revenge, or Love in a Tub; which, although written with a very incongruous mixture of prose and verse, as suited the taste of the times, was well received. The author was immediately

enrolled among the courtly wits of the day, and, in 1668, brought out his next piece, entitled *She Would if She Could*, which was very coarsely licentious. In 1676, he produced his third and last comedy, entitled *The Man of the Mode*, or *Sir Fopling Flutter*; at which time, he was, as the dedication implies, in the service of Mary of Modena, the second duchess of York. This performance was still more applauded than the preceding, and the *Sir Fopling* was, for a long time, deemed the ideal of the superlative beau or coxcomb of the age, as *Dorimant* was intended to represent its rakish fine gentleman, or *Rochester*. Etherege's plays are little more than lively conversation pieces, with a great paucity of genuine humor or felicitous plot, and have long been placed on the manager's shelf. His future career was very much in character. Having injured his constitution and fortune, he sought to marry a rich elderly widow, who made his acquirement of the honor of knighthood the condition of her acceptance. This, on the accession of James II, he attained, and was appointed envoy to Ratisbon, whence he wrote two very pleasant letters to the duke of Buckingham, which are printed in the *Biographia Britannica*. On the revolution, he is said to have joined his former master in France. He was courtly and companionable, sprightly and generous, but deemed a little too much of his own *Sir Fopling*. Besides his plays, he wrote much light and easy poetry, such as songs, lampoons, panegyrics, &c., which are not without the merit usually belonging to the mob of gentlemen who write with ease.

ETHIOPIANS, an indefinite term in ancient times, was used to signify all people of a dark or black skin, as well in Asia as Africa. Homer, who calls them the *blameless*, therefore places the Ethiopians both in the east and the west. Afterwards, the inhabitants of Abyssinia were called by this name, Abyssinia being denominated Ethiopia. The Ethiopian women, who are frequently sold as slaves in Constantinople, are celebrated for their fine forms. (See *Negroes*.)

ETHIOPS MINERAL. (See *Mercury*.)

ETHNOGRAPHY (from the Greek *ἔθνος*, nation, and *γραφία*, I write); a term used by the Germans and French to signify the description of nations. It describes the customs, religion, &c., in fact, every thing which is characteristic of a nation. The importance of this department of knowledge, and the progress which has been

made in it since travelling has so much increased, and the prejudices of travellers so much diminished, is evident. *Ethnographical*; belonging to the science just described, and also the history of nations. A history, for example, is either chronological, when events are recounted in the order of time, or ethnographical, when the history of an individual people is given by itself. (See *History*.)

ETIENNE; famous printers of this name. (See *Stephens*.)

ETIENNE, Charles Guillaume; a dramatic and political writer, born in 1778 at Chamouilly, in the department of the Upper Marne. He went to Paris in 1796, and was at first engaged in editing some journals, but afterwards devoted himself to writing pieces for the stage. In 1810, he was appointed censor of the *Journal de l'Empire*. The general police of the periodicals was afterwards committed to him, as chief of the literary division in the ministry of the interior. His *Les deux Gendres* obtained him a place in the national institute, and the choice was announced to him in the words of apostolic history—"And they chose Stephen (Etienne), a man full of the spirit." His comedy, *L'Intrigante*, notwithstanding the violent opposition of his enemies, had already been represented 11 times with unbounded applause, when the emperor prohibited its performance, though he had himself formerly commanded its representation in the Tuileries. The reason assigned was, that the courtiers had taken offence at some passages; or, according to other accounts, Napoleon had found in it certain disagreeable allusions. Hence the author was obliged to make alterations in subsequent editions of the piece, on which account the first edition was much sought after, and sold for 25 francs. After the abdication of Napoleon, the prohibition against the comedy was revoked, but the author was deprived of his office of censor. On the emperor's return from Elba, Etienne recovered his former places. As president of the national institute, in congratulating Napoleon on his return, he spoke boldly of the securities demanded by public opinion, and of the liberty of the press. After the restoration of the Bourbons, he was again removed from his offices, and from the institute, by a royal decree. He then devoted himself, with great success, to political writings, and was the author of the *Lettres sur Paris*, in the *Minerve Française*, which give an interesting and faithful account of the commotions that distracted the court and the capital from

1818 to 1820. The splendid success which these letters met with, induced the electoral college of the department of the Meuse to choose him deputy in 1820, and again in 1822. Besides the above-mentioned works, Etienne has also written many theatrical pieces, of which the best are the operas *Cendrillon* and *Joconde*. The history of the French stage (*Histoire du Théâtre Française, depuis le Commencement de la Révolution jusqu'à la Réunion générale*, 1820, 4 vols.), by Etienne and Martainville, is a valuable work, written with taste and impartiality.

ETIQUETTE (*French*; a ticket); primarily an account of ceremonies; hence, in present usage, forms of ceremony or decorum; the forms which are observed towards particular persons in particular places, especially in courts and on public occasions. From the original sense of the word, it may be inferred, that it was formerly the custom to deliver cards containing orders for regulating the ceremonies on public occasions. Those countries in which etiquette among the higher orders has been most rigidly enforced, have rarely been free and prosperous; and this artificial splendor, and external honor paid to the great, have, in general, been more anxiously exacted by them in proportion as real respect was wanting. When the Roman emperors surrounded themselves with imposing ceremonies, they had long ceased to be the masters of the world; and the imperial court at Byzantium was never more observant of trifling and empty forms, than when the provinces were in insurrection, and the barbarians swarmed under the walls of the capital. Philip the Good, duke of Burgundy, whose vanity prompted him to put himself on a level with his sovereign, is the father, as it were, of the modern system of etiquette, which has been introduced since his time, with more or less strictness, into many courts of Europe. To make himself equal, in the eyes of the world, to the first prince in Christendom, he surrounded himself with a multitude of retainers and courtiers, and prescribed to them an etiquette so formal and minute, that the Spanish court alone (so lively and gay in the time of the Moors) surpasses it in strictness. At the present day, the great diffusion of knowledge and education, by which all classes are brought into closer contact; the general democratic tendency of the age; the free and active intercourse between nations—all have contributed much to diminish the strictness of etiquette. Probably, no nation has carried

etiquette to a greater degree of nicety and absurd formality than the Chinese.

ETNA. We will only add to the account given of this mountain under the head of *Ætna*, that, on May 26, 1830, it is stated that seven new craters were opened, and that eight villages, with their inhabitants, were destroyed. It was not possible, until eight days after the eruption, to approach the scene of ruin.

ETOLIA. (See *Ætolia*.)

ETON; a village in England, in Bucks, separated from Windsor by the river Thames, over which is a bridge; 22 miles N. W. London; population, 2279. It is celebrated for its royal college, which was founded in the 19th year of Henry VI., in 1440, and contains 70 king's scholars, from 300 to 350 independent scholars, 10 choristers, besides inferior officers, &c., of the college. The college library is large. The revenue of the college amounts to about £5000 a year. Porson, and other distinguished men, were educated at this institution. Gray's ode to Eton college is probably fresh in the minds of our readers.

The *Eton Montem* is one of the many old and curious customs in England. The scholars of the college march in procession to Salt-hill, where their captain, the best scholar, recites a passage from some ancient author. The young gentlemen, called *salt-bearers*, and arrayed in fancy dresses, then disperse in various directions, to collect money from all passengers, not allowing any one to pass without giving something. The money thus collected, which usually amounts to several hundred pounds, is given to the captain, to enable him to take up his residence at one of the universities. The royal family and a splendid company generally attend the ceremony.

ETRURIA. This beautiful region, bounded west by the Mediterranean, east by the Apennines, north by the river Magra, and south by the Tiber, is the country of the ingenious Etruscans, who have arisen from beneath the ruins of the remotest antiquity in the history of modern art, and in the archæological investigations of our time. The chief river of the country was the Arnus (Arno). This country, which corresponds nearly with the present Tuscany, was very early a confederation, under the rulers of the twelve principal cities, each of which formed a republic by itself. They were, Pisæ (*Pisa*), Pistoria (*Pistoja*), Florentia, Fæsulæ, Volaterræ (*Volterra*), Volsinii (*Bolsena*), Clusium (*Chiusi*), Arretium (*Arezzo*), Cortona, Pe-

rusia (*Perugia*), Falerii (*Falari*), and the rich city of Veji. The chiefs of these republics were styled *lucumones*, who were also the priests and generals, and held their meetings in the temple of Volturna, where they deliberated together on the general affairs of the country. Porsenna, celebrated in Roman history, was a *lucumo*. Etruria was at the height of its glory at the time of the building of Rome, and served for a model to the new government. Surpassed only by the Greeks in their highest splendor, the Etruscans excelled in architecture, ship-building, medicine, the art of making arms and fortifications, building dykes, and in tactics; they were distinguished particularly for their ingenuity and skill in the construction of all articles of comfort and of luxury. They carried on a considerable commerce in Italy and Greece with their works of art, and founded many important colonies. Their commercial intercourse with the Greeks soon made them their rivals in refinement. The progress made by the Etruscans of that age in painting and the plastic arts is peculiarly interesting to archæologists, as the study of their remains (sculptured gems, sarcophagi, vases, &c.) leads to the explanation of their mythology. (See Inghirami's *Monum. Etruschi*, Fiesole, 1826, 6 vols. 4to. more accurate than Gori's *Museum Etruscum*.) They received the germs of their art, which had in itself sufficient charms to create a new epoch in modern taste, from Greece and Egypt. The Etruscan vases, with their peculiar bass-reliefs and paintings, have been carefully examined by Millin, and in Boettiger's *Treatise on Pictured Vases*. (See *Vase*.) The Etruscan painters, however, were unacquainted with the mixture of colors, and the distribution of light and shade: their common colors were black and brownish red. Theatrical entertainments, music and poetry were not unknown to them. Before they had reached that degree of refinement to which the Greeks arrived, this people and their arts sunk together under the political storms of the age, partly through internal dissensions, and partly by the oppression of foreign nations. The Romans received their religious usages, their primitive architecture, &c., from the Etruscans. At the end of their most flourishing period, the Gauls drove them from their settlements in Upper Italy, and some of them fled to the Alps; from whom the Rhætians derived their origin. They finally became the victims of Roman ambition. The Romans sent them governors, but allowed them to

retain their own manners and laws, the choice of their consuls, and, in general, a reasonable degree of freedom. They afterwards fell, with Rome, under the power of foreign conquerors. From this time the history of Etruria, or *Tuscany*, as it has since been called, has become interwoven with that of Italy and Germany. *Tuscans* and *Etruscans*, however, were names as foreign to the people as *Tyrrhenians*. They called themselves *Rasena*. The ancient Latin term was *Etruria* for the country, *Tusci* for the people. *Etruscans* did not come into use till after Cato's time. Under the later emperors, the country was called *Tuscia*; hence *Toscana* in the middle ages. The origin of the Etruscans is extremely doubtful. Ancient writers, misconstruing early traditions, represented them as descendants of the Greeks—an opinion which was long received. Niebuhr, however, thinks there is no foundation for this opinion, and, from many circumstances, ingeniously attempts to prove that they originated from the northern mountains, the Alps. We must refer the reader to his learned disquisition on this point in his *History of Rome*, division *Tuscans* and *Etruscans*. The discovery of a great number of vases, in 1830, on the estate of the prince of Canino, not far from the north-western coast of Italy, nearly opposite Elba, seems to corroborate this opinion. Besides the vases which contained Greek inscriptions, and which are considered by many to be of an age when Greece was still in a state of semi-barbarism, many ornaments of gold, with engraved gems, and a superb fawn, considered by Thorwaldsen as a most perfect piece of art, have been dug up. If it is true that Greece received the fine arts from Etruria, it is an interesting question how Egyptian civilization was first brought to the Etruscans. (See *Tuscany*.) By the peace of Luneville (q. v.), 1801, the name *Etruria* was restored, and the territory was constituted a kingdom, under the hereditary prince of Parma, Louis, Infant of Spain, only son of Ferdinand I, duke of Parma. After the death of Louis (1803), his widow, Maria Louisa, daughter of Charles IV, king of Spain, administered the government as guardian of her son, Charles Louis; but she resigned her authority, Dec. 10, 1807, in consequence of a treaty between France and Spain. Etruria now became a French province; and a decree of the senate of May 30, 1808, declared the states of Tuscany, under the title of the departments of the Arno, the Mediter-

anean and the Ombrone, a part of the French empire (the *grand empire*). In 1809, this territory was given to Eliza, sister of Napoleon, with the title of grand-duchess of Tuscany. In 1814, Tuscany again received its former rulers.

ETTENHEIM; a small town in the grand-duchy of Baden, 19 miles S. S. E. Strasburg, with 2680 inhabitants. The place has become celebrated in consequence of the duke of Enghien (q. v.) having been arrested here.

ETYMOLOGY (from the Greek *ἐτυμολογία*, from *ἔτυμος*, true, real, and *λογος*, word); that branch of philology which teaches the origin of words, traces the laws by which the changes in languages take place, and discovers the true meanings of words by examining their roots and composition. It is at once the *delicia philologicæ*, and a safeguard against the corruption of words by a careless application of them. Etymology becomes particularly interesting when applied to those languages which are not so much the product of accident as of settled laws, which continue to operate as long as the language exists. Etymology has not unfrequently led to important historical conjectures, because the language of a tribe is often the only record of its descent, the individuals composing it having lost all tradition of their origin. Who can doubt the importance of etymology, taking it in its widest sense, as treating of the origin and nature of words, and of the connexions of different languages; in short, as occupied with the laws which regulate the formation of languages, which stand preëminent among the most interesting, important and noble productions of the human mind? To be a sound etymologist, requires many rare qualifications, among which are a thorough knowledge of many and very different languages; great caution, which will not be easily led astray by appearances; a philosophical mind, which easily conceives the associations of ideas, and traces the different, yet connected notions which the same root expresses in different languages; in one language representing, perhaps, the most concrete, and in another the most abstract idea; a perfect knowledge of *phonology*, or the science of human sounds, and the organs which produce them, and a natural taste and adaptation for the study, which, like every gift of nature, may be much developed, but cannot be produced by labor. Etymology has been cultivated with much zeal and success in our day, as illustrative both of single languages (how much, for

instance, has Buttmann done for Greek etymology), and of the relations between whole families of languages. Modern scholars have been assisted in their researches in this department, not merely by the materials which former ages have accumulated, but by the great advancement which has been made in the knowledge of languages before unknown, owing to the more frequent and rapid communication between the most distant parts of the globe, to materials collected by missionaries, &c. In general, it may be said that the Germans have done more for etymology than any other nation; while, comparatively speaking, very little has been done by the English, whom almost every word in their language conducts into a foreign country, and with whom it might be supposed etymology would be much more generally cultivated than with a nation like the Germans, whose language forms a whole in itself, the words of which explain each other as far as common use requires.

Etymology might be divided into the higher and lower, as we have the higher and lower mathematics, and it might, perhaps, be correct to say, that higher etymology examines the origin of the root of a certain word, its connexions with corresponding words in other languages, &c., and that it treats only of the higher laws of the formation of languages; but, of course, the line of distinction between these two divisions cannot be very accurately drawn. As an instance of our meaning, let us trace the origin of *disagreeableness*; *ness* is an affix frequent in substantives, corresponding to the German *niss*, and indicating a state, effect, or abstraction; a syllable which is to be found in some shape or other in all Teutonic dialects; *dis* (the Latin *dis*, asunder), a prefix often of the same meaning as the English *un*, conveying the idea of negation; *agreeable*, from the French *agréable*, of which *able* is an adjective affix from the Latin; *a*, a preposition often indicating *at*, as *à plaisir*, at pleasure; *gré*, at last, is the root of the word, analogous to *grat*, the root of the Latin *gratus*, and having the same meaning. Higher etymology now continues to trace the root of *gratus* in several languages, or endeavors to do so. It is not improbable that it would be found that *g* is an augment which, in several other languages, is left out. (See the article *F*.) To find the root of a word is always the first object of etymology, but often difficult, because several different syllables may sometimes present themselves as probable roots. Eu-

phony must be always taken into the account, and letters which are added merely for the sake of improving the sound must be thrown aside. As another instance, we may take the word *lawless*; this consists of a substantive, *law*, and a syllable, *less*, corresponding to the German syllable *los*, which is also used as an adverb, and has then the meaning of *off*; it is the root of *lösen*, to loosen, to separate, connected, probably, with the Latin *laxare* and *luere*, the Greek *λυσαι*, *λυζειν*, *λυειν*; and the same with the Swedish *lösa*, the Icelandic *leisa*, and the Anglo-Saxon *lezan* and *lysan*. *Law* is a root which we recognize in the corresponding word, or connected ones, of a great many languages, Teutonic, Latin and Greek, and probably Asiatic ones, and is, besides, connected with the German *legen*, to lay, to lay down, which corresponds to the *lagjan* of Ulphilas in the Gothic translation of the Bible, the Icelandic *leggja*, the Swedish *lägga*, the Greek *λεγομαι*. *Law* is also connected with the Latin *locus* and *locare*. The French *loi* probably comes from the Latin *lex*, as the inhabitants of Gaul received laws in a very complete state from the Romans before the Franks conquered Gaul, and from the truncated genitive *legis*, *loy* and *loi* can easily have originated. It is to be remarked that derived languages, as the Italian, French, &c., very often form their substantives from the genitives of the original language, as the Italian *Giove* of *Jovis*.

EUBŒA. (See *Negropont*.)

EUCHARIST (from the Greek *εὐχαριστία*, thanksgiving, from *εὖ*, well, and *χαρις*, grace); the name for the Lord's Supper, because the Scriptures inform us, that Christ, after having taken the wine and bread, blessed them (or gave thanks). (See *Sacrament*, and *Corpus Christi*.)

EUCHLORINE. (See *Chlorine*.)

EUCLID, called the father of mathematics, was born at Alexandria in Egypt, about 300 B. C., studied at Athens under Plato, taught geometry at Alexandria in the reign of Ptolemy Soter, and extended the boundaries of mathematical science. The severity and accuracy of his method has never been surpassed. The most profound of his works is that which treats of geometrical analysis. His elements (*Στοιχεῖα*) are still extant. One of the best editions is by Gregory, Oxford, 1703, fol. His writings on music give us the best idea of the state of that art among the Greeks. His work on geometrical analysis displays his acuteness to the greatest advantage.—2. Euclid of Megara was the founder of the Megaric school. Although Megara is at

a considerable distance from Athens, and its inhabitants were forbidden, under penalty of death, to enter the Athenian territories, he used to go to the city in disguise, in the evening, to enjoy the instruction of Socrates, and return at day-break. He afterwards deviated from the simple system of his teacher, and changed his plain irony into the most subtle disputation. With the Eleatics, he maintained that there was but one being in the universe; and this being he called the true and good. For its subtilty and disputativeness his school was also called the *Eristic school*. He died 424 B. C. Eubulides was one of his pupils.

EUDÆMONISM, EUDÆMONOLOGY; the doctrine of happiness, or that system which makes human happiness its prime object, the highest motive of every duty, and of a virtuous life, and consequently the whole foundation of morals. Eudæmonism is contradistinguished to that morality or pure system of philosophy, which makes virtue itself the chief object, independent of its tendency to promote human happiness. *Eudæmonist*; one who supports the doctrine of Eudæmonism.

EUDIOMETER; an instrument for ascertaining the purity of air, or, rather, the quantity of oxygen contained in any given bulk of elastic fluid. Dr. Priestley's discovery of the great readiness with which nitrous gas combines with oxygen, and is precipitated in the form of nitric acid, was the basis upon which he constructed the first instrument of this kind. It consisted of a glass vessel, containing an ounce by measure. This was filled with the air to be examined, which was transferred from it to a jar, of an inch and a half diameter inverted in water; an equal measure of fresh nitrous gas was added to it, and the mixture was allowed to stand two minutes. If the absorption were very considerable, more nitrous gas was added, till all the oxygen appeared to be absorbed. The residual gas was then transferred into a glass tube, two feet long and one third of an inch wide, graduated to tenths and hundredths of an ounce measure; and thus the quantity of oxygen absorbed was measured by the diminution that had taken place. Other eudiometrical methods were employed by other chemists. Volta had recourse to the detonation of air with hydrogen gas. For this purpose, two measures of hydrogen gas are introduced into a graduated tube, with three of the air to be examined, and fired by the electric spark. The diminution of bulk observed after the vessel had returned to its original

temperature, divided by three, gives the quantity of oxygen consumed. The action of liquor prepared from sulphur and potash, or sulphur and lime, boiled in water, and the slow combustion of phosphorus, have, likewise, been employed in eudiometry. Dobereiner has suggested the use of little balls of spongy platina, for the purpose of detecting minute portions of oxygen in a gaseous mixture, in which hydrogen is also present. Its effect is immediate and complete. The moment the substance rises above the surface of the mercury, in the tube containing the mixture, the combination of the oxygen and hydrogen begins, and in a few minutes is completed. So energetic is it in its action, that it enables hydrogen to take 1 of oxygen from 99 of nitrogen—a result which it is impossible to obtain by electricity.

EUERGETÆ (*benefactors*). This name was given to a small nation, called *Agriaspæ* or *Arimaspi*, in the Persian province of Drangiana, because they saved the elder Cyrus with his army in the desert, when in great distress for want of provisions. This little tribe had a good form of government, entirely different from that of the surrounding barbarians. Alexander, therefore, not only left them their constitution and liberties entire, but also granted them, at their request, some territories in their vicinity. Some princes have borne this name, e. g., the Ptolemies.

EUGENE, Francis, of Savoy, known as prince Eugene, fifth son of Eugene Maurice, duke of Savoy-Carignan, count of Soissons, and Olympia Mancini, a niece of cardinal Mazarin, was born at Paris, 1663. Among all the generals and statesmen of Austria, none has rendered more numerous and important services than Eugene. He was great alike in the field and the cabinet. Contrary to his own inclinations, Eugene was destined for the church. He petitioned Louis XIV for a company of dragoons, but was refused on account of the opposition of Louvois, minister of war, who hated the family of Eugene. Indignant at this repulse, and at the insults offered to his family, and particularly to his mother, Eugene, in 1683, entered the Austrian service, as two of his brothers had already done. He served his first campaign as a volunteer against the Turks, under two celebrated generals, Charles, duke of Lorraine, and Louis, prince of Baden, with so much distinction that he received a regiment of dragoons. Louvois, jealous of the reputation of Eugene, said angrily, "He shall never return to his country." Eugene, to whom

these words were reported, replied, "I shall return in spite of Louvois;" and, in fact, some years afterwards, he entered France at the head of a victorious army. In 1687, after the battle of Mohacz, he was made lieutenant field-marshal. War having broken out between France and Austria, he prevailed upon the duke of Savoy to enter into an alliance with the emperor, and commanded the imperial forces sent for the defence of Savoy. He rejected the tempting offers made by France to engage him in her service, and was raised by the emperor to the rank of general field-marshal. After the war in Italy was concluded, he was sent to Hungary with the rank of commander-in-chief. He defeated the Turks at the battle of Zenta (September 11, 1697), and obtained, on that occasion, the applause of Europe, and the entire confidence of the imperial armies, although his enemies, envious of his glory, accused him of temerity, in undertaking so hazardous an enterprise. The loss of the Turks at Zenta obliged them to accede to the peace of Carlowitz, 1699, which was the first symptom of their decline. The Spanish war of succession next called Eugene to a new theatre of glory. Italy became the field in which he displayed his military talents. He advanced rapidly through the passes of the Tyrol, at the head of 30,000 men, in the face of marshal Catinat, who endeavored in vain to arrest his progress. Villeroi was still more unsuccessful, being surprised and defeated, near Cremona, by Eugene. In 1703, he received the command of the army in Germany; and, being appointed president of the council of war, he was the soul of all important enterprises, to which he imparted great activity; and his efficient coöperation with Marlborough frustrated the plans of France and her allies. In the battle of Hochstädt (Blenheim, see *Blenheim*), August 13, 1704, the two heroes gained a decisive victory over the French and Bavarian army, commanded by the prince of Bavaria and marshal Tallard, the latter of whom was made prisoner. In 1705, Eugene returned to Italy, where he was severely wounded in an engagement with the French under the duke de Vendôme, and being obliged to retire from the field, his army was defeated; but Vendôme was recalled, and his successor, the duke de la Feuillade, could not withstand Eugene, who now hastened to the relief of Turin, stormed the French lines, forced them to raise the siege, and in one month drove them out of Italy. In 1707, he entered France, and laid siege to Toulon;

but the immense superiority of the enemy obliged him to retire into Italy. The following years he fought on the Rhine, took Lille, and defeated the marshals Villars and Boufflers at the battle of Malplaquet, where he himself was dangerously wounded. In this situation, he maintained that calmness peculiar to great souls: when the officers urged upon him the necessity of providing for his personal safety, "What need of bandages," said he, "if we are about to die here? If we escape, the evening will be time enough." After the recall of Marlborough, which Eugene opposed in person, at London, without success, and the defection of England from the alliance against France, his farther progress was in a great measure checked, more particularly after the defeat of general Albemarle at Denain. The peace of Rastadt, the consequence of the treaty of Utrecht, was concluded between Eugene and Villars in 1714. In the war with Turkey, in 1716, Eugene defeated two superior armies at Peterwaradin and Temesvar, and, in 1717, took Belgrade, after having gained a decisive victory over a third army that came to its relief. The treaty of Passarovitz was the result of this success. During fifteen years which followed, Austria enjoyed peace, and Eugene was as active in the cabinet as he had been in the field, when the Polish affairs, in 1733, became the source of a new war. Eugene appeared, in his old age, at the head of an army, on the banks of the Rhine, but returned to Vienna, without effecting any thing of importance. He died in 1736, at the age of 72. The Austrian department of war, to which he imparted such activity during his presidency, relapsed, after his death, into its former imbecility.

EUGENE DE BEAUHARNAIS, duke of Leuchtenberg, prince of Eichstedt, ex-viceroy of Italy, was born September 3, 1781. He was the son of the viscount Alexander Beauharnais (q. v.), who was guillotined 1794, and Joséphine Tascher de la Pagerie, afterwards wife of Napoleon and empress of France. During the French revolution, Eugene entered the military service, and, at the age of 12 years, accompanied his father, when he took the command of the army of the Rhine. After his father's death, he joined Hoche, in La Vendée, when his mother was in prison. After the 9th Thermidor, he returned to his mother at Paris, and remained three years devoted to study. In 1796, Joséphine was married to general Bonaparte, then commander-in-chief of the army of Italy; and Eugene accompanied his father-

in-law in his campaigns in Italy and Egypt. He was promoted to a high rank in the service, and, in 1805, created a prince of France and viceroy of Italy. In the same year, he distinguished himself in the campaigns against Austria, and, after the peace of January 13, 1806, married the princess Augusta of Bavaria. In 1807, Napoleon made him prince of Venice, and declared him his heir to the kingdom of Italy. He administered the government of Italy with great prudence and moderation, and was much beloved by his subjects. In the war of 1809, he was at first unsuccessful against the archduke John, but soon afterwards gained the battle of Raab, and distinguished himself at Wagram. He conducted with great prudence on the occasion of the divorce of Napoleon from his mother. The 3d of March, 1810, Napoleon appointed him successor of the prince primate, who had been created grand-duke of Frankfort. In the Russian campaign, he commanded the third *corps d'armée*, and distinguished himself in the battles of Ostrowno, Mohilo, and that on the Moskwa (Borodino). In the disastrous retreat, he did not desert the wrecks of his division for a moment, but shared its toils and dangers with the soldiers, and encouraged them by his example. To him and to Ney, France was indebted for the preservation of the remains of her army during that fatal retreat. On the departure of Napoleon and Murat, he was left in the chief command, and showed great talent at that dangerous conjuncture. We find him again at the battle of Lützen, of May 2, 1813, where, by surrounding the right wing of the enemy, he decided the fate of the day. Napoleon sent him from Dresden to the defence of Italy, now menaced by the enemy's forces, where military operations commenced after the dissolution of the congress of Prague, and the accession of Austria to the league of the allied powers. Eugene maintained the defence of Italy even after the desertion of Murat. After the fall of Napoleon, he concluded an armistice with count Bellegarde, by which he delivered Lombardy, and all Upper Italy, to the Austrians. Eugene then went immediately to Paris, and thence to his father-in-law at Munich. He was at the congress of Vienna. On the return of Napoleon from Elba, he was obliged to leave Vienna, and retire to Baireuth. He was an inactive spectator of the events in 1815. By the articles of Fontainebleau, an indemnification was assigned him for the loss of his estates in

Italy, which were valued at 20—25 millions of francs: but the congress of Vienna, confirmed his dotation in the march of Ancona, and the king of Naples was obliged to pay him 5 million francs. By an ordinance of the king of Bavaria, he was created duke of Leuchtenberg, November, 1817. The Bavarian principality of Eichstedt was bestowed upon him, and his posterity declared capable of inheriting in case of the failure of the Bavarian line. He died at Munich, Feb. 21, 1824, leaving two sons and four daughters. Prince Eugene, under a simple exterior, concealed a noble character, and great talents. Honor, integrity, humanity, and love of order and justice, were the principal traits of his character. Wise in the council, undaunted in the field, and moderate in the exercise of power, he never appeared greater than in the midst of reverses; as the events of 1813—1814 prove. He was inaccessible to the spirit of party, benevolent and beneficent, and more devoted to the good of others than his own. He died of an organic disorder of the brain. (See *Vie politique et militaire d'Eugène Beauharnais, Vice-roi d'Italie*, by Aubriet, second edition, Paris, 1825.) His sister is the duchess of Saint-Leu, Hortensia Eugenia, wife of Louis Bonaparte, former king of Holland, but lives separate from her husband. His son, the duke Augustus, who succeeded him, was born Oct. 10, 1810. His eldest daughter, Joséphine, was married 23d of March, 1823, to Oscar, crown-prince of Sweden, son of Charles XIV; his second daughter, Hortensia Eugenia, was married to the prince of Hohenzollern-Hechingen, in 1826. Amalia Eugenia married the emperor of Brazil, in 1829.

EULENSPIEGEL, Tyll, was born at Kneitlingen, a village of Wolfenbüttel, not far from Schöppenstädt, and died, about 1350, in the little town of Möllen, about 18 miles from Lubec, where his gravestone, with a looking-glass (*spiegel*) and an owl (*eule*) upon it, in allusion to his name, yet stands. His name has become proverbial in Germany for all sorts of wild, whimsical frolics, which are committed from pure love of fun; for Tyll was continually engaged in such, as he roved about through Lower Saxony and Westphalia, and even as far as Poland and Rome. Accounts of them are still preserved in the popular traditions of Germany. At what time and in what language they were first committed to writing can hardly be determined. From the title of the old popular editions, it would seem to have

been in Low-German, and it has been supposed, without sufficient evidence, that Thomas Murner, the Franciscan, doctor of theology and law, and an antagonist of Luther, known by his Fool's Complaint, and other writings of a similar stamp, translated them into High-German. Indecencies are frequently to be found in the book, but they belong to the age. It has been a favorite book, not only with the German, but many other nations, has been translated into English, French, Latin, Dutch and Polish, has been often imitated, and has passed through editions without number. (See Reichard's *Bibliothek der Romane*, vol. 2 and 4; Flögel's *Geschichte der Hofnarren*, and Görres' *Ueber die Volksbücher*.) The earliest printed edition, as far as can be ascertained, is the High German, Strasburg, 1519, 4to. A very rare engraving by Luke of Leyden is called the *Eulenspiegel* (l'Espiegle).

EULER, Leonard; a mathematician, born at Bâle, 1707, learned from his father, a clergyman, the first rudiments of the science in which he was afterwards so distinguished. At the university of Bâle he enjoyed the instructions of John Bernouilli, and the friendship of Daniel and Nicholas Bernouilli, who successfully emulated their father's fame. In his 19th year, he gained the *accessit* of the prize offered by the Paris academy of sciences for the best treatise on the masting of vessels. Catherine I, desirous of completing the establishment of the academy of Petersburg, invited Daniel and Nicholas Bernouilli thither. Nicholas died, and Daniel soon returned to his native country, after having procured a place in the academy for his friend Euler. Euler now constituted the whole mathematical department in the academy, and labored with astonishing industry; he composed more than half of the treatises in this branch of science contained in the 46 quarto vols. published by the academy, from 1727 to 1783, and, at his death, left about 100 unpublished dissertations, which were successively printed by the society. To the Paris academy of sciences he also presented several treatises (among the rest, his dissertation *Inquisitio phys. in Causam Fluxus ac Refluxus Maris*, which gained the prize, though Bernouilli and Maclaurin were among his competitors), and carried off or divided 10 prizes. In 1741, he accepted an invitation from Frederic the Great to become professor of mathematics in the Berlin academy, but, in 1766, returned to Petersburg, where he died in 1783, in the office of director of the mathe-

matical class of the academy. He received from all parts of Europe flattering marks of respect. The academy of sciences in France chose him, in 1775, one of its foreign members, though none of those places, then so much an object of ambition, was vacant. He also received considerable presents for the assistance which he rendered to Tob. Mayer (q. v.) in preparing his lunar tables, and £300 sterling, as his share of the prize offered by the English parliament for the best method of determining the longitude at sea. He distinguished himself, particularly, by his endeavors to perfect the analytic method, according to the system of Bernouilli, and the Leibnitzian school, and to complete its separation from pure geometry, which Newton's disciples principally employed in their investigations. He first gave the example of those long processes, in which the conditions of the problem are first expressed by algebraic symbols, and then pure calculation resolves all the difficulties. In this, Euler displayed extraordinary acuteness, and a profound as well as inventive genius. He gave a new form to the science. He applied the analytic method to mechanics, and enlarged the boundaries of this science. He greatly improved the integral and differential calculus (q. v.), of which he afterwards published a complete course, which surpassed every thing then extant on this subject. His first essay, *On the Masting of Vessels*, and still more his residence at Petersburg, undoubtedly led him to the application of mathematics to the building and management of vessels; and he composed his *Théorie compl. de la Construct. et de la Manœuvre des Vaiss.*, which has been introduced into the French naval school, and translated into English, Italian and Russian. The great questions on the system of the universe, which Newton left to his successors to resolve, were the constant object of Euler's inquiries, and constitute the subjects of most of his prize essays. An extensive dioptric treatise, *Sur la Perfection des Verres object. des Lunettes*, in the *Mémoires de Berlin*, 1747, was the result of his inquiries into the means of improving spectacles. The share which he contributed, by this work, towards the discovery of achromatic telescopes, is sufficient to distinguish his name in this department also. But, in his treatises on physics, he often proposes untenable hypotheses, and appears only to be seeking opportunities for calculation. He also employed himself in metaphysical and philosophical speculations. He attempted to prove the im-

materiality of the soul, and to defend revelation against free thinkers. In his well-known *Lettres à une Princesse d'Allemagne, sur divers Sujets de Phys. et de Philos.* (Berlin, 1763, 3 vols., since republished several times; also in German, Petersburg, 1773), he attacks the Leibnitzian system of monads, and preëstablished harmony; but it is evident that this was not the field for him to shine in. Meusel has given a catalogue of his numerous writings, which have not appeared in collections. We will only mention here his *Theoria Motuum Planetarum et Cometarum* (Berlin, 1744, 4to.); his *Introductio in Analysin Infinitorum* (Lausanne, 1748, 2 vols.); his work already mentioned, which has always been regarded as his greatest production—*Institutiones Calculi Differentialis* (Berlin, 1755, 4to.); his *Institutiones Calculi Integralis* (Petersburg, 1768—70, 3 vols. 4to.; new edition, 4 vols., 1792—94); his remarkably clear and intelligible Introduction to Algebra (ed. by Ebert, Berlin, 1801, 2 vols.); his *Dioptrica* (Petersburg, 1767—71, 3 vols. 4to.); his *Opuscula Analytica*, &c. Euler was of an amiable character, unassuming in his manners, of a cheerful and always pleasant temper; he was fond of society, and had the art of enlivening it by an agreeable wit. During the last 17 years of his life, he was totally blind. By his first marriage, he had 13 children, 5 of whom were living when he married his second wife, his sister-in-law. Of his sons, John Albert, born at Petersburg, 1734, where he died, 1800, followed in his father's steps, was a thorough and expert mathematician, and wrote many treatises, of which seven gained prizes. A catalogue of them has been given by Meusel.

EULOGIES compose, particularly in French literature, a separate branch of belles-lettres. In the age of Louis XIV, they took the place of biography. Their object being the praise of distinguished men, truth has been often sacrificed in them to flattery. The French academy, especially, has paid this tribute to literary merit. The epoch of eulogies began with Fontenelle, who published two volumes of them, in 1731, distinguished for their clearness, vivacity and elegance. Those which followed them were written with much oratorical pomp. Some of the best eulogies are by Thomas (author of *Essais sur les Éloges*), D'Alembert, La Harpe and Condorcet.

EUMENIDES. (See *Furies*.)

EUNOMIA. (See *Hours*.)

EUNUCHS. (See *Castrates*.) Many of

the eunuchs, destined to become the guardians of the great harems of the Turkish empire, are made such in a village near Siout, the capital of Upper Egypt, where the operation is performed mostly by Coptic priests. The slaves who suffer are too young to have any moral repugnance to the ceremony which they have to pass through; on the contrary, they are, most of them, it is said, delighted with the prospect of the fine clothes, horses, &c., which they will have at command when they become guardians of the harems. Burckhardt, Sonnini, Belzoni, and other travellers, differ in respect to the number of those who die in consequence of the operation. Doctor Madden, to whom the Coptic priests were ordered by the casheff to state the proportion, says that, out of 100, 15 die. (See Letter xxv, in R. R. Madden's *Travels in Turkey, Egypt, Nubia and Palestine*, London, 1829, Philadelphia, 1830.)

EUPATORIUM; a genus of plants, belonging to the natural order *compositæ*, containing a great number of species, most of which are natives of America. Their roots are perennial, possessing a rough, bitter, or aromatic taste; the leaves opposite, verticillate, or, sometimes, alternate; the flowers small, white, reddish, or bluish, in corymbs. More than 30 species inhabit the U. States, among them the *E. perfoliatum* (thorough-wort, or bone-set), a common plant, in low grounds, throughout the Union. The leaves of this plant are opposite, and joined together at the base, the two forming, apparently, a single leaf, which is perforated by the stem. This plant is a popular remedy, acting powerfully as a sudorific and emetic, and sometimes as a purgative. The *E. ayapana* of Brazil, which has been much celebrated, possesses similar properties, and probably many others of the genus do also.

EUPHONY (from the Greek *εὐφωμία*, in Latin *euphonia*, from *εὐφω*, sound, and *τις*, well) means agreeable and harmonious sound, particularly the harmony of words; thus, for instance, we say, in Italian more regard has, probably, been paid to euphony than in any other modern European language; in fact, this language has often disregarded etymology for the sake of euphony. In general it may be said, that the languages which are derived from the Latin have paid more regard to euphony than those of the Teutonic stock; the latter adhering, too often pedantically, to the etymology of words, as if the language was intended only for the eye, and

not much more for the ear. Euphony is more particularly consulted in a language, when it is still in its youth; but the more there has been written in it, the less regard is paid to euphony in the formation of new words. From a similar cause, more regard is paid to euphony among the lower than among the higher classes. With the former, language is addressed more to the ear than the eye; but, as we ascend to the higher classes, the language becomes more a means of written communication, and euphony is more neglected. Again, in that nation in which most is written, and which affords the fewest occasions for public speaking—we mean the German—comparatively little attention is paid to euphony, and much to etymology; so that, when the people have formed a practical and euphonic word, contrary to the strict rules of etymology, which, in England or the U. States, the two most practical of civilized countries, would instantly come into use, a German writer will not use it without a cautious “so called” (*sogenannt*). The Greeks gave its due weight to euphony, and the Romans, also, allowed it a great influence, as every nation will do, in which the language is addressed more to the ear than to the eye.

EUPHRATES, or PHRAT, or FRAT; one of the largest and most celebrated rivers of Asia, which has its rise in the mountains of Armenia, from two principal sources,—one issuing from a mountain in the vicinity of Bajazid and Dradin, not far from mount Ararat, the other from mountains around Erzerum. These two streams unite near Palo. The general course of the river is south-easterly. At Corna, 130 miles above its mouth, it is joined by the Tigris. The united stream, called the *Shat ul Arab*, flows into the Persian gulf, 70 miles below Bassora. The whole length is upwards of 1500 miles. It is navigable for ships of 500 tons to Bassora, and, in the driest season, for large boats to Shukaskac, a day's sail above Corna. According to Kinneir, the greatest increase of the Euphrates is in January, when it rises 12 feet perpendicular. The Euphrates is one of the most celebrated rivers of antiquity. On its banks is generally placed the paradise of the Mosaic records; and here Nimrod laid the foundations of the Babylonian empire. Between the Euphrates and the Tigris lay the fertile Mesopotamia, the country of the patriarchs.

EUPHROSINE. (See *Graces*.)

ETRE; a river of France, which has

given its name to two departments, that of the Eure, and that of the Eure and Loire. (See *Department*.) The river rises in the department of the Orne, and falls into the Seine, on the left bank, near Pont-de-l'Arche, after a course of 124 miles, being navigable for about half the distance.

EURIPIDES. This poet was born in the 1st year of the 75th Olympiad, at Salamis, on the day on which the vast navy of Xerxes was defeated by the Greeks: and thus this event serves as a point of connexion of the three greatest tragic poets of Greece; for Æschylus was one of the victors on this occasion, and the young Sophocles danced at the triumph. Of the youth of Euripides we know only that his father, in consequence of some false prediction, intended to train him for an *athlete*; but his natural inclination led him to different pursuits. At first he studied painting, but afterwards applied himself to rhetoric, under Prodicus, and to philosophy, under Anaxagoras (not Socrates). These studies had so powerful an influence on his poetry, that he might be called the *rhetorical tragedian* with no less truth than he is called the *philosophical tragedian*. Euripides lived at a time when Greek tragedy was carried to its greatest perfection by Sophocles, to be ranked as second to whom is high glory. These two poets were the favorites of their age. The tragedies of Euripides were represented at the same time with those of Sophocles, and sometimes gained the prize in preference. The critics, indeed, did not agree unanimously in this decision of the public; and the unsparing satire of Aristophanes was directed against the popular poet, whom he ridiculed in cutting parodies. “Aristophanes,” says Richter, “like another Moses, showers his frogs on Euripides, only to chastise his lax and relaxing morality, not blinded, like Socrates, by his moral sentences to the immoral tendency of the whole.” The number of his tragedies has been variously stated, from 75 to 92; as it is known that he finished his works with great care, the former estimate seems more probable. Only 19 are extant, on the merit of which we have the following criticism by A. W. Schlegel: “Considering Euripides by himself, without comparing him with his predecessors, selecting many of his better pieces, and taking single passages in others, we cannot deny him extraordinary merit. But if we regard him in connexion with the history of the art, and look at the whole scope and aim of his pieces,

as it appears in those which have come down to us, we find cause for much and severe censure. Of few writers can so much good and evil be truly said. He had an inexhaustible invention, and the most various accomplishments; but, amidst an abundance of brilliant and attractive qualities, there is wanting that elevated gravity of spirit, and that nice dramatic tact, which we admire in Æschylus and Sophocles. He is always aiming to please, no matter by what means. Hence it is that he is so unequal: frequently he has passages of exquisite beauty; at other times he sinks into mere common-place. With all his faults, he has an admirable ease, and a certain insinuating grace." If the reader would view both sides of the poet's character, he may peruse A. W. Schlegel's essay, *A Comparison of the Phædra of Euripides with that of Racine*, in connexion with what he has said in the fifth of his *Lectures on the Dramatic Art and Literature*. A part of the faults of Euripides may be charged to the age in which he lived, which was an age of sophistical disquisition, of political controversy and rhetorical art; though it can never be a sufficient apology for wrong, that it is fashionable. Euripides made it a chief aim to awaken the tender emotions. "He knew," says another critic, "the nature of the passions, and had the art of inventing situations in which they could have their full play. Withal he has an elegiac tone, which seldom or never fails of its effect. Most of his characters were once in the enjoyment of distinguished prosperity, and the retrospect, in their present situation, checks the violence of the passions, and lowers them to the tone of lamentation. For this reason, in his tragedies, the passions are breathed forth in soft complaints, rather than raised to a lofty height; for the same reason, he is so rich in moral sentences, and philosophical declamations, as his personages have always coolness enough to reflect on their situation. Euripides knew well what was suited to produce an effect at the moment. The times of boldness, when Æschylus wrote, were past, and the power of the state was beginning gradually to sink. The pathetic manner of Euripides then became popular." Various faults may be found with his loose plan, his often unintelligible changes of character, his superfluous choruses, and sometimes, too, his subject; but he stands preëminent in true, natural expression of the passions, in interesting situations, original groupings of character,

and various knowledge of human nature. He is a master, too, in the art of managing the dialogue, in adapting the speeches and answers to the character, the sex and station, the known or private views, the present disposition of the speaker, and the necessity of the moment, in short, to all that gives distinctness and individuality to a person. There is, too, a certain tenderness and softness diffused over his writings, which cannot fail to please the mind. He has been often called the *woman-hater*, probably on account of his many severe sentences on the follies of the female sex. Yet he was not disinclined to the sex, and is said to have had two wives. We meet, too, in his works, occasional descriptions of female loveliness, and his sensibility to the nobler charms of female purity and virtue cannot be denied. It is not likely, as has been said, that his hatred of women, and of his own wife in particular, drove him from Athens to Macedonia; he went at the invitation of king Archelaus, whose favor and confidence he enjoyed. According to the tradition, he there met with an unfortunate end, being torn to pieces by dogs, or dying in consequence of their bites. The monarch erected a splendid monument, with the inscription, "Thy memory, O Euripides, will never perish." Still more honorable was the inscription on the cenotaph at Athens: "All Greece is the monument of Euripides; the Macedonian earth covers only his bones." Sophocles, who survived him, publicly mourned his loss. The most celebrated editions of Euripides are those of Paul Stephanus (Paris, 1602, 2 vols.), of Barnes (Cambridge, 1694, folio), of Musgrave (Oxford, 1778, 4 vols. 4to.), and of Morus and Beck (Leipsic, 1779—88, 4to.). The latest critical editions are by Matthiæ (Leipsic, 1813—20, 6 vols.), and by Bothe (Leipsic, 1825, sqq.). Valkenaer, Brunck, Porson, Markland, &c., have devoted themselves to the illustration of single tragedies.

EUROPA, in mythology; the daughter of Agenor, king of the Phœnicians, and the nymph Mella, or Telephassa, and sister of Cadmus, whose name, signifying *white*, is said to have been given to the European continent, whose inhabitants are white. The fable relates, that one of Juno's attendants stole a paint-box from the toilet of her mistress, and gave it to Europa. Her native beauty, heightened by this means, won the love of Jupiter, who, in order to possess her, changed himself into a white bull, and appeared

in this shape on the shores of the sea, where she was strolling with her companions. Attracted by the beauty and gentleness of the animal, she even ventured to mount upon his back, when he immediately plunged into the sea with his lovely prize, and swam to the island of Crete. Here he transformed himself into a beautiful youth, and had by her Minos, Sarpedon and Rhadamanthus. She afterwards married Asterius, king of Crete, who, being childless, adopted her three sons.

EUROPE; the smallest of the great divisions of our globe, but distinguished above the rest by the character of its population, the superior cultivation of the soil, and the flourishing condition of arts, sciences, industry and commerce, the multitude of large and well-built cities, and its power and influence over the other parts of the world. Of the origin of its name and its inhabitants, history furnishes no certain account. It is most probable, that the first inhabitants emigrated from Asia, the cradle of the human race. Greece was first peopled by the emigrants. In that country, about 1400 years before our era, grew up the Hellenes, who soon outstripped the civilization of Asia. The most flourishing period of that nation, commonly called the *Greeks*, was about 300 B. C. Equally distinguished in action and speculation, adorned by the arts and sciences, rich in the noblest productions of cultivated minds, it will be, as long as civilization endures, an object of admiration, and its remains the foundation of our knowledge and taste. But with the dissolution of Alexander's empire, which had been raised on the ruins of Grecian freedom, Greece sunk into insignificance. At the same time, another nation was rising in Italy, the Romans, who appeared, indeed, at an earlier period, but made no figure in history till they had become masters of Italy, and had proved victorious in their struggle with the Carthaginians. From that period, their power began to extend over all Europe. They subdued the divided Greeks, and transplanted their arts and refinement to the Italian soil. By the progress of the Roman arms, Spain, Portugal, France, the coast of England, Belgium, Helvetia, the part of Germany between the Danube and the Alps, the Hungarian provinces (then called *Pannonia*, *Illyria* and *Dacia*), became known, and received the Roman manners, language and refinement. Agriculture was introduced, and flourishing cities rose

among the wandering nomades. The Christian religion, which spread throughout the wide Roman empire, was also a powerful instrument in the civilization of most of the European nations. Germany alone resisted the overwhelming power of Rome, and thereby prevented the spreading of Roman civilization in the north of Europe, which still remained unknown in history. With the fall of the Roman empire, occasioned chiefly by its separation into the Eastern and Western empires, a great change in the political constitution of Europe was produced, by the universal emigration of the northern nations. These nations poured down upon the beautiful and cultivated countries of the Roman empire, now in the weakness of decline, and Roman art and science were obliged to give place to the barbarity, the deep ignorance and superstition of the middle ages. The Ostrogoths and Lombards settled in Italy, the Franks in France, the Visigoths in Spain, and the Anglo-Saxons in South Britain, reducing the inhabitants to subjection, or becoming incorporated with them. The empire of the Franks was enlarged, under Charlemagne, to such an extent, that the kingdoms of France, Germany, Italy, Burgundy, Lorraine and Navarre were afterwards formed out of it. About this time, the northern and eastern nations of Europe began to exert an influence in the affairs of the world. The Slavi, or Sclavonians, founded kingdoms in Bohemia, Poland, Russia, and the north of Germany; the Magyarians appeared in Hungary, and the Normans agitated all Europe. The establishment of a hierarchy was now undertaken by the popes, and finally carried to its completion by Gregory VII and Innocent III. (See *Empire*.) Their power was increased by the crusades. Nevertheless, this struggle between Asia and Europe had the effect of forming a middle class, of leading the peasant gradually to throw off the chains of bondage, and of introducing the arts and sciences through the Arabs and Greeks into Europe. The revival of letters, by the Greeks fleeing from Constantinople, gave an entirely new impulse to Europe. The establishment of universities, the invention of printing, and the reformation, served to cherish and develop these seeds of improvement. The feudal contests, the struggle of privileges, led eventually to the acknowledgment and establishment of the rights of the individual. (See *City*, *Corporation*, and *Estates*.) Out of the chaos of the middle ages, arose the

states of Germany, France, Spain, Portugal, England, Scotland, Switzerland, the Italian powers, Hungary, Bohemia, Poland, Denmark, Sweden, Norway and Russia. By the capture of Constantinople (1453), the Turks, with their fanatical military despotism, became a European power. Austria, Holland, Prussia and Sardinia were also added to the number of European states; and Russia, from the time of Peter I, was changed from an Asiatic into a European empire. The attempts of Charles V and Louis XIV to become masters of Europe failed; but, in our own times, Napoleon conceived the project of forming, from the European states, a universal monarchy, and pursued it for 10 years. Since the formation of the states of Europe, the following have disappeared from the list of independent powers: Hungary, Poland, the German empire, Scotland, Bohemia, Venice, Genoa, and Milan. The following have been added: the states of the German confederacy, the Italian states, the republic of the Ionian islands, and that of Cracow. A natural consequence of the general diffusion of intellectual cultivation, and the decay of the feudal system, has been the gradual development of the ideas of equal right and individual liberty; bloody struggles have naturally ensued between the adherents of the new and old opinions, and Europe is still convulsed by them. (See *Feudal System, Napoleon, &c.*)—Europe is washed on three sides by the sea, which is called by different names, and belongs either to the Northern Arctic or the Atlantic ocean. A narrow strait of the Mediterranean separates it from Africa. On the east, alone, it joins the main land, being there separated from Asia by an imaginary line. Europe is situated in the northern frozen and the northern temperate zones, between 10° and 63° east longitude, and 36° and 71° north latitude. Including the islands, which contain about 317,000 square miles, the whole extent of Europe amounts to about 3,250,000 square miles, of which Russia comprises nearly one half. The greatest length, from cape St. Vincent, in Portugal, to the northern extremity of the eastern boundary, at Waygatt's straits, is about 3500 miles. The greatest breadth, from cape Matapan, in the Morea, to the North Cape, in Norway, is about 2500 miles. Europe is remarkably well watered, although its rivers have not so long a course, nor such large cataracts, as those in other parts of the globe, particularly in America. The

principal rivers are the Ebro, the Rhone and the Po, running into the Mediterranean; the Danube, the Dnieper and the Dniester, into the Black sea; the Don, into the sea of Azoph; the Wolga, into the Caspian; the Dwina, into the Arctic ocean; another Dwina, or Duna, the Vistula and the Oder, into the Baltic; the Elbe, Weser and Rhine, into the North sea; the Seine, into the English channel; the Loire and Garonne, the Duero and Tagus, the Guadiana and Guadalquivir, into the Atlantic. The Wolga and Danube are the longest. Of its numerous lakes, the largest, which, however, bear no comparison with the North American, are in the north of Europe; viz., in Russia, lakes Ladoga (the largest in Europe), Onega, and Tchudskoe, or Peipus; in Sweden, lakes Maler, Wener, and Wetter. On the borders of Germany and Switzerland is lake Constance; on the borders of Italy and Switzerland is the lake of Geneva (lake Lemman); in Hungary are lakes Platten and Neusiedler. A great part of Europe is mountainous; the southern more so than the northern. The most elevated region is Switzerland, from which there is a descent, which terminates, on the side of the North sea and the Baltic, in low plains. The lowest and most level parts are Holland and northern Germany, Denmark, Russia and Prussia. The highest mountains are the Alps, in Switzerland and Italy, which spread from those countries in various directions, extend westwardly into France, and are connected by the Cevennes with the Pyrenees, which separate France from Spain. One chain of the Alps stretches south towards the Mediterranean; then, taking an easterly course, runs through Italy, under the name of the *Apennines*. Several branches run eastwards from the Alps, through the south of Germany, as far as the Turkish provinces. Another chain, the Jura, runs to the north, and separates Switzerland from France. In the east of Europe are the Carpathian mountains, which, on one side, meet the Sudetic range, and on the other, the mountains of Turkey in Europe. The highest mountain in Europe is Mont Blanc, in Savoy, one of the Alps, which is said to be 15,766 feet above the level of the sea. Several of the European mountains are volcanoes; as *Ætna*, *Vesuvius* and *Hecla*. It is a fact worthy of notice, that none of the volcanoes of Europe are to be found in any of the great chains of mountains which have just been enumerated. The only one on the conti-

ment is Vesuvius, and this is too much detached to be considered as properly forming one of the Apennines. *Ætna*, in the island of Sicily, rising to the height of 10 or 11,000 feet above the level of the sea, is the largest European volcano. The Lipari islands, anciently called the *Æolian*, a few miles to the north of Sicily, bear evident marks of a volcanic origin; and, in several of them, subterranean fires are still in operation. The volcano of Stromboli is in almost incessant activity, and differs, in this respect, from any other with which we are acquainted. The Azores, in the Atlantic ocean, are doubtless indebted for their formation to the same circumstance as the Lipari islands; and, indeed, new rocks have risen from the sea in their vicinity, within a recent period. An eruption took place at St. George, during the present century. Iceland, too, though lying under 65° of north latitude, presents the most abundant tokens of the presence of volcanic fire, and has often suffered under its devastations. Mount Hecla is the most noted, though not the only source of the eruptions on this island.—To the possession of many inland seas, and, consequently, of a line of coast very extensive in proportion to its area, Europe is greatly indebted for the great advancement of its inhabitants in civilization; these circumstances being favorable to that intercourse without which nations never make great advances. The peninsulas are six: Scandinavia, Jutland, Crimea (*Taurica Chersonesus*), Italy, Spain and Greece. The soil of Europe, though not equal in luxuriance to that of the tropics, is, almost throughout, fit for cultivation. The tracts in the northern zone are almost the only exception. With respect to climate, Europe may be divided into three parts,—the warm region, where the lemon-trees grow wild, as far as 48° north lat., having a pleasant spring, a hot summer, and short winter; the temperate, as far as 65° N., in which grain ripens; and the cold region, to the extreme north, where nothing will grow but reindeer-moss, and no domestic animal can live except the reindeer. The products are not so various as in other parts of the world, and many of them were originally brought from foreign countries and naturalized; but, on the other hand, Europe can boast of a more perfect cultivation. Among the animals are horses, some of which are of the nobler breeds, horned cattle, sheep in Spain, Saxony and England, of the finest wool, asses, goats, swine, dogs, reindeer,

wild beasts of different kinds, valuable for their flesh or fur, whales, sea-cows, sea-dogs, abundance of wild and tame fowl, large quantities of fish in the seas, lakes and rivers, among which the herring, in particular, affords sustenance to many of the inhabitants; useful insects, such as bees, silkworms, kermes, gall flies, and Spanish flies. Oysters and pearl muscles also abound. It produces all kinds of grain, and sufficient for its consumption; beautiful garden plants; abundance of fruits, including those of southern climates, such as figs, almonds, chestnuts, lemons, oranges, olives, pomegranates, dates; also flax, hemp, cotton, madder, tobacco, the best kinds of wine, and a great variety of wood for fuel, and for house and ship building. The birch and the willow best endure the cold of the northern polar circle. Europe produces all the varieties of metals and minerals in great excellence and abundance. In gold and silver, Hungary and Transylvania are the richest; in iron, the northern countries, Sweden, Norway and Russia. Salt of all kinds, rock, sea and spring salt, is also abundant in Europe. The inhabitants, estimated by Malte-Brun at 200 millions, at least, are unequally distributed; in Russia and Sweden there are from 15 to 18 to a square mile; in the Netherlands, where the population is most dense, Italy, France, Great Britain and Germany, the same extent supports from 150 to 250 persons. The inhabitants consist of several different races, speaking distinct languages. The stocks to which the principal languages belong, are—the Teutonic, which is the mother of the German, Dutch, English, Swedish and Danish; the Latin, or Roman, now spoken only by the learned, but the mother of the Italian, French, Spanish, Portuguese, and Walachian; the Slavonic, to which belong the Russian, Polish, Bohemian, Bulgarian, Vandal, and the Servian, or Illyrian. Besides these, there are the modern Greek; the Turco-Tartaric; the Finnish, and Hungarian; the Cimbrian, in Wales and the north-west part of France (Bretagne); the Scottish, or Gaelic, in Scotland and Ireland; the Basque, among the Pyrenees. The most widely spoken is the German, with its kindred languages, formed by a union of the Roman with the Slavonic. The prevailing religion is the Christian, which includes several churches, viz., the Roman Catholic, which is the most numerous; the Protestant (Lutheran, Calvinistic and Anglican), consisting of numerous sects—Anabaptists, Mennonites,

Quakers, Unitarians, Methodists, Moravians; and the Greek church. A part of the inhabitants profess the Jewish, a part the Mohammedan religion. Among the Laplanders and Samoeides there are also some heathens, but their number is small. Agriculture has made great advances in Europe, and is daily improving. In this respect, those countries are particularly distinguished where the Teutonic languages are spoken, as, also, are France and a part of Italy. In no part of the world are manufactures carried to such perfection as in several of the European countries, especially in Great Britain, France, the Netherlands and Germany. The inhabitants work up not only native European, but also foreign products, and supply all the wants and luxuries of life. Commerce is not less active, and is promoted by well-constructed roads and canals, by well-organized posts, banks, insurance companies, commercial companies, and fairs. The commerce of Europe extends to all quarters of the world, and every sea is filled with European ships. In this respect, Great Britain is most distinguished. Europe is the seat of art and science; to her belongs the honor of discovering the most important truths, of giving birth to the most useful inventions, the finest productions of genius, the improvement of all the sciences. In intellectual progress, the Teutonic races, and those who speak the languages derived from the Latin, have surpassed the Slavonic nations. The Turks have remained strangers, in many respects, to the literary and scientific improvement which has marked the other European nations. Eighty-five universities provide for the higher branches of education; numerous gymnasia and academies for the preparatory studies, and a great number of lower schools, particularly in Germany, are employed in educating the common people. In many places there are academies of science, and societies of all kinds, for the cultivation of the arts and sciences. By its physical situation, Europe is divided into East and West Europe. West Europe comprises the Pyrenean peninsula (Spain and Portugal), the country west of the Alps (France), the countries north of the Alps (Switzerland, Germany and the Netherlands), the country south of the Alps (Italy), the islands of the North sea (Great Britain, Ireland and Iceland), and the countries on the Baltic (Denmark, Norway, Sweden and Prussia).

East Europe contains the countries north of the Carpathian mountains (Russia and Galicia), and the countries south of the Carpathian mountains (Hungary, in its more comprehensive sense, and Turkey). The following are the political states of Europe: the three empires of Austria, Russia and Turkey; 17 kingdoms, viz., Portugal, Spain, France, Great Britain, the Netherlands, Denmark, Sweden, Norway, Sardinia, the Two Sicilies, Greece, Prussia, Bavaria, Saxony, Hanover, Würtemberg and Poland; 1 ecclesiastical state, the papal dominions; 8 republics, viz., Switzerland, the Ionian islands, Cracow, San Marino, Hamburg, Lubeck, Bremen and Frankfort; 1 electorate, Hesse; 6 grand-duchies, Baden, Hesse-Darmstadt, Saxe-Weimar, Mecklenburg-Schwerin, Mecklenburg-Strelitz and Tuscany; 12 duchies, viz., Oldenburg, Gotha, Meiningen, Altenburg, Brunswick, Nassau, Dessau, Bernburg, Cöthen, Modena, Parma and Lucca; 1 landgraviate, Hesse-Homburg; 1 grand principality, Finland, and 12 principalities, viz., Hohenzollern-Hechingen, Hohenzollern-Sigmaringen, Schwarzburg-Rudolstadt, Schwarzburg-Sondershausen, Waldeck, Lippe-Detmold, Schaumburg-Lippe, Lichtenstein, Reuss-Greiz, Reuss-Schleiz, Reuss-Lobenstein and Reuss-Ebersdorf.

Inhabitants. The most important races inhabiting Europe are classed by Hassel, in his statistical tables (1823), in the following proportions: 1. Roman nations, 75,829,000—including the French, Italians, Spaniards, Portuguese, Walloons, Walachians; 2. Teutonic, or German nations, 60,451,800—including the Germans, Dutch and English, Danes, Norwegians, Swedes; 3. Slavonian nations, 68,255,000—including the Russians, Poles, Lithuanians, Livonians, &c., Wendish, &c., Tschechen, Slavonians, Croats, Rascians and Servians, Morlachians, Bosnians, &c.; 4. Caledonians, including the Highlanders and Irish, 8,200,000; 5. Turks, 2,350,000; 6. Greeks, 4,834,000; 7. Arnauts, 530,000; 8. Magyarians, 4,472,000—including the Bulgarians, 522,000; 9. Finns, 1,370,000, Esthonians, 480,000, Laplanders, 17,800 (the three last belong to the Mongol race); 10. Cymri, or Low Bretons, 1,661,000; 11. Basques, 620,000; 12. Maltese, 88,000. The tables of the same distinguished geographer, published in 1817, estimate the Jews at 1,179,500; the Gipsies at 313,000; the Armenians at 131,600.

STATISTICAL VIEW OF ALL THE

EUROPEAN STATES.	AREA in English square miles.	POPULATION.					
		Catholics.	Protestants.	Greeks.	Mohamme- dans.	Jews.	Total.
1 Anhalt-Bernburg,	334	—	38,510	—	—	390	38,900
2 " Dessau,	345	1,200	56,800	—	—	1,270	59,270
3 " Cöthen,	330	360	34,835	—	—	415	35,610
4 Austria,	258,603	25,650,000	3,000,000	2,970,000	500	480,000	32,100,500
5 Baden,	5,926	730,808	343,173	—	—	16,930	1,090,911
6 Bavaria,	31,317	2,880,383	1,094,633	—	—	57,574	4,032,590
7 Bentinck,	25	—	2,900	—	—	—	2,900
8 Brunswick,	1,491	2,500	240,400	—	—	1,300	244,200
9 Bremen,	68	1,500	50,000	—	—	—	51,500
10 British Empire,	117,788	6,085,300	16,197,321	—	—	15,000	22,297,621
11 Cracow,	494	100,812	19,000	—	—	7,238	127,100
12 Denmark,	52,262	2,000	2,049,531	—	—	6,000	2,057,531
13 Frankfort on M.*	91	6,000	42,800	—	—	5,200	54,000
14 France,	213,838	31,099,518	892,947	—	—	60,000	32,052,465
15 Greece,	?	—	—	—	—	—	550,000
16 Hamburg,	150	3,060	139,440	—	—	7,500	150,000
17 Hanover,	14,735	200,000	1,370,574	—	—	12,000	1,582,574
18 Hesse-Cassel,	4,428	105,000	492,300	—	—	5,400	602,700
19 " Darmstadt,	3,922	120,000	582,900	—	—	16,000	718,900
20 " Homburg,	166	2,931	17,683	—	—	1,050	21,664
21 Hoh. Hechingen,†	129	15,000	—	—	—	—	15,000
22 " Sigmaringen,	386	39,600	—	—	—	400	40,000
23 Ionian Islands,	998	35,200	800	133,398	—	5,500	175,398
24 Lichtenstein,	51	5,800	—	—	—	—	5,800
25 Lippe-Deimold,	436	1,600	75,118	—	—	—	76,718
26 Lucca,	413	145,000	—	—	—	—	145,000
27 Lübeck,	143	400	45,703	—	—	400	46,503
28 San Marino,	22	7,000	—	—	—	—	7,000
29 Meck. Schwerin,‡	4,746	957	437,105	—	—	3,102	441,164
30 " Strelitz,	765	50	78,510	—	—	833	79,393
31 Modena,	2,092	377,500	—	—	—	1,500	379,000
32 Nassau,	1,753	157,638	184,651	—	—	5,717	348,006
33 Netherlands,	25,367	3,660,000	3,237,500	—	—	80,000	6,977,500
34 Oldenburg,	2,459	70,700	175,538	—	—	970	247,208
35 Parma,	2,203	437,400	—	—	—	—	437,400
36 Portugal,	36,510	3,782,550	—	—	—	—	3,782,550
37 Prussia,	107,159	4,694,000	7,930,403	—	—	154,000	12,778,403
38 Reuss, elder line,	145	—	24,020	—	—	80	24,100
39 " younger "	447	—	57,470	—	—	220	57,690
40 Russia,	1,414,436	5,500,000	2,658,500	33,326,500	150,000	360,000	41,995,000
41 Sardinia,	28,912	4,142,177	22,000	—	—	3,200	4,167,377
42 Saxony,	575	48,000	1,350,000	—	—	2,000	1,400,000
43 Saxe-Altenburg,	496	150	109,343	—	—	—	109,493
44 " Coburg,	1,036	11,500	130,593	—	—	1,200	143,293
45 " Meiningen,	884	400	128,239	—	—	950	129,589
46 " Weimar,	1,416	9,512	210,911	—	—	1,231	221,654
47 Schaumb. Lippe,§	206	100	25,500	—	—	—	25,600
48 Sch. Rudolstadt,||	404	200	56,625	—	—	160	56,985
49 " Sondershausen,	358	200	47,906	—	—	—	48,106
50 Sicilies (the Two),	41,284	7,412,717	—	—	—	2,000	7,414,717
51 States of Church,	17,210	2,468,940	—	—	—	15,000	2,483,940
52 Sweden,	291,163	5,000	3,869,700	—	—	4,000	3,878,700
53 Switzerland,	14,761	817,110	1,217,760	—	—	1,810	2,036,680
54 Spain,	179,074	13,651,172	—	—	—	—	13,651,172
55 Turkey,	203,566	310,000	—	5,878,000	2,890,000	315,000	9,393,000
56 Tuscany,	8,381	1,291,130	—	—	—	9,400	1,300,530
57 Waldeck,	459	800	52,700	—	—	500	54,000
58 Württemberg,	7,615	464,000	1,062,253	—	—	9,150	1,535,403
Total,	3,104,780	116,559,075	49,847,495	42,308,398	3,040,500	1,671,640	213,977,108

* Frankfort on the Maine.

† Hohenzollern-Hechingen.

‡ Mecklenburg-Schwerin.

§ Schaumburg-Lippe.

|| Schwarzburg-Rudolstadt.

EUROPEAN STATES, FOR 1828.

GOVERNMENT.*	FINANCES.		LAND FORCES		SEA FORCES.	
	Revenue.	Debt.	In peace.	In war.	Peace.	War.
	Dollars.	Dollars.			Sail.	Sail.
1 Absolute; provincial estates, . . .	180,000	240,000	370	740	—	—
2 ———, . . .	234,000	200,000	529	1,058	—	—
3 ———, . . .	92,000	640,000	324	648	—	—
4 Absolute; estates,†	52,000,000	200,000,000	271,404	750,504	31	31
5 Constitutional,	3,932,830	6,392,424	11,566	20,000	—	—
6 ———,	12,031,547	44,402,257	53,898	71,600	—	—
7 Absolute,	62,800	60,000	—	—	—	—
8 Absolute; provincial estates, . . .	950,773	1,400,000	2,432	4,192	—	—
9 Republic,	160,000	1,200,000	385	770	—	—
10 Constitutional,	223,849,600	3,490,896,768	90,519	378,370	610	1,050
11 Republic, und. protec. Rus. Prus. & Aus.	133,243	10,000	—	—	—	—
12 Absolute,	4,030,000	40,000,000	38,819	74,000	97	120
13 Republic,	304,000	3,200,000	475	946	—	—
14 Constitutional,	157,760,000	480,000,000	281,000	320,000	329	350
15 ?	—	—	2,580	—	—	50
16 Republic,	600,000	5,200,000	1,050	2,596	—	—
17 Estates,	4,630,000	12,000,000	12,940	26,108	—	—
18 Absolute,	1,800,000	780,000	9,859	11,353	—	—
19 Constitutional,	2,351,456	5,589,450	8,421	12,390	—	—
20 Absolute,	72,000	180,000	200	400	—	—
21 ———,	48,000	—	145	290	—	—
22 ———,	120,000	200,000	370	740	—	—
23 Republic, under protec. of Britain,	565,600	—	1,600	1,600	—	—
24 Constitutional,	480,000	—	55	110	—	—
25 Absolute; estates,	196,000	280,000	690	1,380	—	—
26 Constitutional,	288,000	600,000	800	800	3	3
27 Republic,	160,000	1,200,000	406	812	—	—
28 Republic, protected by the pope, . .	12,000	—	—	—	—	—
29 Estates, with considerable power, . .	920,000	3,800,000	3,137	7,160	—	—
30 ———,	200,000	200,000	742	1,434	—	—
31 Absolute,	600,000	400,000	1,860	1,860	—	—
32 Estates,	724,000	2,000,000	2,800	6,056	—	—
33 Constitutional,	12,000,000	178,078,670	43,297	69,472	93	150
34 Absolute,	600,000	—	2,177	4,354	—	—
35 Absolute,	600,000	2,000,000	1,320	1,320	—	—
36 ?	8,740,800	24,000,000	40,000	70,000	23	23
37 Absolute; provincial estates, . . .	30,477,600	114,340,440	165,000	524,423	—	—
38 Absolute; estates,	56,000	2,000,000	206	412	—	—
39 ———,	160,000	480,000	538	1,076	—	—
40 Absolute,	52,000,000	200,000,000	600,000	1,039,117	12	12
41 ———,	8,740,800	24,000,000	28,000	60,000	8	8
42 Estates,	4,400,000	12,800,000	13,307	24,000	—	—
43 ———,	240,000	329,640	982	1,964	—	—
44 ———,	360,000	1,200,000	1,366	2,732	—	—
45 ———,	300,000	1,000,000	1,150	2,300	—	—
46 Constitutional,	719,784	2,400,000	2,164	4,020	—	—
47 Estates,	186,000	120,000	240	480	—	—
48 ———,	130,000	170,992	539	1,078	—	—
49 Absolute,	120,000	160,000	451	902	—	—
50 ———,	12,593,484	84,000,000	28,436	60,000	12	246
51 Elective monarchy; absolute, . . .	4,800,000	98,000,000	9,100	9,100	6	6
52 Constitutional,	7,000,000	17,264,812	45,201	138,569	30	372½
53 Confederated republics,	25,509	—	—	33,578	—	—
54 Absolute; cortes,	26,520,000	230,443,062	46,000	173,550	34	60
55 Despotism,	11,200,000	36,000,000	80,000	200,000	80	160
56 Absolute,	—	—	8,000	8,000	—	—
57 Estates,	160,000	480,000	518	1,036	—	—
58 Constitutional,	3,342,318	10,942,766	4,906	27,910	—	—
Total,	658,847,899	5,341,721,211	1,909,175	4,578,430	1,368	2,641

* The word *Constitutional* is set against those states which have representative governments in the modern sense of the term. The words *Absolute*, *estates*, indicate that though the representation of the estates exists, the government is, in fact, absolute; as in Prussia, where the power of the estates is limited to expressing their opinions on subjects which the government lays before them. The word *Estates*, simply, indicates, that the estates have actually some share in the government. When not otherwise stated, the government is monarchical.

† Austria is composed of very different parts. (See *Austria*, and *Constitution*.)

‡ Among these are 216 xebecs.

Among the best sources for the current statistics of Europe, we would mention the *Genealogischer Historischer und Statistischer Almanach*, an annual, published at Weimar and established by the celebrated geographer Hassel. This is a work of much merit in many respects. For English statistics, the Companion to the British Almanac, published annually by the society for the diffusion of useful knowledge, is of great value.

EURYALE; 1. queen of the Amazons.—2. A daughter of Minos.—3. A daughter of Prætus, king of Argos.—4. See *Gorgons*.

EURYALUS; 1. one of the Greek heroes at the siege of Troy.—2. One of the companions of Æneas, famous for his friendship with Nisus, with whom he was killed, after having forced his way with him into the enemy's camp. VIRGIL, *Æneid*, IX. 175.

EURYDICE. Among the many women of antiquity who bore this name, the most celebrated is the wife of Orpheus, who died by the bite of a serpent. Her husband, inconsolable for her loss, descended to the lower world, and, by the charms of his lyre, moved the infernal deities to grant him permission to bring her back. This they granted, on condition that he would not look round upon her till he had reached the upper world. Forgetting his promise, he looked back, and lost her forever. This story has often formed a fine subject for poets.

EURYNOME; the daughter of Oceanus; according to Hesiod, the mother of the Graces. (q. v.)

EUSEBIA (*Greek*); piety; in the modern allegorical sense, the presiding genius of theology.

EUSEBIUS, surnamed *Pamphilus*, the father of ecclesiastical history, born at Cæsarea, in Palestine, about 270, A. D., died about 340, and was the most learned man of his time. He was a presbyter, and, in 314, was appointed bishop in his native city. He was at first opposed to the Arians, but afterwards became their advocate, and with them condemned the doctrines of Athanasius. His ecclesiastical history, written, like his other works, in Greek, is contained in 10 books, and extends from the birth of Christ to 324 (the best editions are that of Valesius, Paris, 1639, fol. and that of Reading, Canterbury, 1720, fol.). Of his *Chronicon*, with the exception of some fragments of the original, we have only an Armenian translation, and the Latin version of Jerome. Besides these, there are yet

extant, 15 books of his *Preparatio Evangelica*, which is particularly valuable for the extracts it contains from lost philosophical works. Of the 20 books of his *Demonstratio Evangelica*, in which he shows the superiority of Christianity to Judaism, we have only 10 imperfectly preserved; and, finally, a life, or rather eulogium, of Constantine. Notices of his life may be found in the above quoted edition of Valesius. Danz, Möller and Kessner have written briefly on his value and credibility as a historian.

EUSTACHI, Bartolomeo, a physician and anatomist, born at San Severino, in the mark of Ancona, studied Latin, Greek and Arabic at Rome, and devoted himself to the various departments of medical science, more particularly those which relate to the structure of the human body, and was made physician to the cardinals Carlo Borromeo, and Giulio della Rovera; he was also appointed professor in the institution della Sapienza, at Rome. There is hardly any part of anatomical science which he did not enrich by profound researches or important discoveries. Some of the parts discovered by him have received their names from him: thus the canal that unites the internal ear with the back part of the mouth, is called the *eustachian tube*; so also the *eustachian valve* of the heart. Among his works are his *Tabula anatomica, quas e Tenebris tandem vindicatas, et Pontificis Clementis XI Munificentia Dono acceptas, Præfatione Notisque illustravit Joannes-Maria Lancisi* (Rome, 1714, fol.). This work is remarkable as containing excellent drawings of the human body, which were executed in 1552, but not discovered and published till a much later period. The text has never been found. Albinus published an excellent commentary on these tables (Leyden, 1743, fol.). Another of his works, *De Anatomicorum Controversiis*, is also lost. Besides these, we have many other valuable works by him. Boerhaave published an edition of them at Leyden, 1707, which was reprinted at Delft, 1736. Eustachi died at Rome, 1574.

EUSTATHIUS, a commentator on Homer and the geographer Dionysius, originally a monk, afterwards deacon, and finally, 1155, archbishop of Thessalonica. He died after 1194. Though not very enlightened in his theological views, he was deeply read in the classics, and a man of extensive erudition, as appears from his commentaries compiled from the old scholiasts, of which that on Homer, in particular, is an inexhaustible mine of

philological learning (Rome, 1542—50, 4 vols. fol., and Bâle, 1559—60, 3 vols. fol., new edition, Leipsic, by Weigel, commenced in 1825, 4to.).

EUSTATIA, ST., one of the Leeward islands, fifteen miles south-east of Saba, and eight north-west of St. Christopher's, is a huge rock, rising out of the waves, in the form of a pyramid, 29 miles in circumference. Sugar, cotton and maize are raised here; but the principal production is tobacco, which is cultivated on the sides of the pyramid, to its very top. There is but one landing place, and that, though difficult of access, is strongly fortified. The number of inhabitants is 18,000, of whom 4000 are whites, chiefly Dutch, and 14,000 negroes. The Dutch made the first settlement on this island about the year 1600. In the year 1665, it was captured by an English expedition. The French, however, soon afterwards expelled the British, and restored it to the Dutch in 1667. The English retook it in 1689, and restored it on the termination of the war in 1697. In 1781, a large naval and military force, under admiral Rodney, compelled the inhabitants, who were incapable of defence, to submit at discretion. The English commanders, under the pretence that the people of the island had supplied the U. States with naval stores, confiscated all private property, and, at one blow, reduced the unfortunate inhabitants to poverty. In the same year, however, the island was retaken by a small body of French troops, under the command of the marquis de Bouille. St. Eustatia was again attacked by the English in 1809, and compelled to submit; but, in 1814, the Dutch government was restored.

EUTERPE; one of the muses, considered as presiding over music, because the invention of the flute is ascribed to her. She is usually represented as a virgin crowned with flowers, having a flute in her hand, or with various instruments about her. As her name denotes, she is the inspirer of pleasure. (See *Muses*.)

EUTHANASIA; a gentle, easy, happy death. Wieland gave this name to one of his works.

EUTROPIUS, Flavius; a Latin historian, who, as he himself informs us, bore arms under the emperor Julian. The place of his birth and his history are unknown to us. He flourished about 360 A. D. His abridgment of the history of Rome (*Breviarium Historiæ Romanæ*) reaches from the foundation of the city to the time of the emperor Valens, to whom

it is dedicated. The style, though not finished, is perspicuous. The most esteemed editions are those of Haverkamp (Leyden, 1729), Versek (Leyden, 1762, 2 vols.), and Tzschucke (Leipsic, 1804).

EUXINE (*Pontus Euxinus*); the ancient name for the Black sea.

EVAN; a surname of Bacchus. (See *Bacchus*.)

EVANGELICAL. The king of Prussia has endeavored, for some time past, to unite his Lutheran and Calvinist subjects. There was, in fact, little difference in the faith of many of the two denominations; many of the Calvinists, or the *Reformed*, as they are called in Germany, not holding to predestination and several other Calvinistic points; and many of the Lutherans having not adhered to the doctrine of consubstantiation. Not a few, however, still adhere strictly to the tenets of their different sects. To assist the union, as it was styled, the Lord's supper is now administered uniformly, in all Protestant churches, throughout the kingdom, viz.: unleavened bread is used in the rite. If any Lutheran, however, wishes to receive the host in the old way, he may have it, because the sacrament in all Lutheran churches is administered in this form likewise. Calvinist preachers, or rather such as were formerly Calvinists, are now often appointed in Lutheran churches, and *vice versa*. This union has had some salutary influences; but the question may be reasonably asked, What is the character of the two sects in their present state? Have they given up or become indifferent to the important points of distinction which formerly existed between them? Nothing, in this respect, has been settled. In the public documents, the words *Lutheran* or *Calvinist* are never used at present, *evangelical* being substituted in the room of both. The king even went so far, a few years ago, as to prohibit the use of the word *Protestant*, in any publication, and ordered the term *evangelical* to be employed, on occasion of a theological controversy which had attracted his majesty's attention.

EVAPORATION is the conversion of liquid and solid bodies into elastic fluids, by the influence of caloric. Expose, for instance, water to heat, bubbles at first adhere to the sides of the vessel, which, by degrees, ascend to the surface, and burst. These bubbles rise the more rapidly in proportion to the heat. Water is evaporated by the heat of the sun merely, and even without this in the open air, and the vapor, rising into the air, is condensed

into clouds. The general cause of evaporation is caloric; but different substances require different degrees of it. Water is particularly subject to evaporation. It evaporates at a very low temperature, and, from the immense quantity which is spread over the earth, it may be inferred, with great probability, that the most important changes in our atmosphere are occasioned by it. Instruments have been invented to measure the evaporation of water (see *Atmometer*), but the results are uncertain. If we assume, as experiments justify, that the annual evaporation averages 30 inches (i. e. that the vapor, if reconverted into water, would cover the surface from which the evaporation took place, to a height of 30 inches), then, the surface of all the waters on our earth being assumed at 128,000,000 of geographical miles, 60,000 cubic miles of water would be annually changed into vapor; and the amount will be still greater, if we add to it the evaporation from moist earth and from the watery parts of the vegetable and animal kingdoms. In summer, evaporation is generally much greater than in winter; yet it is not so inconsiderable in cold weather as we might suppose from the small quantity of caloric then sensible. Even in the polar circles, it does not entirely cease; for ice evaporates in the open air. To account for the phenomenon of evaporation, two hypotheses have been formed; that it is a conversion of fluids into elastic vapor by their union with caloric, or that it is a real solution of the fluids in the air. The latter theory has been opposed, particularly by De Luc. He maintains that, in evaporation, water combines with caloric, without being dissolved in the air. The principal argument in support of this theory is, that cold is generated by the evaporation of a liquid. Cold is only the absence or consumption of caloric. If now, in evaporation, caloric is consumed, i. e., is combined with the evaporated water, this consumption must

generate a sensible cold. De Luc further maintains, that the air, so far from contributing to evaporation, prevents it by its pressure. If this pressure is removed, the same quantity of water requires far less caloric to evaporate it; for experiments show that water evaporates more rapidly in a vacuum than in the air, and Saussure says, that at the same degree of the thermometer and hygrometer, the evaporation on mountains, where the air is of three times less density, is more than double that in the valleys. Later experiments render it still more evident, that a dissolving power of air is not necessary to change water into an elastic vapor, since, otherwise, it could not be produced in a vacuum. Such a dissolving power in the air, however, is absolutely required to effect a uniform mixture of this vapor with air; otherwise, from the difference of the specific gravities of the two fluids, a separation must ensue, of which we have no experience; and we find ourselves compelled to regard the union of the expansive vapor with the air as a true solution of the one in the other. De Luc developed the first view in the *Nouvelles Idées sur la Météorologie* (London, 1786, 2 vols.), while the solvent power was maintained to be the cause of evaporation by Hube, in his treatise *On Evaporation* (Leipsic, 1790). (See *Perspiration*.)

Artificial Evaporation is a chemical process, usually performed by applying heat to any compound substance, in order to separate the volatile parts. It differs from distillation, its object being chiefly to preserve the more fixed matters, while the volatile substances are allowed to escape. Accordingly, the vessels in which these two operations are performed, are different; evaporation being commonly made to take place in open, shallow vessels, and distillation in an apparatus nearly closed from the external air.

EVE. (See *Adam*.)

APPENDIX.

DOMICIL, in law. By the term *domicil*, in its ordinary acceptation, is meant the place where a person lives, or has his home. In this sense, the place where a person has his actual residence, inhabitation or commorancy is sometimes called his *domicil*. In a strict and legal sense, that is properly the domicile of a person, where he has fixed his true, permanent home, and principal establishment, and to which, whenever he is absent, he has the intention of returning (*animus revertendi*). The Roman law stated it thus: *In eodem loco singulos habere domicilium non ambigitur, ubi quis larem rerumque ac fortunarum suarum summam constituit, unde cursus non sit discessurus si nihil avocet; unde, cum profectus est, peregrinari videtur; quod si rediit, peregrinari jam destitit.* (Cod. Lib. 10, tit. 39, l. 7.) In the French law, some of its best writers define it thus: *Le domicile est le lieu ou une personne jouissant de ses droits, établit sa demesne et le siège de sa fortune* (Denizart, article *Domicile*); or, as the *Encyclopédie Moderne* (article *Domicile*) expresses it, *C'est, à proprement parler, l'endroit ou l'on a placé le centre de ses affaires.* Vattel (*B. I, ch. xix, § 22*) seems to define it to be a fixed residence in any place, with an intention of always staying there. This is not quite accurate. It would be more correct to say, that that place is the home or domicile of a person, in which his habitation is fixed, without any present intention of removing therefrom (10 *Mass. R.* 488). The question of domicile is often one of great difficulty and nicety, and so dependent upon circumstances, that, as it has been observed by lord Stowell (2 *Rob.* 322), it is hardly capable of being defined by any general, precise rules. It is compounded partly of matter of fact and partly of law. It is often a mere question of intention;

sometimes of express intention, and sometimes of presumptive intention, from acts and conduct. The mere dwelling or residence in a place is not, of itself, sufficient to make it the domicile of the party. He must be there with the intention of remaining (*animo manendi*). The act of residence must be coupled with the intention of making it the real, substantial home of the party, excluding all others. If, therefore, a person, having his home in one place, go to another for temporary purposes, but with an intention to return, his domicile is not changed by such absence; nor does he acquire a new domicile in the place of such temporary residence. If a person go on a voyage to sea, or to a foreign country for health or pleasure, or business of a temporary nature, with an intention to return, no one supposes his domicile to be changed thereby. But, sometimes, where there has been a removal for temporary purposes at first, there may be engrafted on it, subsequently, an intention of permanent residence. And, in many instances, therefore, where we are called upon to decide upon questions of domicile, the length of time of the residence becomes a material ingredient. Lord Stowell has observed, that it is not unfrequently said, that if a person comes to a place for a special purpose, that shall not fix a domicile. "This," he adds, "is not to be taken in an unqualified latitude, and without some respect had to the time which such a purpose may occupy; for if the purpose be of a nature that may probably, or does actually, detain the person for a great length of time, a general residence might grow upon the special purpose. A special purpose may lead a man to a country, where it shall detain him the whole of his life." (2 *Rob. Rep.*

322, 324.) These remarks, again, require some qualification; for time is not absolutely decisive in such cases, if it is clear, from other circumstances, that the purpose was wholly temporary and positive. Suppose a man should go to a country in ill health, and remain there a number of years, and, during that whole period, were incapable of being removed, or of returning home, without danger to his life; if such residence were so constrained, it would not change his former domicile. The question of domicile is of very great importance, for it often regulates political and civil rights, and founds or destroys jurisdiction over the person or property. Thus, for instance, there is what is called a *political domicile*, which is that place where a party must exercise his political rights, duties and privileges, as his right to vote, his duty to pay taxes, &c. Then there is what is called a *civil domicile*, or that where he has fixed his habitual home or residence, which decides upon his civil rights, and power to acquire, alienate and dispose of property, to contract marriage, &c. Then, again, there is, or may be, a *forensic domicile* (*forum domicilii*), or place where he is to sue or be sued, and to be subjected to the exercise of the jurisdiction of judicial courts. It may, and it often does happen, that the political, civil and forensic domicile is the same; but this is a matter, not so much of general principle, as of positive legislation in different countries; and, therefore, it is often regulated, in different countries, by very different rules, sometimes by opposite rules. Some general principles, however, may assist to guide us, in cases where there is no positive legislation to govern the case. 1. The place of birth of a person is considered as his domicile, if it be at the time the home of his parents. *Patris originem unusquisque sequitur*. This is generally called *domicilium originis* (the domicile of nativity). But, if the parents were then on a visit or journey (*in itinere*), the home of the parents (at least if it were in the same country) would be deemed the domicile of nativity. A person born in a foreign country, while his parents are there under the allegiance of the government of the country, though they are there for temporary purposes only, is generally deemed a subject of such country, and owing allegiance to its sovereign. 2. The domicile of birth continues until a new domicile has been obtained. Infants are generally deemed incapable of changing their domicile during their minority, and, there-

fore, they always retain the domicile of their parents; and if their parents change their domicile, that of the infant follows; and if the father dies, his last domicile is that of the infant. A person who is of age to choose a domicile for himself, still retains the paternal domicile, while he continues to remain with his parents. But when he is emancipated, or has acquired a domicile of his own, he no longer follows the paternal domicile. 3. The domicile of birth, also, easily reverts; and it requires fewer circumstances to establish in proof, that a party has reverted to the domicile of his nativity, or family domicile, than to establish his foreign domicile. The reason is obvious. A residence in the place of one's birth, unexplained, gives rise to a general presumption, that it is of permanent choice; because an affection for such a place, and a desire to abide there, are so commonly found among all classes of persons. 4. The domicile of a married woman follows that of her husband. This results from the general principle, that a person who is under the authority and power of another, possesses no right to choose a domicile. 5. By the civil law, minors retain, as we have seen, the domicile of their parents; and the same principle is said to apply, in that law, to the case of persons insane, or *non compos mentis*, whether they are under guardianship or not; for the guardian has no power to change their domicile, as it may change the order of succession to their estates. But it has been said that our law is different, and that a guardian may change the domicile of his ward, if he chooses. (9 *Mass. R.* 543; 5 *Pick. R.* 20.) But this is a point which deserves very grave consideration, and does not seem universally settled, as a part of the common law. (See *Guier v. O'Daniel*, 1 Binney, 352, note; *Somerville v. Somerville*, 5 Vesey jr., 787; *Pottinger v. Wightman*, 3 Meriv. R. 67.) 6. *Prima facie*, the place where a person lives is taken to be the place of his domicile, until other facts establish the contrary. 7. Every person of full age having a right to change his domicile, it follows, that if he removes to another place, with the intention to remain (*animo manendi*), the latter instantaneously becomes his place of domicile. It is of no consequence, in such a case, how short his residence may have been; for it is the fact, coupled with the intention, that settles his domicile, and here both are unequivocal. 8. If a person has actually removed to another place, with an intention of remaining

there for an indefinite time, and as a place of present domicile, it becomes his place of domicile, notwithstanding he may have a floating intention to go back at some future period. 9. The place where the family of a married man resides is generally considered as his domicile. But this may be controlled by circumstances. For if the place be only a temporary establishment for his family, or for temporary objects, it may be different. 10. If a married man has his family fixed in one place, and does his business in another, the former is considered as the place of his domicile. 11. If a married man has two places of residence at different times of the year, that will be esteemed his domicile which he selects, considers or describes as his fixed home, or which appears to be the centre of his affairs, where he votes, or acts as a citizen. 12. If a man is unmarried, that is generally the place of his domicile where he transacts his business, exercises his profession, or assumes municipal duties or privileges. 13. Residence in a place by constraint, or involuntarily, will not give the party a domicile there; but his antecedent domicile remains. 14. Mere intention to acquire a new domicile, without the fact of removal, avails nothing; neither does the fact of removal, without the intention. Presumptions arising generally from circumstances, will not prevail against positive acts, which fix and determine domicile. 13. Widows retain the domicile which had been their husbands' until they have acquired a new one. *Vidua mulier amissi mariti domicilium retinet.*—There are some other considerations, of a general nature, which deserve enumeration, as they respect domicile in a foreign country. Those which have been already referred to, principally respect domicile in different parts of the same country. 1. We have already seen, that persons who are born in a country, are deemed inhabitants and citizens of that country. Foreigners, also, who reside there for permanent and indefinite purposes, or, as Vattel expresses it (*B. I, ch. xix, § 213*), who are permitted to settle and stay in a country, are deemed inhabitants. If they are there merely on a visit, or for temporary purposes, they are not deemed inhabitants. 2. A person who resides in a foreign country, for purposes of trade, is deemed an inhabitant of that country by foreign nations; and his character changes with that of the country. In peace he is deemed a neutral, in war an enemy; and his property is dealt with accordingly in prize courts.

(*The Venus*, 8 Cranch R. 278.) 3. A person may have a national character of his trade, although his domicile be in a different country. Thus, if he be allowed to engage in the trade exclusively belonging to the subjects of an enemy's country, he will, so far as respects that trade, be deemed an enemy trader, and his property will be liable to condemnation as such, though his own domicile be neutral. So, if he is the owner of a plantation in an enemy's country, the produce thereof will be liable as prize in the same manner. So, if he be a partner in a house of trade in an enemy's country, his property in the partnership will be deemed the property of an enemy. (9 Cranch, 191; *The Vigilantia*, 1 Rob. R., 14, 15; *The Phoenix*, 5 Rob. R., 20; *The San Jose Indiano*, 2 Gallison's R., 268.) 4. A national character, acquired by residence in a foreign country, changes with a change of that residence; and if no other domicile be acquired by the party subsequently, his native domicile reverts; and, in such a case, it will revert as soon as he puts himself in motion to return to his native country, although he has not actually arrived there. But the mere return to his native country does not destroy his foreign domicile, unless there is an intention to abandon the latter. (*The Venus*, 8 Cranch R., 278, 281; *The France*, 8 Cranch R., 335.) 5. If a person quits his own country, for temporary purposes, or in public employment, and solely by reason of such employment, his native domicile is not changed thereby. If an Englishman, for instance, should go to Germany in the king's service, or for a temporary purpose, the domicile of his birth would not be changed. But if he entered into the German service, although with a general, indefinite intention to return to England, it would be otherwise. 6. The descent of real estate, such as lands, is according to the law of the place, *rei sitæ*. But the descent and distribution of personal estate is according to the law of the place of the owner's domicile. It has been recently doubted in England, whether a British subject can, by a foreign domicile, change the general law of succession, as to his personal estate, existing in his own country. But it is admitted he may change his domicile, in different parts of his own country, and thereby change the succession and distribution of his personal estate. (*Curling v. Thornton*, 2 Addam's Eccles. R., 17, 19.) 7. A will of personal estate, good by the law of the place where the party

has his domicil, is sufficient to pass all personal estate in any other country. But, if not good by the law of the place of the party's domicil, it is said not to be good to pass personal property in any other country, although otherwise sufficient by the law of the country where the personal property is. (*Desesbats v. Berquier*, 1 Binney, 336. But see *Curling v. Thornton*, 2 Addam's Eccles. R. 6, 19 to 25.) 8. Ambassadors and other ministers still retain the domicil of the country which they represent, and to which they belong; and their children, born in the foreign country where they reside, are considered as natives of the country of their own sovereign. It is not so in relation to consuls and other commercial agents. They are considered as having, like other subjects, their domicil in the country where they reside. (*Vattel*, B. I, ch. xix, § 217; *The Indian Chief*, 3 Rob. 13, 27; *The Josephine*, 4 Rob. 26.) 9. Children born upon the sea are generally deemed to be natives of the country to which their parents belong. (See *Vattel*, B. I, ch. xix, § 216.) The reader who desires further information on the subject

of domicil, is referred to the title *Domicile*, in Denizart, *Collection de Jurisprudence*, tom. 6; the same in *Encyclopédie Moderne*, tom. 10; in Merlin's *Répertoire de Jurisprudence*; in 2 Domat, 464, B. I, title 16, s. 3, of Public Law; in Digest, lib. 50, title 1, l. 1 et seq.; and Code, lib. 10, title 39, l. 2, 4, 5, 7; *Code Civil de France*, tit. 3, art. 102, &c.; Voët ad Pand. lib. 5, tit. 1, sec. 90, 91, 92; Bynkershœck, *Quæst. Priv. Juris.*, lib. 1, ch. 16; Pothier, *Coutumes d'Orléans*, Introd. n. 16, 20. In the English and American law, the following references will be found most useful: *Bruce v. Bruce*, 2 Bosanquet & Puller, 229; *Somerville v. Somerville*, 5 Ves. jr., 786; *Bempde v. Johnstone*, 3 Ves. 195; *Curling v. Thornton*, 2 Addam's Eccles. R. 5; *Pottinger v. Wightman*, 3 Merivale R. 67; Green's Admiralty Digest, *National Character*; *The Venus*, 8 Cranch, 278; Wheaton's Digest, title *Prize*, iv; *Holyoke v. Haskins*, 5 Pick. R. 20; *Cambridge v. Charlestown*, 13 Mass. Rep. 501; *Williams v. Whiting*, 11 Mass. Rep. 424; *Guier v. O'Daniel*, 1 Binney's Rep. 352, note; *Elbers v. U. Insurance Company*, 16 Johnson's Rep. 128.

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