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How to use the MICROPAEDIA

The 12 volumes of the MICROPAEDIA contain tens of thousands of shorter articles on specific persons, places, things, and ideas, arranged in alphabetical order. The MICROPAEDIA can be used as an information resource on its own; and it can function as support for the longer articles in the MACROPAEDIA (to which it refers whenever appropriate). The MICROPAEDIA in turn is supported by references in the INDEX and by the lists of suggested readings in the PROPAEDIA. Finally, the MICROPAEDIA is the portion of the *Encyclopædia Britannica* best suited for the reader who wishes to browse among the countless subjects in all fields of human learning and history in all times and places.

Alphabetization

Entry titles are alphabetized according to the English alphabet, A to Z. All diacritical marks (such as in ö, ð, or ñ) and foreign letters without parallels in English (such as ayin [ʾ] and hamza [ʔ]) are ignored in the alphabetization. Apostrophes likewise are ignored. Titles beginning with numbers, such as **1812, War of**, are alphabetized as if the numbers were written out (**Eighteen-twelve, War of**).

Alphabetization proceeds according to the “word-by-word” principle. Thus, **Mount Vernon** precedes **mountain**; any **John** entry precedes **John Henry**, which in turn precedes **Johne’s disease**. Any character or string of characters preceding a space, hyphen, or dash is treated as a word and alphabetized accordingly. Thus, **De Broglie** precedes **debenture**, and **jack-o’-lantern** precedes **jackal**. Titles with identical spellings are arranged in the following order: (1) persons, (2) places, (3) things.

For many rulers and titled nobility, chronological order, as well as alphabetical order, governs placement. Rulers of the same given name (e.g., William) may be grouped together, separate from other entries, and indicated by the symbol ●. They may be subgrouped alphabetically by country and, within each country, arranged chronologically (**William I, William II**, etc.). Nobility or peers of the same titled name (e.g., **Essex, EARLS OF**) are similarly grouped together, separate from other entries; they are indicated by the symbol ● and arranged chronologically.

Places with identical names are arranged in the alphabetical order of the countries where they are located. Identical place-names in the same country are alphabetized according to the alphabetical order of the state, province, or other political subdivision where they are found.

Entry arrangement

The titles of entries are arranged according to the forms commonly found in indexes and dictionaries, with some special conventions.

Entry titles for certain physical features, institutions, structures, events, and concepts are ordinarily inverted to place the substantive word first. Thus, the Bay of Bengal is entered as **Bengal, Bay of**; the Bank of England as **England, Bank of**; the Tower of London as **London, Tower of**; the Siege of Vienna as **Vienna, Siege of**; and the balance of power as **power, balance of**. If the name of a physical feature, institution, structure, event, or concept has two or more descriptors, it is entered under the descriptor appearing first. Thus, the Episcopal Church in Scotland is entered as **Episcopal Church in Scotland** (not **Scotland, Episcopal Church in**); the Leaning Tower of Pisa as **Leaning Tower of Pisa**; and the kinetic theory of gases as **kinetic theory of gases**.

The entries for most Western persons are arranged so that one can read a name in correct order by beginning after the first comma, proceeding to the end of the boldface type, returning to the beginning word or words, and proceeding forward to the first comma. Thus, the entry **March, Patrick Dunbar, 2nd Earl of**, is read “Patrick Dunbar, 2nd Earl of March”; the entry **Orléans, Louis, duc d’**, is read “Louis, duc d’Orléans.” Names of Far Eastern origin are given in Oriental order, with the surname preceding the personal name (e.g., **Tōjō Hideki, Deng Xiaoping, Nguyen Cao Ky**).

Cross-references

Some cross-reference entries appear in the MICROPAEDIA for the purpose of leading a reader from names that are familiar to alternate names that may not be. Cross-references also appear frequently within or at the ends of standard entries, where they are identified by *see*, *see also*, *see under*, *q.v.* (*quod vide*, “which see”), or *qq.v.* (*quae vide*, “which see,” plural).

Certain entries serve both as relatively brief essays on general subjects and as cross-references to the same subjects treated at greater length and in greater depth in the MACROPAEDIA. Such an entry (e.g., **igneous rock**) begins with a definition of the subject and then provides the following cross-reference: “A brief treatment of igneous rocks follows. For full treatment, *see* MACROPAEDIA: Minerals and Rocks.”

Entries on certain broad subjects (e.g., **music**) direct the reader to several relevant articles in the MACROPAEDIA and also to the PROPAEDIA for listings of related articles in the MICROPAEDIA.

Abbreviations

Abbreviations used in the MICROPAEDIA are given in a list that appears at the end of every MICROPAEDIA volume.

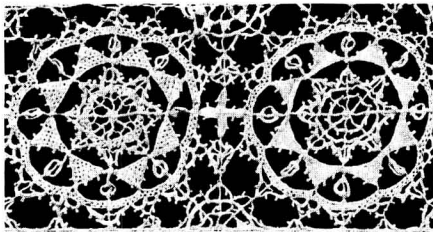
Territorial boundaries

In articles and maps indicating disputed geopolitical boundaries and territories, the attribution of sovereignty or administrative subordination to any specific area does not imply recognition of the status claimed by an administering power.

Réti, Richard (b. May 28, 1889, Pezinok, Hung.—d. June 6, 1929, Prague, Czech.), Hungarian chess master, writer, and theoretician who was one of the chief exponents of the hypermodern school.

Réti was an exception among grand masters, being keenly interested in composing chess problems and studies. His start in chess in Vienna, however, was so inauspicious that he came in last in a 1908 tournament, but by 1912 he was recognized as a brilliant player. In 1920 he switched from playing to writing and became, with his *Modern Ideas in Chess* (1923) and his columns, a revered writer. Returning to the board, he won the "brilliant prize" in New York in 1924, awarded for the most brilliant game in the tournament of that year. His *Die Meister des Schachbretts* (1930; *Masters of the Chessboard*) was published posthumously.

reticella (Italian: "little net"), Renaissance fabric, akin to lace, with an open, gridlike pattern. The grid base for the pattern is formed



Reticella from Italy, late 16th century; in the Institut Royal du Patrimoine Artistique, Brussels

By courtesy of the Institut Royal du Patrimoine Artistique, Brussels; photograph, © A.C.L., Brussels

either by threads remaining after warps and wefts have been drawn out of a fabric at regular intervals or by threads thrown across a space cut out of a fabric. Reticella is frequently cited as the immediate forerunner of *punto in aria* (q.v.), the first true lace.

reticular fibre, in anatomy, fine fibrous connective tissue occurring in networks to make up the supporting tissue of many organs. The reticular fibres are composed of randomly oriented collagenous fibrils lying in an amorphous matrix substance. The fibrils are not oriented in orderly bundles, as are collagenous fibres; hence they show slightly different chemical responses. Reticular fibres, for example, readily accept a stain of silver salts that collagenous fibres reject, and, when boiled, the fibres do not form gelatin as do collagenous fibres. *See also* collagen.

reticulated work, also called *OPUS RETICULATUM*, type of facing used on ancient Roman concrete or mortared rubblework walls. It appeared during the late Roman Republic and became widespread by the reign of Augustus. It succeeded the earliest type of facing, an irregular patchwork called *opus incertum*. Reticulated work looks like a diagonal checkerboard with its square stones set lozenge fashion, separated by relatively fine joints. The stones are about 4 inches (10 cm) square and extend into the wall for 8 to 10 inches (20 to 25 cm). The name is derived from the Latin *rete*, "net," because the wall surface had the appearance of a fishing net.

Examples of *opus reticulatum* may be seen at Ostia, in the Piazzale of the Corporations where tufa reticulate masonry forms the wall of a Roman guild office; at Rome in the wall of the Mausoleum of Augustus; and on the terraces of the country villa built by Herod the Great (d. 4 bc) at Jericho, Jordan. Reticulated work was replaced by a type of brick wall-facing called *opus testaceum*, which became the most common method in the imperial era.

reticuloendothelial system, also called **MACROPHAGE SYSTEM**, or **MONONUCLEAR PHAGOCYTE SYSTEM**, class of cells that occur

in widely separated parts of the human body and that take up particular substances. These cells are part of the body's defense mechanisms.

Reticuloendothelial cells are phagocytic; i.e., they can engulf and destroy bacteria, viruses, and other foreign substances. They also can ingest worn-out or abnormal body cells. Reticuloendothelial cells are derived from precursor cells in the bone marrow. These precursors develop into monocytes, phagocytic cells that are released into the bloodstream. Some monocytes remain in the general blood circulation, but most of them enter body tissues, where they develop into much larger phagocytic cells called macrophages. The great majority of macrophages remain as stationary cells within tissue, where they filter out and destroy foreign particles. Some of them break away, however, and wander through the circulation and within the intercellular spaces.

Tissue macrophages differ in appearance and name because of their various locations. For example, reticulum cells line the sinuses of the lymph nodes, spleen, and bone marrow, while histiocytes are found in numerous subcutaneous tissues. Microglia occur in nervous tissue, alveolar macrophages in the air spaces of the lungs, and Kupffer cells in the liver.

A single reticuloendothelial cell can phagocytize (engulf and destroy) microorganisms, cells, and even tiny fragments of foreign objects, such as bits of splinters and suture materials. Several mobile macrophages can surround larger foreign objects and coalesce into a single phagocytic cell. By their phagocytosis of foreign substances, macrophages form an important first line of defense against harmful particles that have reached the body's interior.

The reticuloendothelial cells also participate in body defense through immune reactions, a complex set of events targeted at a specific foreign substance. The reaction is directed by white blood cells known as lymphocytes. One class of lymphocytes (B cells) can synthesize and secrete antibodies with the help of another class of lymphocytes (T cells). T cells are also capable of other immunological reactions not involving antibody production. Macrophages often appear to be a required factor in an immune reaction. It is believed that phagocytosis of the foreign substance by macrophages helps reveal the surface molecules (antigens) on the foreign substance that stimulate lymphocyte responses. The production of antibodies, in turn, greatly stimulates the phagocytic activity of the macrophages.

Another important function of the reticuloendothelial cells is the destruction of worn-out or abnormal cells and tissues. The reticulum cells of the spleen in particular play a major role in the destruction of worn-out red blood cells and the recycling of hemoglobin, the oxygen-carrying pigment of the red blood cells. The reticulum cells break down old red blood cells and metabolize the hemoglobin to create hemosiderin, a pigment used to form new red blood cells.

Disorders associated with the reticuloendothelial system include anemia caused by excessive destruction of red blood cells by reticulum cells. There are also malignant tumours related to reticuloendothelial cells that can be either localized or widespread throughout the body; reticulum-cell sarcoma is the most common such neoplasm and is usually located in the lymph nodes. Another condition, histiocytic medullary reticulosis, results from the diffuse proliferation of phagocytic cells. Niemann-Pick and Gaucher's diseases are hereditary disorders characterized by abnormal products of lipid metabolism within the reticuloendothelial cells.

reticulum cell sarcoma of bone, uncommon malignant tumour of bone marrow that may occur at any age and in any bone, affecting males twice as frequently as females.

Symptoms include mild pain and swelling. The tumour grows slowly and metastasizes late, but bone destruction is severe. Irradiation therapy is the preferred treatment.

Retief, Piet (b. Nov. 12, 1780, near Wellington, Cape Colony [now in South Africa]—d. Feb. 6, 1838, Natal), one of the Boer leaders of the Great Trek, the migration of independence-minded Boers from British rule in Cape Colony to uncolonized lands in the interior of South Africa.

Better educated than most Boers, he combined farming with business, mainly as a building contractor. In 1814 Retief moved to the eastern frontier of the Cape Colony, where he soon gained a reputation as a field commandant fighting in frontier wars. He also acted as a spokesman for the Boer settlers, expressing their grievances over the native question to the British authorities. When the government appeared to sympathize with the tribesmen, the Boers decided to migrate, or trek. Retief issued a historic proclamation in February 1837 explaining the trekkers' reasons for leaving the colony.

North of the Orange River his party merged with other trekkers, and he was elected governor and head commandant. Under Retief they crossed the Drakensberg into the "promised land" of Natal (October 1837). To establish their right to the land, Retief negotiated with Dingane, the Zulu king, who insisted that before an agreement could be made the Boers would have to assist him in recovering some stolen cattle. The task accomplished, Retief and his party returned to Dingane's kraal, and, while partaking of the king's hospitality, they were murdered.

retina, layer of nervous tissue, covering the back two-thirds of the eyeball, in which stimulation by light occurs, initiating the sensation of vision. The rest of the eyeball serves essentially as a supporting shell for this light-sensitive tissue, providing it with nutrition and focusing light onto the appropriate portion of the retina. The retina is actually an extension of the brain, forming embryonically from brain tissue and connected to the brain proper by the optic nerve.

The retina is a complex tissue consisting of several layers, only one of which contains light-sensitive cells; light must pass through the covering layers to reach this layer. The light-sensitive cells are of two types, rods and cones, which are differentiated structurally by their distinctive shapes and functionally by their sensitivity to different kinds of light. Rods predominate in nocturnal animals and are most sensitive to reduced light intensities; in humans they provide night vision and aid in visual orientation. Cones are more prominent in animals that are active during the day, including humans, and provide detailed vision, as for reading, and colour perception. In general, the more cones per unit area of retina, the finer the detail that can be discriminated by that area. Rods are fairly well distributed over the entire retina, but cones tend to concentrate in two sites: the fovea centralis, a pit at the rear of the retina, which contains no rods and has the densest concentration of cones in the eye, and the surrounding macula lutea, a circular patch of yellow-pigmented tissue about one centimetre in diameter.

When light enters the eye, it passes through the lens and is refracted, focusing an image onto the retina. Light-sensitive chemicals in the rods and cones react to specific wavelengths of light and trigger nerve impulses. Complex interconnections (synapses) among retinal nerves assemble these impulses into a coherent pattern, which, in turn, is carried through the optic nerve to the visual centres of the brain, where they are interpreted.

retinitis pigmentosa, hereditary eye disease in which progressive degeneration of the retinal pigments leads to impairment of vision and, ultimately, to blindness. In the course of the disease the light-sensitive structures called rods—which are the visual receptors used in dim light—are destroyed early, causing night blindness in youth. Over time, further atrophy of the retina proper and of the layer of pigmented cells known as the pigment epithelium progressively constricts the field of vision until the affected person sees objects as if he were looking through a gun barrel. This stage is followed by complete blindness, usually by the age of 50. Deafness caused by a degeneration of the auditory nerve may accompany the visual loss. There are several hereditary patterns, but in most cases the disease is transmitted between generations as a recessive trait.

retinol: see vitamin A.

retinospora, a condition common in horticultural varieties of conifers, especially arborvitae, junipers, cypresses, and false cypresses, in which needlelike, spreading juvenile leaves persist on adult trees that normally have small, scalelike leaves, pressed against the stem. These intermediate plants were once thought to comprise a separate genus, *Retinospora*.

Retiro Park, Spanish EL RETIRO, OF PARQUE DE MADRID, the main park of Madrid, Spain. Originally called the Parque del Buen Retiro,



The equestrian statue of King Alfonso XII in Retiro Park, Madrid, Spain

A.F. Kersting

or "pleasant retreat," and today covering approximately 350 ac (142 ha), it was planned in the 1550s and redesigned on the instructions of Gaspar de Guzmán, conde-duque de Olivares (chief minister to King Philip IV), who added a palace and a theatre (where comedies of Lope de Vega, the most prolific of Spanish playwrights, were produced). Both buildings burned in 1734. King Ferdinand VI ordered the palace rebuilt, but it was razed during the Peninsular War; a remnant now serves as the Museo de Ejército (War Museum).

The park contains zoological gardens, the Palacio de Cristal (a glass building used for art exhibits), a lake, numerous statues of royalty, and the Roselada (rose gardens).

retort, vessel used for distillation of substances that are placed inside and subjected to heat. The simple form of retort, used in some laboratories, is a glass or metal bulb having a long, curved spout through which the distillate may pass to enter a receiving vessel. The design dates back to the cucurbit (flask) used by medieval alchemists.

Large retorts are widely used in industry in separating gold from mercury in amalgams, in separating zinc-metal vapour from the smelted ore mixture, and in obtaining coke or gas from coal. Industrial retorts may be tall and

thin or short and wide; some are of clay and some of iron.

retraining program, occupational training program designed to aid workers in obtaining new employment. Formal retraining programs were first developed in Europe around the end of World War II as part of the effort to return military personnel to civilian life, to reduce unemployment, and to fill the shortages in certain occupations that had developed during the war. Later, with the attainment of full employment, retraining programs were used as a means of rectifying critical labour shortages in specific occupations. They have also been put forward as at least a partial solution to the problem of structural unemployment in declining industries or industries severely affected by competition from imports.

Retraining programs, which are perhaps most fully developed in western Europe, may include monetary allowances during training, relocation expenses, and family allowances. In several countries, refusal to participate in a retraining program disqualifies a worker from eligibility for unemployment compensation benefits. In the United States the Area Re-development Act of 1961 and the Manpower Development and Training Act of 1962 established worker retraining as part of the nation's effort to alleviate poverty.

Two schools of thought have developed regarding the cost-effectiveness of publicly sponsored retraining programs. Critics argue that, when the economy is depressed, tax dollars are wasted on retraining workers for nonexistent jobs. In addition, many of the new jobs created by technological developments are beyond the scope of most labourer's skills; for example, it is usually futile to try to retrain a laid-off drill press operator to become a computer programmer. In this view, the responsibility for retraining should rest with employers, and the critics point to several employer-sponsored programs that have been quite successful. A number of large corporations have been able to shift employees to new jobs after careful occupational retraining. However, this task is considerably more difficult for smaller companies that lack the variety of occupations found in their larger counterparts.

Proponents of publicly sponsored retraining programs argue that the policy is cost-efficient for two reasons. First, by retraining workers for reemployment, the overall burden of welfare support is reduced. Second, the tax revenue generated from increased employment more than offsets the cost of retraining.

There are no substantive statistics that irrefutably support either set of arguments. However, while the two sides differ on where the responsibility for retraining should lie, they agree that the policy of worker retraining should be maintained.

retrieval (memory): see recall.

retriever, any of several sporting dogs bred and trained to retrieve game. Retrievers are characterized by water-resistant coats, a keen sense of smell, and "soft" mouths that do not damage game.

The golden retriever, typically a strong and hardy all-around dog and an excellent swimmer, stands 22 to 24 inches (55 to 61 centimetres) and weighs 60 to 75 pounds (27 to 34 kilograms). Its thick coat is long on the neck, thighs, tail, and back of the legs and may be any shade of golden brown. The golden retriever is noted for gentleness, intelligence, and willingness to work. It has been trained as a guide dog for the blind.

The Labrador retriever originated in Newfoundland, not Labrador, and was brought to England by fishermen around 1800. Standing 22 to 24 inches (55 to 62 centimetres) and weighing 55 to 75 pounds (25 to 34 kilograms), it is more solidly built than other retrievers and has shorter legs. Distinctive fea-



(Top) Golden retriever; (bottom) Labrador retriever
Sally Anne Thompson—EB Inc.

tures include its otter-like tail, thick at the base and tapered toward the end, and its short, dense coat of black, dark brown, or yellow brown. The Labrador retriever is characteristically rugged, even-tempered, and gentle. In England it has been used in military work and is now used in police work and as a guide dog for the blind.

Other breeds of retrievers include the Chesapeake Bay retriever, a relatively stocky, brown dog; the curly-coated retriever, a strong dog with a tightly curled, black or liver-coloured coat; and the flat-coated retriever, a powerful, deep-chested, black or liver-coloured dog.

retroflex, in phonetics, a consonant sound produced with the tip of the tongue curled back toward the hard palate. In Russian the sounds *sh*, *zh* (like the English *s* sound in "pleasure"), and *shch* are retroflex; there are also many retroflex consonants in the languages of India.

retrograde motion, in astronomy, actual or apparent motion of a body in a direction opposite to that of the (direct) motions of most members of the solar system or of other astronomical systems with a preferred direction of motion. As viewed from a position in space north of the solar system (from some great distance above the Earth's North Pole), all the planets revolve counterclockwise around the Sun, and all except Venus and Uranus rotate counterclockwise on their own axes; the two, therefore, have retrograde motion. Of the more than 40 known satellites of the planets, only six display retrograde revolution. These include the four outermost moons of Jupiter; Phoebe, the outermost moon of Saturn; and Triton, the more massive of Neptune's moons. The orbital planes of the five satellites of Uranus are tilted so greatly that the description of these bodies' motion as either retrograde or direct has little meaning. The revolutions around the Sun of all known asteroids are direct; of the known periodic comets, only Halley's Comet moves in a retrograde orbit.

Planets farther from the Sun than the Earth display brief apparent retrograde motion, as seen from Earth, each time the faster moving Earth overtakes them.

retrolental fibroplasia, disease of the retinal blood vessels in the eyes of premature

infants, resulting from administration of excessive amounts of oxygen in the attempt to prevent respiratory disease. Until the role of oxygen was established in 1954, the disease was a major cause of blindness. It became extremely rare when oxygen therapy was modified and monitored more closely, although it still occurs in a few infants.

The immature blood vessels of the infant retina are very sensitive to oxygen; concentrations in excess of 40 percent cause the vessels to constrict, shutting off blood flow. When the oxygen is stopped, the vessels expand and become twisted, proliferating through the retina and the vitreous body, the transparent jellylike substance filling most of the eyeball. Damage in these early stages is reversible, and the recovery rate is about 50 percent. If the disease progresses, however, the blood vessels become fibrotic, and the retina detaches from the eyeball, causing permanent, irreversible blindness.

retrovirus, any of a group of viruses that, unlike most other viruses and all cellular organisms, carry their genetic blueprint in the form of ribonucleic acid (RNA). Retroviruses are responsible for certain cancers and slow virus infections of animals and cause at least one type of human cancer. They have also been identified as the cause of acquired immune deficiency syndrome (AIDS) in humans, and they have been linked to one form of human hepatitis.

Retroviruses are so named because, by means of a special enzyme called reverse transcriptase, they use RNA to synthesize deoxyribonucleic acid (DNA). This constitutes a reversal of the usual cellular processes of transcription of DNA into RNA. The action of reverse transcriptase makes it possible for genetic material from a retrovirus to become permanently incorporated into the DNA genome of an infected cell.

Rett syndrome, also called CEREBROATROPHIC HYPERAMMONEMIA, rare progressive neurological disorder that causes mental retardation, compulsive hand movements, difficulties in walking, and other symptoms. It is a sex-linked hereditary disorder that exclusively affects girls and occurs in about one of every 15,000 female births. Rett syndrome causes progressive disabilities in intellectual and motor development after about the first year of life. Autism, decreased body weight, failure of the head to grow with age, and a mild hyperammonemia are among the other symptoms. The disorder was first described in 1965. There is no effective treatment for it.

retting, process employing the action of bacteria and moisture on plants to dissolve or rot away much of the cellular tissues and gummy substances surrounding bast-fibre bundles, thus facilitating separation of the fibre from the stem. Basic methods include dew retting and water retting.

Dew retting, which is common in areas having limited water resources, is most effective in climates with heavy nighttime dews and warm daytime temperatures. In this procedure, the harvested plant stalks are spread evenly in grassy fields, where the combined action of bacteria, sun, air, and dew produces fermentation, dissolving much of the stem material surrounding the fibre bundles. Within two to three weeks, depending upon climatic conditions, the fibre can be separated. Dew-retted fibre is generally darker in colour and of poorer quality than water-retted fibre.

In water retting, the most widely practiced method, bundles of stalks are submerged in water. The water, penetrating to the central stalk portion, swells the inner cells, bursting the outermost layer, thus increasing absorption of both moisture and decay-producing bacteria. Retting time must be carefully judged; under-retting makes separation difficult, and

over-retting weakens the fibre. In double retting, a gentle process producing excellent fibre, the stalks are removed from the water before retting is completed, dried for several months, then retted again.

Natural water retting employs stagnant or slow-moving waters, such as ponds, bogs, and slow streams and rivers. The stalk bundles are weighted down, usually with stones or wood, for about 8 to 14 days, depending upon water temperature and mineral content.

Tank retting, an increasingly important method, allows greater control and produces more uniform quality. The process, usually employing concrete vats, requires about four to six days and is feasible in any season. In the first six to eight hours, called the leaching period, much of the dirt and colouring matter is removed by the water, which is usually changed to assure clean fibre. Waste retting water, which requires treatment to reduce harmful toxic elements before its release, is rich in chemicals and is sometimes used as liquid fertilizer.

The retted stalks, called straw, are dried in open air or by mechanical means and are frequently stored for a short period to allow curing to occur, facilitating fibre removal. Final separation of the fibre is accomplished by a breaking process in which the brittle woody portion of the straw is broken, either by hand or by passing through rollers, followed by the scutching operation, which removes the broken woody pieces (shives) by beating or scraping. Some machines combine breaking and scutching operations. Waste material from the first scutching, consisting of shives and short fibres, is usually treated a second time. The short fibre (tow) thus obtained is frequently used in paper manufacture, and the shives may serve as fuel to heat the retting water or may be made into wallboard.

Retz, Gilles de: see Rais, Gilles de.

Retz, Jean-François-Paul de Gondi, cardinal de (b. September 1613, Montmirail, Fr.—d. Aug. 24, 1679, Paris), one of the leaders of the aristocratic rebellion known as the Fronde (1648–53), whose memoirs remain a classic of 17th-century French literature.

Of Florentine origin, the family into which Gondi was born had risen to prominence in the French court in the 16th century. Destined



Retz, portrait by Robert Nanteuil
Giraudon—Art Resource/EB Inc.

by his family for an ecclesiastical career, he received his early education under the Jesuits and completed his theological studies at the Sorbonne in 1638. While still a student, he sympathized with the opposition to the Cardinal de Richelieu, chief minister of Louis XIII from 1624 to 1642, who sought to weaken the power of the nobility. In 1643 Gondi was ordained a priest and was appointed coadjutor (acting deputy and successor-designate) to his uncle, Jean-François de Gondi, who was the archbishop of Paris.

Gondi received the opportunity to play a major political role with the outbreak of the

Fronde, a rebellion against the government of Anne of Austria (who was regent for her son, Louis XIV) and her chief minister, the Italian-born Cardinal Mazarin. Throughout the Fronde, Gondi worked primarily to advance his own interests, shifting his allegiance between the rebels and the government. During an interlude in the civil war he was persuaded to support the government's arrest of the powerful Prince de Condé in January 1650. But reversing his position and that of his followers, he helped obtain the release of Condé and the temporary exile of Mazarin (February 1651). In an attempt to win his support, Anne nominated Gondi to the cardinalate on Sept. 22, 1651. His nomination was accepted by Pope Innocent IV on Feb. 19, 1652, and from that time Gondi styled himself cardinal de Retz. But his political maneuvering cost him his popularity in Paris, while the government mistrusted him and waited for revenge.

With the government victorious over the rebels, Retz was arrested on Dec. 19, 1652, and taken to the prison at Vincennes. Upon his uncle's death in March 1654, Retz was immediately appointed archbishop of Paris but was pressured to resign this office a few days later. Pope Innocent, however, refused to accept Retz's resignation, and Retz, who had escaped from prison in August 1654, waged a battle for control of the diocese from exile. After Mazarin's death in 1661, Retz returned to France and in February 1662 agreed to resign the archbishopric of Paris in return for the abbacy of Saint-Denis and a substantial income.

Unable to gain favour with King Louis XIV, Retz lived away from court, on his estates or in his French abbeys. Claiming a religious conversion, he lived his last years in penance.

Retz's *Mémoires*, written during his retirement, is an account of his life to 1655 and contains a description of his role in the events of the Fronde, portraits of contemporaries, and maxims drawn from his experiences.

A biography of him is J.H.M. Salmon's *Cardinal de Retz* (1969).

Retzius, Magnus Gustaf (b. Oct. 17, 1842, Stockholm—d. July 21, 1919, Stockholm), Swedish anatomist and anthropologist best known for his studies of the histology of the nervous system.

Retzius' *Das Menschenhirn*, 2 vol. (1896; "The Human Brain") was perhaps the most important work written on the gross anatomy of the brain during the 19th century. He served as a professor of histology at the Karolinska Mediko-Kirurgiska Institutet, Stockholm (1877–1900), where he made important contributions to anatomical descriptions of the muscles of the eardrum, the bones of the middle ear, and the Eustachian tube. Retzius also made a useful study of ancient Swedish and Finnish skulls.

Retzské, Jan (singer): see Reszke, Jean de.

Reuben, one of the 12 tribes of Israel that in biblical times comprised the people of Israel who later became the Jewish people. The tribe was named after the oldest of Jacob's sons born of Leah, his first wife.

After the Exodus out of Egypt, Joshua led the Israelites into the Promised Land and divided the territory among the 12 tribes. The tribe of Reuben apparently settled east of the Dead Sea in the same general area occupied by the tribe of Gad and played a secondary role in the history of the Jewish people. After the death of King Solomon (922 bc), the 10 northern tribes formed the Kingdom of Israel under Jeroboam I that in 721 bc fell to Assyrian conquerors. In time these northern tribes lost their identity through assimilation with

other peoples, and thus the tribe of Reuben became known in legend as one of the Ten Lost Tribes of Israel.

Reubeni, David (d. after 1532), Jewish adventurer whose grandiose plans inspired the messianic visions of the martyr Solomon Molcho (q.v.; d. 1532). Reubeni claimed to be a prince descended from the tribe of Reuben (hence his name) of a Jewish state in Arabia. He gained the favour and protection of Pope Clement VII and King John III of Portugal with his forcefully stated plan to lead a Jewish army against the Turks in Palestine.

Under the influence of Reubeni's charismatic personality, a young Portuguese Marrano (a Jew forced to espouse Christianity), Solomon Molcho, openly adopted Judaism; his subsequent sermons inflamed the smoldering messianic hopes of many Jews. Reubeni rebuffed Molcho for his rashness; in turn, Reubeni aroused the displeasure of King John and was forced to leave Portugal.

Reubeni eventually went to Italy, only to find that Solomon Molcho had preceded him and was gaining a high reputation as an eloquent preacher of messianic visions. Joining forces, they left for Ratisbon (now Regensburg, Ger.), to see the Holy Roman emperor Charles V, who had convened Parliament there. The two visionaries tried to persuade Charles to arm the Jews to fight the Turks; instead, they were imprisoned, fettered, and sent to Mantua, Italy, to face the Inquisition. Molcho was burned at the stake, while Reubeni was sent to a Spanish prison, where he died a few years later, probably by poisoning.

Reuchlin, Johannes (b. Feb. 22, 1455, Pforzheim, Württemberg [Germany]—d. June 6, 1522, Bad Liebenzell), German humanist, political consultant, and one of the foremost classicists scholars of his time, who wrote the celebrated *De Rudimentis Hebraicis* (1506; "On the Fundamentals of Hebrew"), a grammar and lexicon that revolutionized Hebrew studies and significantly advanced Old Testament research.

Collaborating in editing and commenting on classic literature and philosophy with the leading humanists of the day (among them Desiderius Erasmus, Marsilio Ficino, and Pico della Mirandola), Reuchlin became a pioneer in the scientific study of classical Greek and the German representative of Renaissance Platonism, which he fused with Cabalistic (Jewish occult) teaching.

In a famous controversy he defended the study and preservation of Hebrew literature against the Inquisition censors led by the Cologne Dominican friar Johannes Pfefferkorn. The dispute aligned the entire European liberal and humanist community against the speculative doctrine of university Scholastics, and it occasioned Reuchlin's noted satire *Epistolae obscurorum virorum* (1515–17; "Letters of the Obscure Men"). Although he enjoyed popular support and was at first acquitted of heresy (1516), he and his writings were eventually condemned by Pope Leo X (1520). Church Reformers utilized the anti-institutional feeling generated by the controversy, but Reuchlin repudiated Philip Melancthon, his nephew, and Martin Luther in their separation from Roman Catholicism.

Reuel (biblical priest): see Jethro.

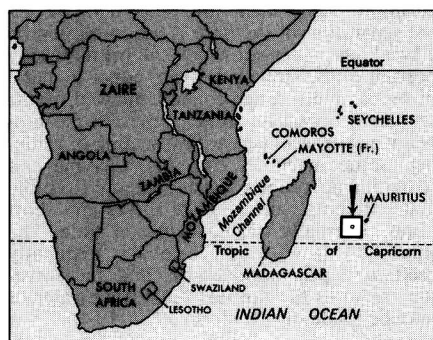
Reumert, Poul (Hagen) (b. March 26, 1883, Copenhagen, Den.—d. April 24, 1968, Copenhagen), Danish stage and film star, regarded for more than 50 years as one of the most important character actors in Denmark.

After studying at the Royal Theatre, Reumert began his professional career at the Copenhagen Folk Theater in 1902. In 1911 he moved to the Royal Theater, where he spent

most of his career and developed a lifelong stage partnership with the actress Bodil Ipsen.

A consummate character actor, Reumert was known for his subtle style and clear delineation of personality, talents that proved equally adaptable to the diverse works of Ludvig Holberg, George Bernard Shaw, Henrik Ibsen, and others; his most celebrated parts, however, were Molière's Tartuffe and several roles in the plays of William Shakespeare and the modern Swedish dramatist August Strindberg. He appeared several times with the Comédie-Française, where he delighted audiences with his perfect French. He also made a number of films in the 1930s and '40s.

Réunion, island of the Mascarene Islands and a French overseas *département* in the western Indian Ocean. It is located about 420 miles (680 km) east of Madagascar and 110 miles (180 km) southwest of Mauritius. Réunion is almost elliptical in shape, about 40 miles (65 km) long and 30 miles (50 km) wide, and has an area of 970 square miles (2,512 square km). The capital is Saint-Denis on the northern coast. Réunion's population in 1990 was estimated to be 600,000.



Réunion

For current history and for statistics on society and economy, see *BRITANNICA WORLD DATA ANNUAL*.

The land. Réunion is volcanic in origin, volcanoes having developed along a northwest-southeast fault. The volcanic activity of the central massif ceased in the Pliocene Epoch (from 5.3 to 1.6 million years ago). Summits, rising to about 10,000 feet (3,000 m), dominate the landscape. In the eastern part of the



Section of the dormant volcanic massif, known as the Plaine des Ramparts, on Réunion

Gerald Cubitt

island, the mountain, Le Volcan, includes one crater, Piton de la Fournaise, which erupts irregularly every few years.

The moisture-laden southeast trade winds, which dominate the weather from April to October, bring abundant annual rainfall (160–

315 inches [4,000–8,000 mm]) to the south and east of the island; the north and west sides, however, have as little as 25 inches (635 mm) of rain a year. Temperatures tend to be cool for the tropics, especially at higher elevations, but in summer Réunion lies within the doldrums, and the lowlands are uncomfortably humid. Tropical cyclones occur frequently.

The people. Réunion was first settled in the 17th century by colonists from France. Slave labourers were brought in from East Africa to work on plantations, and later Malays, Annamites, Chinese, and Malabar Indians were imported as indentured labourers. Today most of the population is of mixed descent (Creole). The limited amount of land has induced substantial emigration, largely to France but also to Madagascar. Even so, the population continues to grow at a moderate rate. Population density is high, even in areas that typically would be considered too mountainous to support a dense population. Saint-Denis, the capital and largest urban area on the island, contains almost one-fifth of the total population. The language in common use on the island is Creole; French, however, is the official language. About 90 percent of the population is Roman Catholic. The birth and death rates are both moderate. Average life expectancy is about 72 years, and almost one-third of the population is less than 15 years of age.

The economy. Réunion's economy has been based almost entirely on sugar for more than a century. Cane is grown on most cultivable land, though vanilla bean and some fruits and vegetables, tobacco, and geraniums (for perfume) are produced. About a dozen big estates controlled by half as many associations, with milling facilities, produce the bulk of the cane crop. Sugar represents about 75 percent of Réunion's exports, and such sugar by-products as rum and molasses account for much of the rest. Imports are manufactured goods, including road vehicles, petroleum products, and nonelectric machinery and a substantial amount of foodstuffs, namely meat and rice. More than 60 percent of Réunion's total trade is with France, with much of the rest going to Portugal, Germany, Italy, and Madagascar. Unemployment continues to be a problem.

A paved road around Réunion connects Saint-Denis with the main shipping port, Le Port, and with important towns. Another road crosses the island southwest-northeast to link the towns of Saint-Pierre and Saint-Benoît. Le Port can handle large ships through artificial port facilities. An international airport is located near Saint-Denis.

Government and social conditions. As an overseas *département* of France, Réunion elects five deputies to the French National Assembly and three to the Senate. The *département* is administered by an appointed prefect and a general council composed of 44 elected members. There is also a regional council (created 1974) for Réunion that coordinates social and economic development policies. The Réunionese are full citizens of the French Republic. The judiciary comprises a Court of Appeal at Saint-Denis and several higher courts (*grande instance*). Réunion has several hospitals and a good health-services network, which is reflected in the island's exceptionally low infant mortality rate for the region. Classes in the *département's* primary and secondary schools are conducted in French. Réunion also has a university and a teacher training college.

History. Uninhabited when first visited by Portuguese navigators in the early 1500s, Réunion was settled in the mid-1600s, when the French East India Company established a lay-over station for ships rounding the Cape of Good Hope en route to India. African slaves were imported first to work coffee and then sugar plantations; with the abolition of slavery in 1848, indentured labourers from Indochina, India, and East Africa were brought

in. Réunion was ruled by France as a colony until 1946, when it became an overseas *département* of France. The headquarters of the French military forces in the Indian Ocean was established on Réunion in 1973, with the arrival of personnel withdrawn from Madagascar. In the early 1980s the major political issues in Réunion were those of greater autonomy and of better working conditions and higher wages for the island's labour force.

Reus, city, Tarragona *provincia*, in the *comunidad autónoma* ("autonomous community") of Catalonia, northeastern Spain, on a coastal plain, just west-northwest of Tarragona city. Reus was first mentioned in the 13th century, but its commercial life dates from 1750 when an English settlement was established there. Reus gained the status of a city in the 1840s. In its oldest section is the Gothic priory church of San Pedro, with a belfry 200 feet (60 m) high. Reus has a municipal museum (Prim-Rull Museum) that houses a prehistoric collection and numerous educational, cultural, sporting, and recreational centres. Salou Beach, a Mediterranean resort, is 5.5 miles (9 km) south. Reus is the site of an important textile industry, and its position in the centre of a wine-growing district accounts for what is said to be a large trade in counterfeit French wines. Much horticultural produce is grown.

Reus was the birthplace of the general and statesman Juan Prim, of the painter Mariano Fortuny, and of the architect Antonio Gaudí. Pop. (1987 est.) 81,816.

Reuss, two former German principalities, merged into Thuringia in 1920. In their final years they comprised two blocks, separated by part of Saxe-Weimar-Eisenach. The southern and larger block, or Oberland, with Schleiz and Greiz as chief towns, was bounded east by the kingdom of Saxony, south by Bavaria, west by Saxe-Meiningen and part of Schwarzburg-Rudolstadt, and northwest by an exclave of Prussian Saxony. The other block, Unterland, around Gera, was bounded east and west by Saxe-Altenburg and north by Prussian Saxony.

The ruling house of the Reuss is traceable to the 12th century. All its male descendants have borne the name Henry (in honour of Emperor Henry VI), necessitating complex numeration. Its Plauen line was subdivided about 1300 between a senior branch (extinct 1572) and a junior. The latter took the name Reuss from its head, Henry the Russian (so designated after a trip to Russia and marriage to a Galician princess). It became Lutheran and split itself in 1564 into three lines, Elder Reuss, Middle Reuss (extinct 1616), and Younger Reuss.

The heads of the Elder and Younger Reuss both acquired the rank of count of the Holy Roman Empire in 1673; Elder that of prince in 1778; and branches of Younger Reuss that of prince in 1806. Both lines entered the German Confederation in 1815 and became members of the German Empire in 1871.

The two territories, which became free states in 1918, merged themselves into a People's State of Reuss on April 4, 1919. This was absorbed into the new Thuringia on May 1, 1920.

Reuter, Ernst (b. July 29, 1889, Apenrade, Ger.—d. Sept. 30, 1953, West Berlin, W.Ger.), German Communist and leader of the Social Democratic Party of Germany, mayor of post-World War II West Berlin, whose leadership helped that city survive the Soviet blockade.

Reuter joined the Social Democratic Party in 1912. Drafted during World War I, he became a Russian prisoner of war in 1916. He joined the Bolsheviks and served as commissar of the Volga German autonomous workers' commune in 1918. Returning to Germany after the revolution, he was appointed Communist Party secretary for Berlin but rejoined the



Ernst Reuter, 1951
Archiv für Kunst und Geschichte, Berlin

Social Democrats in 1922. Reuter was elected to the Berlin city assembly (1926), served as mayor of Magdeburg (1931), and entered the Reichstag (federal lower house) the next year. After being arrested following Hitler's advent to power, he went to England (1935), and from 1939 to 1945 lived in Turkey, serving as professor of public administration at the University of Ankara.

Returning to Berlin in 1946, Reuter reorganized the Social Democratic Party and was elected mayor (1947), but he was not approved because of Soviet opposition. He did not take office, as mayor of West Berlin, until after the division of the city in 1948 into a western and an eastern sector. After 1951, Reuter also presided over the Deutsche Städtetages (German City Diets). His political and moral leadership, which extended far beyond Berlin itself, helped the people of Berlin to withstand the Soviet blockade of 1948–49 and to face the grave effects of the division and isolation of Germany's former capital.

Reuter, Fritz (b. Nov. 7, 1810, Stavenhagen, Mecklenburg-Schwerin [Germany]—d. July 12, 1874, Eisenach, Ger.), German novelist who helped to initiate the development of regional dialect literature in Germany. His best works, which mirrored the provincial life of Mecklenburg, are written in Plattdeutsch, a north German dialect.

As a youthful member of a student political club, Reuter was sentenced to death in 1833, but the sentence was later commuted to 30 years' imprisonment. Released under the amnesty of Frederick William IV after seven years' imprisonment, he never fully regained his health. The success of his early Plattdeutsch poems and stories led him to attempt more ambitious works in his native dialect. *Ut de Franzosentid* (1859; "During the Time of the French Conquest") presents, with a mixture of seriousness and humour, life in a Mecklenburg country town during the War of Liberation against Napoleon. *Ut mine Festungstid* (1862; "During the Time of My Incarceration") is an account of his last few years in prison told without bitterness. *Ut mine Stromtid* (1862–64; "During My Apprenticeship") is considered his masterpiece. In this work, originally issued in three volumes, Reuter's resemblance to Dickens as a great storyteller and as a creator of characters is most apparent; its humorous hero, Entspektor Bräsig, is as memorable as Mr. Pickwick.

Reuter, Paul Julius, Freiherr von (baron of), original name ISRAEL BEER JOSAPHAT (b. July 21, 1816, Kassel, Electorate of Hesse [Germany]—d. Feb. 25, 1899, Nice, Fr.), German-born founder of one of the first news agencies, which still bears his name. Of Jewish parentage, he became a Christian in 1844 and adopted the name of Reuter.

As a clerk in his uncle's bank in Göttingen, Ger., Reuter made the acquaintance of the eminent mathematician and physicist Carl Friedrich Gauss, who was at that time experimenting with the electric telegraph that was to become important in news dissemination.

In the early 1840s he joined a small publishing concern in Berlin. After publishing a number of political pamphlets that aroused the hostility of the authorities, he moved to Paris in 1848, a year of revolution throughout Europe. He began translating extracts from articles and commercial news and sending them to papers in Germany. In 1850 he set up a carrier-pigeon service between Aachen and Brussels, the terminal points of the German and the French-Belgian telegraph lines.

Moving to England in 1851, Reuter opened a telegraph office near the London stock exchange. At first his business was confined mostly to commercial telegrams, but with daily newspapers flourishing, he persuaded several publishers to subscribe to his service. His first spectacular success came in 1859 when he transmitted to London the text of



Freiherr von Reuter
BBC Hulton Picture Library

a speech by Napoleon III foreshadowing the Austro-French Piedmontese war in Italy.

The spread of undersea cables helped Reuter extend his service to other continents. After several years of competition, Reuter and two rival services, Havas of France and Wolff of Germany, agreed on a geographic division of territory, leaving Havas and Wolff their respective countries, parts of Europe, and South America. The three agencies held a virtual monopoly on world press services for many years.

Reuter was created a baron by the duke of Saxe-Coburg-Gotha in 1871 and later was given the privileges of this rank in England. He retired as managing director of Reuters in 1878.

Reuters, British cooperative news agency founded in 1851, one of the leading news wire services in the world. It was established by Paul Julius Reuter, a bank clerk who became a partner in a book-publishing firm. He initiated a prototype news service in Paris in 1849, using electric telegraphy as well as carrier pigeons in his network. Upon moving to England, he launched Reuter's Telegram Company two years later. The company was concerned with commercial news service at its inception and had headquarters in London serving banks, brokerage houses, and leading business firms. The agency expanded steadily, and in 1858 its first newspaper client, the London *Morning Advertiser*, subscribed. Newspapers bulked ever larger in the Reuters clientele thereafter.

Reuter saw the possibilities of the telegraph for news reporting and built up an organization that maintained correspondents throughout the world. The Reuters agency remained in private hands until 1925, when the Press Association (PA) acquired major control of it, gaining full control in 1941. Later in 1941 the PA sold half of Reuters to the Newspaper Proprietors' Association, representing London newspapers, and in 1947 membership was extended to associations representing the daily newspapers of Australia and New Zealand.

As a cooperative, Reuters draws from the provincial news coverage of the PA, the resources of its London newspaper members, and its Australasian partners. Its correspondents have access to the news files of agencies with which it exchanges copy. Reuters exchanges the Press Association's U.K. report with the Associated Press (AP) for its coverage of U.S. news, but each retains the right to market its world report in the other's territory. Directly or through national news agencies, Reuters provided services to most countries, reaching virtually all the world's leading newspapers and many thousands of others, as well as hundreds of radio and television stations around the world.

Reuther, Walter (Philip) (b. Sept. 1, 1907, Wheeling, W.Va., U.S.—d. May 9, 1970, Pellston, Mich.), leading U.S. labour leader who was president of the United Automobile Workers (UAW) and of the Congress of Industrial Organizations (CIO) and was active in national and international affairs. An effective negotiator of wages-and-hours improvements for the UAW, he led in winning various bargaining gains for them, such as annual wage improvements based on productivity advance, cost-of-living increases, supplementary unemployment benefits, early retirement, and health and welfare benefits.

Born the son of a trade-union and Socialist activist, Reuther became an apprentice tool and die maker in Wheeling at the age of 16 and, upon moving to Detroit at 19, became a tool and die craftsman and was soon promoted to a foreman's post; in his free time he finished high school and completed three years of college. For three years during the 1930s, Reuther, with his brother Victor, travelled around the world, working for almost two years in an automobile factory in the Soviet Union. Thereafter he was highly critical of the lack of freedom in Communist society and fought the Communist elements in the UAW and CIO.

As president of his local union on the west side of Detroit, Reuther was one of the leaders of the sit-down strikes that established the UAW as a power in the automotive industry. He became director of the General Motors Department of the UAW in 1939 and was president of the union from 1946 until his death. In 1952 Reuther succeeded Philip Murray as president of the CIO, in that position becoming an architect of the AFL-CIO merger in 1955. Elected a vice-president of the merged federation and president of its Industrial Union Department, he held positions making him second only to George Meany, president of the combined AFL-CIO. At the same time, Reuther served as vice president of the International Confederation of Free Trade Unions, a counterforce to the Communist-controlled World Federation of Trade Unions.

In the meantime Reuther's relations with Meany, whom he criticized for dictatorial control, conservatism, and inaction, had deteriorated. In 1968 Reuther led the UAW out of the federation, in the following year launching the Alliance for Labor Action in cooperation with the Teamsters, a union that had been expelled earlier from the labour federation for corruption.

In 1970 Reuther and his wife were killed when their chartered plane crashed in fog and rain near Pellston, Mich.

Reutlingen, city, Baden-Württemberg *Land* (state), southwestern Germany, on the Echaz River below the Achalm height in the Schwäbische Alb (Swabian Alps), south of Stuttgart. Founded by Frederick II, it was chartered in the early 13th century and later became a free imperial city (until 1802). It

was the scene of the Swabian League's decisive victory over Count Ulrich of Württemberg in 1377. The Tübinger (13th century) and Garden (14th century) gates remain of the old fortifications, and there are numerous high-gabled, half-timbered houses and several Gothic churches including the Marienkirche (begun in 1247) with 14th-century frescoes, an octagonal font of 1499, and a Holy Sepulchre of 1500. The economist Friedrich List was born in Reutlingen (1789). Textile manufacturing and leather tanning are the principal industries, and there are technical schools with research institutes in these trades. Pop. (1989 est.) 100,400.

Reuveran Stage, major division of geologic time and deposits in The Netherlands. The Reuveran Stage, named for a clay deposit of the same name, is Pliocene in age (between 1,600,000 and 5,300,000 years old). The Reuveran underlies undoubted Pleistocene deposits and has been correlated with the Coralline Crag of Great Britain and the Kaolin Sands of northern European regions.

Reval, also spelled REVEL (Estonia): see Tallinn.

Revda, city, Sverdlovsk *oblast* (administrative region), western Russia, U.S.S.R., in the mid-Urals on the Revda River, at the confluence of the Chusovaya River. Founded in 1734, when a metallurgical factory was built, it became a city in 1935. In 1940 the Sredneuralsk copper-smelting plant began operation based on ore from the copper-mining centre of Degtyarsk. Ferrous metallurgy and fertilizers are also important. Pop. (1983 est.) 64,000.

revelation, in religion, disclosure of divine or sacred reality or purpose to man. Revelation in this sense is an essential aspect of all religions, although the specific forms it takes in particular traditions vary widely.

A brief treatment of revelation follows. For full treatment, see MACROPAEDIA: Doctrines and Dogmas, Religious.

The forms of revelation can generally be portrayed as lying somewhere along a spectrum between two contrasting types. On the one hand, in religious traditions that posit a high degree of conformity between temporal and transcendent reality, the cosmos itself is viewed as the primary medium through which the transcendent is disclosed. In religions of this general type, revealed reality is usually conceived of as more or less nonpersonal. Revelation in this context may be characterized as "cosmic."

On the other hand, in traditions emphasizing the discontinuity between the profane realm and the sacred, revelation occurs as historical event, signifying the transmission of divine will through a human receiver. Such revelation, in which the divine is perceived as a personal entity, is generally termed "prophetic."

A notable example of the first type is the inspired poetry of the ancient Indian Vedas, which portray the natural world as a system of interconnecting powers that ultimately express the single underlying divine power, Brahman. Buddhist enlightenment and many of the forms of "hierophany," or manifestations of the sacred, that characterize the archaic religions described by the religious historian Mircea Eliade also constitute cosmic revelation.

The religion of ancient Israel, by contrast, was founded on revelation of the prophetic type, wherein the prophet bears personal witness to the acts and will of a sovereign deity standing in distinction from the world as its creator and judge. On the basis of this tradition, all of Judaic and subsequent Christian biblical literature is regarded as, to a greater or lesser extent, revealed. Oracular pronouncements and the teachings of Zoroaster and

Muhammad are other examples of prophetic revelation.

Such a typology is useful for indicating the degree of diversity to be found among world religions, but it can also lead to misunderstanding if applied as a norm rather than as a heuristic device. Although the Vedas, for example, were cited above as an example of cosmic revelation, the texts also contain elements of prophetic disclosure, namely a discourse that does not merely describe the cosmos but enjoins transformative action within it. Conversely, the Scriptures of the ancient Hebrews include cosmic elements, as evinced most notably in the so-called wisdom literature.

A similar contrast of types is reflected in the terms "general" and "special" revelation, roughly equivalent to the "cosmic" and "prophetic," respectively.

Revelation to John, also called BOOK OF REVELATION, or APOCALYPSE OF JOHN, last book of the New Testament. It is the only book of the New Testament classified as apocalyptic literature rather than didactic or historical, indicating thereby its extensive use of visions, symbols, and allegory, especially in connection with future events. Revelation to John appears to be a collection of separate units composed by unknown authors who lived during the last quarter of the 1st century, though it purports to have been written by John, "the beloved disciple" of Jesus, at Patmos, in the Aegean Sea.

The book comprises two main parts, the first of which (chapters 2-3) contains moral admonitions (but no visions or symbolism) in individual letters addressed to the seven Christian churches of Asia Minor. In the second part (chapters 4-22:5), visions, allegories, and symbols (to a great extent unexplained) so pervade the text that exegeses necessarily differ in their interpretations. Many scholars, however, agree that Revelation is not simply an abstract spiritual allegory divorced from historical events, nor merely a prophecy concerning the final upheaval at the end of the world, couched in obscure language. Rather, it deals with a contemporary crisis of faith, probably brought on by Roman persecutions. Christians are consequently exhorted to remain steadfast in their faith and to hold firmly to the hope that God will ultimately be victorious over his (and their) enemies. Because such a view presents current problems in an eschatological context, the message of Revelation also becomes relevant to future generations of Christians who, Christ forewarned, would likewise suffer persecution. The victory of God over Satan (in this case, the perseverance of Christians in the face of Roman persecution) typifies similar victories over evil in ages still to come and God's final victory at the end of time.

Although Christ is clearly the central figure of Revelation, an understanding of the text presupposes familiarity with Old Testament language and concepts, especially those taken from the books of Daniel and Ezekiel. The author uses the number seven, for example, in a symbolic sense to signify "totality" or "perfection." References to "a thousand years" (chapter 20) have led some to expect that the final victory over evil will come after the completion of some millennium.

Revell, Viljo (b. Jan. 25, 1910, Vaasa, Fin.—d. Nov. 8, 1964, Helsinki), Finnish architect, one of the foremost exponents of Functionalism in Finnish architecture.

He became an assistant to the Finnish architect and designer Alvar Aalto while he was still a student. Before his studies were completed in 1937, he had participated in the design of a Helsinki department store called the Glass Palace. Early works emphasizing simple precise forms with smooth unbroken surfaces include the Teollisuuskeskus Hotel



Revels, c. 1861

By courtesy of the Embassy of Finland, Washington, D.C.

and offices in Helsinki (1952; in collaboration with Keijo Petäjä) and a hosiery factory for Kudeneule Ltd., at Hanko (1954–56). An increased freedom of form characterizes his four-tower apartment buildings in Tapiola (1959–60), which are rhomboid in plan; the cemetery chapel at Vitjala, near Tampere (1960–61), actually a group of buildings the most prominent of which is a large chapel with a parabolic shell roof; an apartment house in Helsinki-Munkkiniemi (1961–62), notable for balconies or verandas giving a view of the Gulf of Finland; and particularly the Toronto (Canada) City Hall (1965), a combination of two gracefully curved, semicircular tower-office buildings and a low-domed central structure.

Revels, Hiram R(hoades) (b. Sept. 1, 1822, Fayetteville, N.C., U.S.—d. Jan. 16, 1901, Aberdeen, Miss.), U.S. clergyman and educator who became the first black citizen to be elected to the U.S. Senate (1870–71).



Revels

By courtesy of the Library of Congress, Washington, D.C.

Born of free parents, young Revels travelled to Indiana and Illinois to receive the education that was denied him in the South. Ordained a minister in the African Methodist Episcopal Church in 1845, he worked among blacks in the Midwest and in Kentucky and Tennessee for a few years before settling in Baltimore, where he served as a church pastor and principal of a school for blacks. Soon after the Civil War began (1861), he helped organize two volunteer regiments of blacks for service in the Union Army. Two years later he organized a school for freedmen in St. Louis, Mo., and then joined the Federal forces to serve as a chaplain to a black regiment stationed in Mississippi.

After the war Revels settled in Natchez, Miss., to preach to a large congregation. Despite some misgivings about entering politics, he accepted appointment by the military governor as alderman (1868) and was later (1869) elected to the state senate. Although Revels was a Republican, he was anxious not to encourage race friction with white Southerners; he therefore supported legislation that would have restored the power to vote and to hold office to disenfranchised members of the former Confederacy. In January 1870 he was elected to the U.S. Senate to fill the unexpired term of the former Confederate president, Jefferson Davis. He performed competently in office,

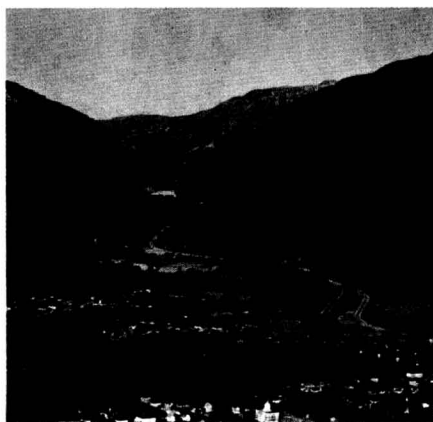
advocating desegregation in the schools and on the railroads. He acknowledged that he received fair treatment in Washington, D.C., even in patronage matters.

On leaving the Senate, Revels became president of Alcorn Agricultural and Mechanical College, a recently opened institution of higher education for blacks, near Lorman, Miss. In 1873 he served briefly as interim secretary of state in Mississippi but the next year was dismissed from the college presidency. In 1875 he helped overturn the Republican (Carpetbag) government of the state, defending his action on the grounds that too many politicians in that party were corrupt. He was rewarded by the Democratic administration, which returned him to the chief post at Alcorn in 1876, where he remained until his retirement.

Revels, Master of the, English court official, who, from Tudor times up until the Licensing Act of 1737, supervised the production and financing of often elaborate court entertainments. He later was the official issuer of licenses to theatres and theatrical companies and the censor of publicly performed plays.

A Master of the Revels was first appointed c. 1495, and the Revels office soon developed a complicated system for building and painting spectacular scenery. Not until 1545, however, did Sir Thomas Cawarden become master for life. Thereafter, the office assumed importance. Decrees in 1581 and 1603 gave the Master of Revels licensing, censorship, and fee-collecting powers. The prestige of the office reached its high point during the mastership of Sir Henry Herbert (1623–42), after which theatres were closed during the Puritan interregnum. After the Restoration (1660), Herbert was reinstated as master until his death in 1673, but the office was gradually stripped of its power. The Licensing Act of 1737 abolished it entirely, granting the power of censorship directly to the Lord Chamberlain. Although the Revels office did not exclusively control all court entertainment, the accounts and detailed records of the office are a valuable source for information on the elaborate court productions of the 15th century through the 18th.

Revelstoke, city, southeastern British Columbia, Canada, on the Columbia River between the Monashee and Selkirk mountains, 392 mi (631 km) northeast of Vancouver. Originally called Second Crossing, the site (overlooked by Mt. Revelstoke [6,375



Revelstoke on the Columbia River, British Columbia, at the edge of Mount Revelstoke National Park
Tourism Canada; photograph, P. Gaudard

ft; 1,943 m]) was claimed in 1898 by A.S. Farwell, a government surveyor. Attempts to build the Canadian Pacific Railway through nearby Rogers Pass were abandoned because of snowslides and the 5-mi- (8-km-) long Connaught Tunnel was built through Mt. McDonald in 1916. In 1962, however, the spectacular 92-mi Rogers Pass Highway, with avalanche

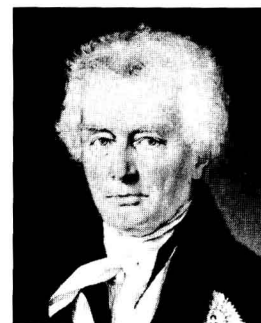
defenses, to Golden was completed. The city was named for Lord Revelstoke, head of a British banking firm that helped finance the railroad. Located in a mining, lumbering, and farming area, it is also a base for winter sports, hunting, and fishing. Transportation, brewing, and sawmilling are major economic activities. To the northeast lie Mt. Revelstoke and Glacier national parks. Inc. 1899. Pop. (1981) 5,544.

revendication (law): see replevin.

revenge tragedy, drama in which the dominant motive is revenge for a real or imagined injury; it was a favourite form of English tragedy in the Elizabethan and Jacobean eras and found its highest expression in Shakespeare's *Hamlet*. The revenge drama derived originally from the Roman tragedies of Seneca but was established on the English stage by Thomas Kyd with *The Spanish Tragedie* (c. 1590). This work, which opens with the Ghost of Andrea and Revenge, deals with Hieronimo, a Spanish gentleman who is driven to melancholy by the murder of his son. Between spells of madness, he discovers who the murderers are and plans his ingenious revenge. He stages a play in which the murderers take part, and, while enacting his role, Hieronimo actually kills them, then kills himself. The influence of this play, so apparent in *Hamlet* (c. 1600), is also evident in other plays of the period. In John Marston's *Antonios Revenge* (1602), the ghost of Antonio's slain father urges Antonio to avenge his murder, which Antonio does during a court masque. In George Chapman's *Revenge of Bussy d'Ambois* (c. 1610), Bussy's ghost begs his introspective brother Clermont to avenge his murder. Clermont hesitates and vacillates but at last complies, then kills himself. Most revenge tragedies end with a scene of carnage that disposes of the avenger as well as his victims. Other examples are Shakespeare's *Titus Andronicus* (1594), Henry Chettle's *Tragedy of Hoffman* (1602), and Cyril Tourneur's *Revenge's Tragedie* (1607).

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Reventlow, Christian Ditlev Frederik, Lensgreve (Count) (b. March 11, 1748, Copenhagen—d. Oct. 11, 1827, Lolland, Den.), Danish state official whose agrarian reforms led to the abolition of serfdom in Denmark.



Reventlow, detail from an oil painting by C.A. Jensen, 1833

By courtesy of the Nationalhistoriske Museum paa Frederiksborg, Denmark

Reventlow travelled to several western European countries in the 1760s to study economic conditions. He returned to Denmark in 1770 and entered state service in 1773. He experimented with agrarian reform on the Lolland estates, which he inherited in 1775. In 1784 he

was named head of the Rentekammeret (Exchequer), with responsibility for agriculture.

On the basis of four earlier experiments he had conducted, Reventlow took measures to ease the lot of crown serfs. In 1786 he persuaded Crown Prince Frederick (later Frederick VI) to create an agrarian commission to study the conditions of the peasantry as a whole. Resulting reforms in 1787 and 1788 put an end to Danish serfdom. Later measures of Reventlow led to clearly defined terms of voluntary peasant service on the large estates. Reventlow retired from public service in 1813 after being dismissed from his post.

revenue bond, also called LIMITED OBLIGATION BOND, bond issued by a municipality, state, or public agency authorized to build, acquire, or improve a revenue-producing property such as a waterworks, an electric generating plant, a port authority, or a railroad. Unlike general obligation bonds, which carry the full faith and credit of the issuing agency and are repaid through a variety of tax revenues, revenue bonds are payable from specified revenues only, usually the revenues from the facility for which the bond was originally issued.

This separation of the revenue bond obligation from a municipality's direct and general bond obligations allows the municipality to circumvent legislated debt limits. Viewed in this light, revenue bonds can be considered as a municipality's corporate bonds, since they are free of ceilings, pay interest rates (generally higher than general obligation bonds), and are paid only from the profits of a revenue-producing property. In exchange for this convenient freedom from debt limitation, municipalities undergo careful scrutiny in the use of revenues generated from sale of the bonds.

reverberatory furnace, in copper, tin, and nickel production, a furnace used for smelting or refining in which the fuel is not in direct contact with the ore but heats it by a flame blown over it from another chamber. In steelmaking, this process, now largely obsolete, is called the open-hearth process. The heat passes over the hearth, in which the ore is placed, and then reverberates back. The roof is arched, with the highest point over the firebox. It slopes downward toward a bridge of flues that deflect the flame so that it reverberates. The hearth is made dense and impervious so that the heavy matte, or molten impure metal, cannot penetrate into and through it, and the walls are made of a material that resists chemical attack by the slag. The process is continuous in the reverberatory furnace: ore concentrate is charged through openings in the roof; slag, which rises to the top, overflows continuously at one end; and the matte is tapped at intervals from the deepest part of the ore bath for transfer to a converter, where it is further refined.

Numerous technical innovations have improved the production capacity of this furnace, although its basic construction has remained the same. Roofs are made of refractory brick rather than the ordinary brick used earlier, and this has permitted higher temperatures and thus faster refining. Reverberatory smelting has recently been giving way to such newer processes as continuous smelting and the use of electric or flash furnaces.

Reverdy, Pierre (b. Sept. 13, 1889, Narbonne, Fr.—d. June 17, 1960, Solesmes), French poet and moralist who first reflected Cubist and then Surrealist influence.

The difficulty of Reverdy's poems limited his audience. He founded a short-lived review, *Nord-Sud* (1916; "North-South"), to promote Cubism. After turning to Surrealism in the 1920s, he returned to Cubist-inspired

poetic techniques. Reverdy published *Étoiles peintes* (1921; "Painted Stars"), *Les Épaves du ciel* (1924; "Shipwrecks from Heaven"), and *Flaques de verre* (1929; "Glass Puddles"). In 1926 he retired to the Abbaye de Solesmes, remaining there until his death. In solitude he dedicated himself to a search for the spiritual meaning of the physical world, expressing this vocation in the disciplined maxims of *Le Gant de crin* (1927; "The Horsehair Glove") and *Le Livre de mon bord* (1948; "The Book Beside Me").

Revere, city, Suffolk county, Massachusetts, U.S. It lies along Massachusetts Bay, just northeast of Boston. First known as Rumney Marsh, it was settled in 1626 and was part of Boston from 1632 until 1739, when it became part of Chelsea. During the Revolutionary War, the British schooner *Diana*, seeking food supplies, was destroyed in the locality by Chelsea patriots led by Israel Putnam at the so-called Battle of Chelsea Creek (May 27, 1775). Separately incorporated as the town of North Chelsea in 1846, it was renamed in 1871 to honour Paul Revere. Although a summer resort since its founding, its development was slow because of extensive marsh areas. Now the "Coney Island of Boston" (with 3 miles [5 km] of beaches, a dog track, and entertainment facilities), Revere remains primarily residential with few light industries. Inc. city, 1915. Pop. (1990) 42,786.

Revere, Paul (b. Jan. 1, 1735, Boston—d. May 10, 1818, Boston), folk hero of the American Revolution whose dramatic horseback ride on the night of April 18, 1775, warning Boston-area residents that the British were coming, was immortalized in a ballad by Henry Wadsworth Longfellow.

His father, Apollos De Revoire (later changed to Revere), was a Huguenot refugee who had come to Boston as a child and had been apprenticed to a silversmith. This craft he taught his son Paul Revere, who became one



Revere, portrait by John Singleton Copley; in the Museum of Fine Arts, Boston

By courtesy of the Museum of Fine Arts, Boston, gift of Joseph W. William B., and Edward H.R. Revere

of America's greatest artists in silver. As a boy Revere received sufficient education to enable him later to read the difficult metallurgical books of his period. Although it was in metal that Revere did most of his work, his energy and skill (and the necessity of supporting an ever-growing family) turned him in many directions. He not only made silver but also made surgical instruments, sold spectacles, replaced missing teeth, and engraved copper plates, the most famous of which portrayed his version of the Boston Massacre.

In the 1770s Revere enthusiastically supported the patriot cause; as acknowledged

leader of Boston's mechanic class, he provided an invaluable link between artisan and intellectual. In 1773 he donned Indian garb and joined 50 other patriots in the Boston Tea Party protest against parliamentary taxation without representation. Although many have questioned the historical liberties taken in Longfellow's narrative poem "Paul Revere's Ride" (1863), the fact is that Revere served for years as the principal rider for Boston's Committee of Safety, making journeys to New York and Philadelphia in its service. On April 16, 1775, he rode to nearby Concord to urge the patriots to move their military stores, which were endangered by pending British troop movements. Finally, two days later, he set out on his most famous journey to alert his countrymen that British troops were on the march, particularly in search of Revolutionary leaders John Hancock and Samuel Adams. Because of his warning, the Minutemen were ready the next morning on Lexington green for the historic battle that launched the War of Independence.

With the outbreak of hostilities, Revere turned industrialist and constructed a much-needed powder mill to supply colonial arms. In 1776 he was put in command of Boston Harbour's principal defense at Castle William, but his war record as a lieutenant colonel was largely undistinguished. He resumed his stride as a successful industrialist after the war, however, and set up a rolling mill for the manufacture of sheet copper at Canton, Mass. From this factory came sheathing for many U.S. ships, including the *Constitution*, and for the dome of the Massachusetts statehouse.

A colourful biography is Esther Forbes's *Paul Revere and the World He Lived In* (1942).

reverend, the ordinary English prefix of written address to the names of ministers of most Christian denominations. In the 15th century it was used as a general term of respectful address, but it has been habitually used as a title prefixed to the names of ordained clergymen since the 17th century. In the Church of England and in most other denominations in English-speaking countries, prefects apostolic who are not in episcopal orders (e.g., deans, provosts, cathedral canons, rectors of seminaries and colleges, and priors and prioresses) are addressed as "very reverend." Bishops, abbots, abbesses, and vicars-general are addressed as "right reverend," and archbishops and (in Roman Catholicism) cardinals are addressed as "most reverend." The moderator of the Church of Scotland is also styled "right reverend." Carthusians use the title "reverend" only for their prior-general; all other Carthusian priests are styled "venerable father."

reversibility, in thermodynamics, a characteristic of certain processes (changes of a system from an initial state to a final state spontaneously or as a result of interactions with other systems) that can be reversed, and the system restored to its initial state, without leaving net effects in any of the systems involved. An example of a reversible process would be a single swing of a frictionless pendulum from one of its extreme positions to the other. The swing of a real pendulum is irreversible because a small amount of the mechanical energy of the pendulum would be expended in performing work against frictional forces, and restoration of the pendulum to its exact starting position would require the supply of an equivalent amount of energy from a second system, such as a compressed spring in which an irreversible change of state would occur.

reversion, in Anglo-American law, interest held by a prior owner in property given to another, which, upon the happening of some future event, will return to that prior owner. A reversion is itself specific property, and it can be sold or disposed of as property by

the reversion owner. One who holds property subject to a reversion interest held by another is under certain obligations as to the use of that property. Generally, such an owner must reasonably protect the property from spoilage or diminution in value, for the sake of the future owner.

In present usage there are two general methods of creating a reversion. One retains a reversion when he gives his property to another for that person's use during his life only, and at his death the property reverts to the prior owner; or one may give his property to another to possess and use as his own only until the operation of a certain condition. The majority of U.S. states limit this conditional reversion to a specified length of a time, usually not longer than 50 years.

revetment: see retaining wall.

Revillagigedo Islands, archipelago in the Pacific Ocean, approximately 300 miles (500 km) south-southwest of the tip of the Baja California peninsula and 370 miles (595 km) west-southwest of Cape Corrientes on the Mexican mainland. The islands are administered by Colima state, Mexico. Covering a total land area of 320 square miles (830 square km), the archipelago consists of numerous volcanic islands. The largest, Socorro, which rises to an elevation of 3,707 feet (1,130 m), is 24 miles (39 km) long and 9 miles (14 km) wide. San Benedicto, 40 miles (64 km) north of Socorro, and Clarión, 250 miles (400 km) west of Socorro, are the two other large islands; small islands include Roca Partida, 60 miles (100 km) west of Socorro, and Roca Oneal, just off the northwestern coast of Socorro. In 1957 an outpost was established on long-uninhabited Socorro, and trees were planted for timber and fruit. The expedition found about 8,000 sheep on the island, the residue of a temporary Australian settlement of the mid-1800s. The Revillagigedo Islands are rich in sulfur, fish, and guano.

A list of the abbreviations used in the MICROPAEDIA will be found at the end of this volume

revisionism, in Marxist thought, originally the late 19th-century effort of Eduard Bernstein to revise Marxist doctrine. Rejecting the labour theory of value, economic determinism, and the significance of the class struggle, Bernstein argued that by that time German society had disproved some of Marx's predictions: he asserted that capitalism was not on the verge of collapse, capital was not being amassed by fewer and fewer persons, the middle class was not disappearing, and the working class was not afflicted by "increasing misery."

The revisionism of Bernstein aroused considerable controversy among the German Social Democrats of his day. Led by Karl Kautsky (*q.v.*), they officially rejected it (Hanover Congress, 1889). Nevertheless, revisionism had a great impact on the party's practical policies.

After the Bolshevik Revolution, the term revisionism came to be used by Communists as a label for certain types of deviation from established Marxist views. Thus, for example, the independent ideas and policies of the Yugoslav Communists were attacked as "modern revisionism" by Soviet critics, who themselves were accused of revisionism by Chinese Communists.

Revius, Jacobus (Latin), Dutch JACOB VAN REEFSEN (b. November 1586, Deventer, Neth.—d. Nov. 15, 1658, Leiden), Dutch Calvinist poet long esteemed only as a theologian but later acknowledged as the greatest Christian lyricist of his period.

Revius was a Dutch Reformed church min-

ister who was a vigorous supporter of Protestantism, and his poetry is invariably scriptural or moralistic. His collection *Over-Ijselsche sangen en dichten* (1630; "Over-IJssel Songs and Poems") shows the stylistic influence of the French Renaissance poet Pierre de Ronsard as well as Revius' affinities with the English Metaphysical poets in his prolific use of stark metaphor and the profusion of four-line epigrams. The best-known sonnet from the collection is "Hy droech onse smerten" ("He Bore Our Sorrows"), a moving profession of guilt at Christ's death.

revivalism, generally, renewed religious fervour within a Christian group, church, or community, but primarily a movement in some Protestant churches to revitalize the spiritual ardour of their members and win new adherents. Revivalism in its modern form can be attributed to that shared emphasis in Anabaptism, Puritanism, German Pietism, and Methodism in the 16th, 17th, and 18th centuries on personal religious experience, the priesthood of all believers, and holy living, in protest against established church systems that seemed excessively sacramental, priestly, and worldly.

Of the groups that contributed to the revival tradition, the Anabaptists were severely persecuted, and only a few survived the 16th-century Reformation. In England, however, the Puritans protested against the sacramentalism and ritualism of the Church of England in the 17th century, and many migrated to America, where they continued their fervour for experiential religion and devout living. The Puritan fervour waned toward the end of the 17th century, but the Great Awakening (*q.v.*; c. 1720–50), America's first great revival, under the leadership of Jonathan Edwards, George Whitefield, and others, revitalized religion in the North American colonies. The Great Awakening was a part of a larger religious revival that was also influential in Europe and Great Britain. In Germany and Scandinavia, Lutheranism was revitalized by the movement known as Pietism. The British revival led by John Wesley and others eventually resulted in the Methodist church.

Toward the end of the 18th century another revival, known as the Second Great Awakening (c. 1795–1835), began in the United States. During this revival, meetings were held in small towns and the large cities throughout the country, and the unique frontier institution known as the camp meeting (*q.v.*) began. The Second Great Awakening produced a great increase in church membership, made soul winning the primary function of the ministry, and stimulated several moral and philanthropic reforms, including temperance, emancipation of women, and foreign missions.

After 1835 professional revivalists traveled through the towns and cities of the United States and Great Britain, organizing annual revival meetings at the invitation of local pastors who wanted to reinvigorate their churches. In 1857–58 a "prayer meeting revival" swept U.S. cities following a financial panic. It indirectly instigated a revival in Northern Ireland and England in 1859–61.

The preaching tour of the American lay evangelist Dwight L. Moody through the British Isles in 1873–75 marked the beginning of a new surge of Anglo-U.S. revivalism. In his subsequent revival activity, Moody perfected the highly businesslike techniques that characterized the urban mass evangelistic campaigns of early 20th-century professional revivalists such as Reuben A. Torrey, Billy Sunday, and others. The interdenominationally supported revivalism of Moody and his imitators in 1875–1915 constituted, in part, a conscious cooperative effort by the Protestant churches to alleviate the unrest of urban industrial society by evangelizing the masses and, in part, an unconscious effort to counter the challenge to

Protestant orthodoxy brought on by the new critical methods of studying the Bible and by modern scientific ideas concerning the evolution of man.

In the first half of the 20th century most educated Protestant churchmen lost interest in revivalism. After World War II, however, a renewed interest in mass evangelism appeared and was especially evident in the widespread support given to the revival "crusades" of the American Southern Baptist evangelist Billy Graham and various regional revivalists.

revolution, in social and political science, a major, sudden, and hence typically violent alteration in government and in related associations and structures. The term is used by analogy in such expressions as the Industrial Revolution, where it refers to a radical and profound change in economic relationships and technological conditions.

Though the idea of revolution was originally related to the Aristotelian notion of cyclical alterations in the forms of government, it now implies a fundamental departure from any previous historical pattern. A revolution constitutes a challenge to the established political order and the eventual establishment of a new order radically different from the preceding one. The great revolutions of European history, especially the English, French, and Russian revolutions, changed not only the system of government but also the economic system, the social structure, and the cultural values of those societies.

Historically, the concept of revolution was seen as a very destructive force, from ancient Greece right through to the European Middle Ages. The ancient Greeks saw revolution as a possibility only after the decay of the fundamental moral and religious tenets of society. Plato believed that a constant, firmly entrenched code of beliefs could prevent revolution. Aristotle elaborated on this concept, concluding that if a culture's basic value system is tenuous, the society will be vulnerable to revolution. Any radical alteration in basic values or beliefs provides the ground for a revolutionary upheaval.

During the Middle Ages, the maintenance of the established beliefs and forms of government remained the priority. Much attention was given to finding means of combating revolution and stifling changes in society. Religious authority was so strong and its belief in the maintenance of order so fundamental that the church directed people to accept the inequities of power, instead of upsetting the stability of society.

Only after the emergence of secular humanism during the Renaissance did this concept of revolution, as a cause of the desecration of society, change to embrace a more modern perspective. The 16th-century Italian writer Niccolò Machiavelli recognized the importance of creating a state that could endure the threat of revolution; but, at the same time, his detailed analysis of power led to a new belief in the necessity of changes in the structure of government on certain occasions. This new acceptance of change placed Machiavelli at the forefront of modern revolutionary thought, even though he never used the word revolution in his texts, and he was primarily concerned with the creation of a truly stable state.

The 17th-century English writer John Milton was an early believer in revolution's inherent ability to help a society realize its potential. He also saw revolution as the right of society to defend itself against abusive tyrants, creating a new order that reflected the needs of the people. To Milton, revolution was the means of accomplishing freedom. Later, in the 18th century, the French and American revolutions

were attempts to secure freedom from oppressive leadership. Modern revolutions have frequently incorporated utopian ideals as a basis for change.

Immanuel Kant, the 18th-century German philosopher, believed in revolution as a force for the advancement of mankind. Kant believed that revolution was a "natural" step in the realization of a higher ethical foundation for society. This idea helped serve as a basis for the American and French revolutions.

The 19th-century German philosopher G.W.F. Hegel was a crucial catalyst in the formation of 20th-century revolutionary thought. He saw revolutions as the fulfillment of human destiny, and he saw revolutionary leaders as those necessary to instigate and implement reforms. Hegel's theories served as the foundation for the most influential revolutionary thinker, Karl Marx. Marx used Hegel's abstractions as the basis for a plan of class struggle, centred on a fight for the control of the economic processes of society. Marx believed in progressive stages of human history, culminating in the working-class overthrow of the property-owning class. For society to advance, the working class, or proletariat, must take over the means of production. Marx viewed this eventuality as the conclusion of the human struggle for freedom and a classless society, thus eliminating the need for further political change. Communist revolutions led by Marxists took place in Russia, Yugoslavia, China, Vietnam, and Cuba, among other countries, in the 20th century.

One modern historian, Crane Brinton, analyzed the tendencies of a society prior to a major revolution. He saw a prerevolutionary society as having a combination of social and political tensions, caused by a gradual breakdown of the values of a society. This leads to a fracture of political authority, as the governing body must rely upon an increasingly desperate use of force to remain in power. Commensurate with this is the emergence of reform elements that serve to emphasize the corruption of the political authority. As the existing political order begins to lose its grasp on authority, momentum builds among the diverse forces of the opposition. As the government becomes more precarious, the splinter groups that form the threat to the existing order band together to topple the authority.

Brinton also observed the different stages of a major revolution. After the government is overthrown, there is usually a period of optimistic idealism, and the revolutionaries engage in much perfectionist rhetoric. But this phase does not last very long. The practical tasks of governing have to be faced, and a split develops between moderates and radicals. It ends in the defeat of the moderates, the rise of extremists, and the concentration of all power in their hands. For one faction to prevail and maintain its authority, the use of force is almost inevitable. The goals of the revolution fade, as a totalitarian regime takes command. Some of the basic tenets of the original revolutionary movement, however, are eventually incorporated in the end. The French and Russian revolutions followed this course of development, as did the Islamic revolution in Iran in the late 20th century.

A strictly political revolution, independent of social transformation, does not possess the same pattern of prerevolutionary and postrevolutionary events. It may be merely a change in political authority (as in many coups d'état) or a somewhat broader transformation of the structures of power (as in the American and Mexican revolutions).

Revolution of — : see under substantive word or date (e.g., 1688, Revolution of; 1830, Revolutions of; 1848, Revolutions of).

Revolution Peak, Russian ПИК РЕВОЛЮТСИИ, mountain in the northwestern Pamirs range in Gorno-Badakhshan autonomous oblast (province), Tadzhikistan, U.S.S.R. At 22,880 feet (6,974 m), it is the highest point in the eastern part of the Yazgulem Range. The mountain consists of an enormous mass with three summits covered with snow and ice, and it is the source of the Fedchenko Glacier, which rises on its northwestern face.

revolutionary syndicalism: see syndicalism.

Revolutionary Tribunal, French TRIBUNAL RÉVOLUTIONNAIRE, court that was instituted in Paris by the National Convention during the French Revolution for the trial of political offenders. It became one of the most powerful engines of the Reign of Terror.

The news of the failure of the French armies in Belgium gave rise in Paris to popular movements on March 9–10, 1793; and on March 10, on the proposal of Georges Danton, the Convention decreed that there should be established in Paris an extraordinary criminal tribunal, which received the official name of the Revolutionary Tribunal by a decree of Oct. 29, 1793. It was composed of a jury, a public prosecutor, and two substitutes, all nominated by the Convention; and from its judgments there was no appeal. With M.J.A. Hermann as president and A.-Q. Fouquier-Tinville as public prosecutor, the tribunal terrorized the royalists, refractory priests, and all the other participants in the counterrevolution. Soon, too, it came to be used for personal ends, particularly by Maximilien Robespierre, who employed it for the condemnation of his adversaries.

The excesses of the Revolutionary Tribunal increased with the growth of Robespierre's ascendancy in the Committee of Public Safety. On June 10, 1794, there was promulgated, at his instigation, the Law of 22 Prairial, which forbade prisoners to employ counsel for their defense, suppressed the hearing of witnesses, and made death the sole penalty. Before 22 Prairial the Revolutionary Tribunal had pronounced 1,220 death sentences in 13 months; during the 49 days between the passing of the law and the fall of Robespierre, 1,376 persons were condemned, including many innocent victims.

The lists of prisoners to be sent before the tribunal were prepared by a popular commission and signed, after revision, by the Committee of General Security and the Committee of Public Safety jointly. Robespierre was the principal purveyor of the tribunal. The Revolutionary Tribunal was suppressed on May 31, 1795. Among its most celebrated victims were Marie-Antoinette, the Dantonists, and several of the Girondists. Similar tribunals operated in the provinces.



Woodcut illustrating a revolving Kabuki stage with three settings

By courtesy of the International Society for Educational Information, Tokyo

Revolutionary War, American: see United States War of Independence.

revolver, pistol (*q.v.*) whose multi-shot action depends on a revolving cylinder. Some early versions, known as "pepperboxes," had several barrels, but as early as the 17th century pistols were manufactured with a revolving chamber



Five-shot .38-calibre revolver

By courtesy of Smith and Wesson

to load the cartridges successively into a single barrel. The principle was not used successfully to produce a practical weapon until 1835–36, when Samuel Colt patented his version.

As in all subsequent revolvers, Colt's cylinder contained several bored ammunition chambers, equidistant from each other and from the axis about which the cylinder revolved. Each chamber successively locked in position behind the barrel and discharged by pressure on the trigger. Colt's early revolvers were single-action, in which the cylinder revolved as the hammer was cocked manually, and they used percussion caps. Double-action revolvers, in which the hammer is cocked and the cylinder revolves as the trigger is pulled, were developed in the mid-1800s, along with metal cartridges. Despite the slight escape of propellant gas through the junction between the cylinder and the barrel, the revolver has remained a competitor of the automatic pistol.

revolving credit, system of retail credit in which the buyer makes periodic payments to an account to which his purchases and service charges have been debited. The service charge is based on the outstanding balance; if the buyer pays his entire balance, no service charge accrues. The total credit allowed the customer may be some multiple of a fixed monthly payment, or there may be no credit limit—the monthly payment varying with the outstanding balance. Revolving-credit plans are provided by many department stores and are an important feature of bank credit-card systems (see credit card).

revolving stage, theatrical device for scene changes, or shifts, by which three or more

settings are constructed on a turntable around a central pivot and revolved before the audience. It was invented for the Kabuki theatre in Japan in the 18th century and was introduced into Western theatre at the Residenztheater in Munich in 1896. The revolving stage was widely adopted and has remained a popular mechanical feature in major theatres around the world.

Revson, Charles H(askell) (b. Oct. 11, 1906, Boston—d. Aug. 24, 1975, New York City), American businessman who turned a \$300 investment into the largest retail cosmetics and fragrance manufacturing firm in the United States, with more than 3,000 products and annual sales at his death of \$605,000,000.

The son of a cigar maker, Revson's first job was in a dress store as a salesman. He soon joined a cosmetics firm and sold nail polish, but he quit in 1932 when he was passed over for the position of national distributor. That same year, during the depths of the Great Depression, Revson joined with his brother Joseph and a chemist, Charles Lachman, and started Revlon with \$300 as capital. Their nail polishes were thick and smooth and were offered in more shades than any other company had. Revson concentrated his early sales in beauty salons and then later turned to drug and department stores. Revson was also the first to introduce matching lipsticks and polishes. He was a strong believer in advertising and developed exotic and romantic names for his products, such as Fire and Ice, Plum Lightning, Moon Drops, and Ultima II.

Revson had a reputation as a demanding perfectionist, and his firm had a high turnover in executives. Both of his original partners had resigned by 1965, and his other brother, Martin, who had joined the company in 1935, resigned in 1958. Revson diversified in 1966 into the pharmaceutical industry. At the time of Revson's death from cancer, Revlon products were sold in 85 countries.

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revue, light form of theatrical entertainment consisting of unrelated acts (songs, dances, skits, and monologues) that portray and sometimes satirize contemporary persons and events. Originally derived from the French street fairs of the Middle Ages, at which events of the year were passed in comic review, French revue in its present form dates from the early 19th century. It was first developed at the Théâtre de la Porte-Saint-Martin in Paris by C.-T. and J.-H. Cogniard with their *Folies Marigny*; later at the Folies-Bergère and other places of entertainment the revue was the vehicle of such stars as Yvette Guilbert and Maurice Chevalier.

The English revue developed on one hand into a costume display and spectacle with little topical material, reaching its peak in the Court Theatre productions of the 1890s. On the other hand, the *André Charlot Revues* of the 1920s, the handsome shows at the London Hippodrome, and especially the performances at Sir Charles Cochran's Ambassadors' Theatre were more intimate and emphasized clever repartee and topicality. Revues of the intimate club type, such as those at the Gate Theatre and the famous *Revue de l'Étoile* of the Windmill Theatre, played an important part in keeping up the morale of Londoners during the German bombings of 1940.

In the United States, *The Passing Show*, first produced in New York in 1894, inspired the producer Florenz Ziegfeld in 1907 to initiate the 24 annual *Ziegfeld Follies*, usually built around a star personality. George White and his annual *Scandals* put more emphasis



Scene from the English revue *Hullo Ragtime* at the London Hippodrome, from a drawing by Christopher Clark, 1912

By courtesy of the Mander and Mitchenson Theatre Collection, London

on comedians and girls and less on spectacle for its own sake. More modest revues have been the *Music Box Revues*; the *Little Shows* of Dwight Wiman; *The Garrick Gaities*; *The Chocolate Dandies* of Noble Sissle and Eubie Blake; the *Depression Pins and Needles* of 1937, produced by the International Ladies Garment Workers Union with a cast of union members; *Hellzapoppin* (1938); and the post-World War II show staged by returning soldiers, *Call Me Mister*.

Revue commanded enthusiastic support until the mid-20th century, when the competition of radio, motion pictures, and television consigned the topical wit, sketches, and monologues of revue primarily to small nightclubs and improvisational theatres.

Revue des Deux Mondes, fortnightly journal of criticism of and commentary on literature and other arts, published in Paris in 1829 and from 1831 to 1944. It was one of a number of journals set up in France following the suspension of censorship in 1828, and it attained a critical influence in that country comparable to the great Scottish and English journals of the day. *Revue des Deux Mondes*, however, did not concern itself with politics, and its influence was confined to the arts. François Buloz was its editor from 1831 to 1877 and established a tradition of excellence that attracted contributions from such literary eminences as Charles-Augustin Sainte-Beuve, Honoré de Balzac, Victor Hugo, Hippolyte Taine, and Ernest Renan. One of its contributors was Ferdinand Brunetière, who became its editor from 1893 to 1906. The journal suspended publication in 1944 but was brought out again from 1948 under the title *La Revue de Littérature, Histoire, Arts et Sciences des Deux Mondes*.

Revueltas, José (b. Nov. 20, 1914, Durango, Mex.—d. April 14, 1976, Mexico City), Mexican novelist, short-story writer, and political activist who was one of the originators of the new Mexican novel.

Revueltas was a member of a family of prominent artists. His brother Silvestre Revueltas was a noted composer. Revueltas, politically active at 14, joined the Mexican Communist Party in 1932 and was twice imprisoned at the penitentiary at Islas Marias. *Los muros de agua* (1941; "Walls of Water"), his first novel, is based on incidents that occurred during his confinement.

El luto humano (1943; "Human Mourning";

Eng. trans. *The Stone Knife*) is a powerful novel that uses flashbacks and interior monologues to present the plight of rural Mexicans from the pre-Columbian period up to the 1930s. In 1943 Revueltas was expelled from the Communist Party after a membership extending back many years and took part in founding the Spartacus Leninist League, although he soon left that as well. The novel *Los errores* (1964) is a denunciation of the purges of Communism. He was arrested for his role in the student disturbances of 1968 and was briefly imprisoned at the penitentiary at Lecumberri. He also published two short-story collections, *Dios en la tierra* (1944; "God in the Land") and *Dormir en tierra* (1960; "To Sleep in the Land").

Revueltas, Silvestre (b. Dec. 31, 1899, Santiago Papasquiaro, Mex.—d. Oct. 5, 1940, Mexico City), Mexican composer and violinist, best known for his colourfully orchestrated music of distinctive rhythmic vitality.

Revueltas studied the violin and composition in Mexico City, in Austin, Texas, and in Chicago and conducted an orchestra in Mobile, Ala., before becoming assistant conductor (1929–35) of the Mexico Symphony Orchestra. Revueltas suggested folk derivations in his works without quoting actual Mexican folk songs, often achieving a powerful rhythmic drive that ends fortissimo after a hammering crescendo. His major works are symphonic poems on Mexican subjects, but he also wrote chamber music, songs, and film scores.

Rewa, also spelled REWAH, or RIWA, town, northeastern Madhya Pradesh state, central India. The town was chosen as the capital of the former Rewa princely state in 1597 and served also as capital of the British Baghelkhand Agency (1871–1931) and of Vindhya Pradesh state (1948–56). It is connected by road with other towns and is a trade centre for grain, building stone, and timber. Cloth weaving and wood carving are important cottage industries. The town is the seat of Awadesh Pratap Singh University (established 1968), with several affiliated colleges, including a medical school, in the town.

Rewa is situated on a wide alluvial plain that is part of the great Vindhyan plateau and is watered by the Tons River and its tributaries. Rice, wheat, oilseeds, millet, and corn (maize) are the major crops in the area, a significant portion of which is forested, yielding valuable timber and lac. The former Rewa princely state was founded c. 1400 by Baghel Rājputs (warrior caste) and entered into treaty agreements with the British in 1812. Pop. (1981) 100,641.

Rewa River, longest and most important stream of the Fijian islands, in the South Pacific. It rises on the flanks of Tomanivi, in north-central Viti Levu, the principal island of Fiji, and flows southeast for 90 miles (145 km) to its mouth at Lauthala (Laucala) Bay on the southeast coast, near Suva (the national capital). The river drains one-third of the island, and its valley and fertile deltas support rice and dairy production. Small steamers are able to navigate upstream for 50 miles (80 km).

Rewāri, also called RIWARI, city, southern Haryana state, northwestern India. It is connected by rail to Delhi (northeast). A historic centre of trade between Delhi and Rājasthān, Rewāri is said to have been built by Raja Rao (or Rewat), who named it after his daughter Rewati. It is a major commercial and transport centre and an agricultural market. There is some light industry. Constituted a municipality in 1867, it has five colleges affiliated with Kurukshetra University. Pop. (1981) 51,562.

Rex cat, curly-coated breed of domestic cat that has a dense, soft coat lacking any projecting guard hairs, or outer coat. Except on the head, legs, and paws, the coat forms fairly deep waves, or crimps. The eyebrows and whiskers of the Rex cat are crinkled, the eyes are almond-shaped, and the ears are large and high set. The adult Rex cat is slender and usually has long legs, a long neck and head, and a long, tapering tail. Show cats may be any of the colours or patterns that are accepted for domestic cats.

Rexroth, Kenneth (b. Dec. 22, 1905, South Bend, Ind., U.S.—d. June 6, 1982, Santa Barbara, Calif.), American painter, essayist, poet, and translator, an early champion of the Beat movement.

Largely self-educated, Rexroth spent much of his youth traveling in the western United States, organizing and speaking for unions. His early poetry was experimental, influenced by Surrealism; his later work was praised for its tight form and its wit and humanistic passion. His *Complete Collected Shorter Poems* appeared in 1966 and *Complete Collected Longer Poems* in 1962. *New Poems* was published in 1974. His essays include *Bird in the Bush* (1959), *Assays* (1962), *The Alternative Society* (1970), *With Eye and Ear* (1970), and *American Poetry in the Twentieth Century* (1971). He was also a prolific translator of Japanese, Chinese, Greek, Latin, and Spanish poetry. *An Autobiographical Novel* was published in 1966.

Rey (Iran): see Rayy.

Rey, Jacobus Hercules de la: see De la Rey, Jacobus Hercules.

Reyes, Alfonso (b. May 17, 1889, Monterrey, Mex.—d. Dec. 27, 1959, Mexico City), poet, short-story writer, essayist, literary scholar and critic, educator, and diplomat, generally considered one of the most distinguished Mexican men of letters of the 20th century.

While still a student, Reyes established himself as an original scholar and an elegant stylist with the publication of *Cuestiones estéticas* (1911; "Aesthetic Questions"). After receiving his degree in law in 1913, he interrupted his diplomatic career, begun in Paris (1913), by studying and teaching in Madrid at the Centro de Estudios Históricos (1914–19). He served in the Mexican diplomatic service in Spain (1920–27) and as ambassador to Argentina (1927, 1936–37) and to Brazil (1930–36, 1938–39), and was also frequently a cultural representative of Mexico at various international conferences. During these years he published both scholarly and creative works, distinguishing himself equally in poetry and prose. The poetry of *Visión de Anáhuac* (1917; "Vision of Anáhuac"), the dialogues and sketches of *El plano oblicuo* (1920; "The Oblique Plane"), and the essays of *Reloj de sol* (1926; "Sundial") reveal the diversity of Reyes' forms and themes. In scholarship and criticism he was equally versatile, specializing in classical Greek literature and Spanish literature of the Golden Age. He also translated English and French works into Spanish and wrote such general works as *La experiencia literaria* (1942; "The Literary Experience").

By the time Reyes returned permanently to Mexico in 1939, on his retirement from the diplomatic service, his position as the master of Mexican letters was virtually unchallenged. He continued to be active in public life and in education while maintaining a vast literary output until his death.

Reyes (Prieto), Rafael (b. 1850, Santa Rosa, New Granada—d. Feb. 19, 1921, Bogotá), explorer and statesman who was president and dictator of Colombia from 1904 to 1909. He

attempted to give his nation a strong one-man rule that would attract foreign investment and foster domestic industrialization.

With little formal education, Reyes engaged in commerce with his brothers, and in 1874 they began an extraordinary adventure of exploration and occupation of the unknown area of the Amazon Basin in Colombia. One brother died of fever and another was eaten by cannibals, but Reyes survived in the jungle for 10 years. The prosperous business he had established collapsed in a financial panic, and he returned to civilization a ruined man.

Reyes soon aligned himself with the Conservative military forces of Colombia and was rewarded for his services to the dictator Rafael Núñez with various political offices: secretary of the interior, ambassador to France, and delegate to the Pan-American Conference in Mexico (1901–02). Returning to Colombia after an unsuccessful attempt to negotiate compensation from the United States for the loss of Panama, he was elected president in 1904.

Soon after his inauguration Reyes assumed dictatorial powers—dismissing the Congress, jailing some of its members, and appointing his own puppet assembly. He then set about to restore the nation's international credit, increase coffee production, and encourage the building of railroads and public facilities. All in all, he provided an efficient administration. Colombians, however, were growing restive under his dictatorship, and when he tried to conclude a treaty calling for U.S. payment of only \$2,500,000 for the loss of Panama, he was forced to resign (1909). After 10 years of travel he returned to Colombia in 1919.

Reyes Basoalto, Neftali Ricardo (writer): see Neruda, Pablo.

Reye's syndrome, acute neurologic illness that develops in children following a minor episode of influenza, chicken pox, or other viral infections and which may, in its most serious form, result in fatty degeneration of the liver and potentially fatal swelling of the brain. It was first reported by the Australian pathologist R.D.K. Reye in 1963, after 12 years of research. Whether it is a new disease of the second half of the 20th century or an old disease previously misdiagnosed is uncertain.

The disease affects people under 18 years of age, usually very young children. The affected child appears to be recovering from the viral illness when such symptoms as nausea, vomiting, lethargy, and confusion begin. Within a few hours or days the child exhibits drowsiness, disorientation, seizures, respiratory arrest, and coma. The precise cause of the syndrome is unknown but is thought to be related to viral damage to the cerebral mitochondria (the subcellular structures responsible for energy metabolism). Reye's syndrome can occur following aflatoxin or warfarin poisoning and has also been associated with the use of aspirin or other salicylates during a viral illness. A decline in the incidence of the syndrome during the 1980s was attributed to the reduced use of these drugs in the treatment of viral infections in children.

Although there is no specific cure, careful monitoring of the patient's vital functions and prompt correction of any imbalances—employing antibiotics, insulin, corticosteroids, glucose, diuretics, blood serum, and other aids—can help stay the progress of the disease. More than 70 percent of patients now survive. Some recover completely, whereas others suffer some degree of brain damage.

Reykjavík, capital and largest town of Iceland. It is located on the northern side of the Seltjarnar Peninsula, at the southeastern corner of Faxa Bay, in southwestern Iceland. According to tradition, Reykjavík (Bay of Smokes) was founded in 874 by the Norseman Ingólfur Arnarson. Until the 20th century it



Reykjavík, Ice.

By courtesy of the Icelandic Tourist Information Bureau

was a small fishing village, ruled and largely inhabited by Danes. It was granted municipal powers and was designated the administrative centre of the Danish-ruled island in 1786. The seat of the Althing (parliament) since 1843, it became the capital of a self-governing Iceland under the Danish king in 1918 and of the independent Republic of Iceland in 1944. Reykjavík is also the commercial, industrial, and cultural centre of the island. It is a major fishing port and the site of nearly half of the nation's industries. An international airport is at Keflavík, 20 miles (32 km) west-southwest. Reykjavík's manufactures include processed fish and food products, ships, and textiles. Strikingly modern and clean in appearance, the town is largely built of concrete and is heated by hot water piped from nearby springs. Noteworthy buildings include the Parliament Building, the Lutheran Cathedral (1975), the National Library of Iceland (founded 1818), the University of Iceland (founded 1911), the National Museum, the National Theatre, a state hospital, and a navigation school. Bessastadhir, the residence of the president of Iceland, is outside the town. Pop. (1983 est.) 87,309.

Reymont, Władysław Stanisław, Reymont also spelled REJMENT (b. May 7, 1867, Kobiele Wielkie, near Radom, Pol., Russian Empire [now in Poland]—d. Dec. 5, 1925, Warsaw), Polish writer and novelist.

Reymont never completed his schooling but was at various times in his youth a shop apprentice, a lay brother in a monastery, a railway official, and an actor. His early writing includes *Ziemia obiecana* (1899; "The Promised Land"), a story set in the rapidly expanding industrial town of Łódź and depicting the lives and psychology of the owners of the textile mills there. His short stories and novels, including *Spotkanie* (1897; "The Meeting") and *Komediantka* (1896; "The Comedienne"), are written in a naturalistic, factual style with short sentences. The novel *Chłopi*, 4 vol. (1904–09; *The Peasants*) is a chronicle of peasant life during the four seasons of a year; written almost entirely in peasant dialect, it has been translated into many languages and won for Reymont the Nobel Prize for Literature (1924). His later work was less expressive but reflected the variety of his interests, including his view of the spiritualist movement in *Wampir* (1911) and his interpretation of Polish political and social life at the close of the 18th century in *Rok 1794*, 3 vol. (1913–18; "The Year 1794").

Reynald of CHÂTILLON (French crusader): see Reginald of Châtillon.

Reynard THE FOX, hero of several medieval European cycles of versified animal tales that satirize contemporary human society. Though Reynard is sly, amoral, cowardly, and self-seeking, he is still a sympathetic hero, whose cunning is a necessity for survival. He

symbolizes the triumph of craft over brute strength, usually personified by Isengrim, the greedy and dull-witted wolf. Some of the cyclic stories collected around him, such as the wolf or bear fishing with his tail through a hole in the ice, are found all over the world; others, like the sick lion cured by the wolf's skin, derive by oral transmission from Greco-Roman sources. The cycle arose in the area between Flanders and Germany in the 10th and 11th centuries, when clerks began to forge Latin beast epics out of popular tales. *Ysengrimus* was used as the title of a poem in Latin elegiac couplets by Nivard of Ghent in 1152; some of the stories were soon recounted in French octosyllabic couplets. The Middle High German poem "Fuchs Reinhard" (c. 1180) by Heinrich (der Glîchesaere?), a masterpiece of 2,000 lines, freely adapted from a lost French original, is another early version.

The main literary tradition of Reynard the Fox descends from the extant French "branches" of the *Roman de Renart* (about 30 in number, nearly 40,000 lines of verse). These French branches are probably elaborations of the same kernel poem used by Heinrich in the earlier German version. The facetious portrayal of rustic life, the camel as a papal legate speaking broken French, the animals riding on horses and recounting elaborate dreams, suggest the atmosphere of 13th-century France and foreshadow the more sophisticated "Nun's Priest's Tale" of Chaucer. Because of the popularity of these tales the nickname *renard* has replaced the old word *goupil* ("fox") throughout France. The Flemish adaptations of these French tales by Aenout and Willem (c. 1250) were the sources of the Dutch and Low German prose manuscripts and chapbooks, which in turn were used by the English printer William Caxton and subsequent imitators down to Goethe's *Reineke Fuchs* (1794).

Reynaud, Paul (b. Oct. 15, 1878, Barcelonnette, Fr.—d. Sept. 21, 1966, Paris), conservative French politician and statesman who, as premier in June 1940, unsuccessfully attempted to save France from German occupation in World War II.

A lawyer, Reynaud joined the army in World War I. Afterward he represented his home district (1919–24) and then a Paris constituency (from 1928) in the Chamber of Deputies and was minister of finance, of colonies, and of justice between 1930 and 1932. Out of office until 1938, he was almost alone in advocating resistance to Nazi Germany and preparation for combined tank-air warfare, as recommended by Col. (later Gen.) Charles de Gaulle. Appointed minister of justice (April 1938) Reynaud protested the appeasement of Germany by England and France and resigned from the Alliance Démocratique when its leader congratulated Hitler after the Munich Conference (which allowed Germany to occupy large sections of Czechoslovakia). From November 1938 to March 1940 Reynaud was minister of finance.

In World War II Reynaud became premier (March 1940). He made de Gaulle undersecretary of state for war and, as France was collapsing under the German onslaught, urged resistance and maintenance of the British alliance. But Marshal Philippe Pétain, a World War I hero whom Reynaud had made vice premier to strengthen his Cabinet, and other ministers preferred armistice with Germany. Unwilling to be party to an armistice, Reynaud resigned on June 16; arrested shortly thereafter, he was kept in captivity for the duration of the war.

After the liberation Reynaud was a member of the Chamber of Deputies (1946–62), held office in two governments (1948, 1950), and twice tried to form cabinets of his own (1952, 1953). He presided over the Consultative Committee on the drafting of the constitution

of the Fifth Republic. In 1962, however, he denounced de Gaulle for trying to circumvent that constitution by inaugurating a presidential regime elected by direct vote.

Reynaud's major publications are *La France a sauvé l'Europe* (1947; revised as *Au coeur de la mêlée*, 1930–45, 1951; Eng. trans., *In the Thick of the Fight*, 1930–45, 1955) and *Mémoires* (2 vol., 1960–63).

Reynolds, Sir Joshua (b. July 16, 1723, Plympton, Devon, Eng.—d. Feb. 23, 1792, London), portrait painter and aesthete who dominated English artistic life in the middle and late 18th century. Through his art and



Sir Joshua Reynolds, detail of a self-portrait, oil painting, 1773; in the Royal Academy of Arts, London

By courtesy of the Royal Academy of Arts, London

teaching, he attempted to lead British painting away from the indigenous anecdotal pictures of the early 18th century toward the formal rhetoric of the continental Grand Style. With the founding of the Royal Academy in 1768, Reynolds was elected its first president and knighted by the King.

Early life. Reynolds was educated at the Plympton grammar school of which his father, a clergyman, was master. The young Reynolds became well read in the writings of classical antiquity and throughout his life was to be much interested in literature, counting many of the finest British authors of the 18th century among his closest friends. Influenced by the essays of the prominent English portrait painter Jonathan Richardson, Reynolds early aspired to become an artist, and in 1740 he was apprenticed for four years in London to Richardson's pupil and son-in-law, a conventional portraitist named Thomas Hudson. In 1743 he returned to Devon and began painting at Plymouth naval portraits that reveal his inexperience. Returning to London for two years in 1744, he began to acquire a knowledge of the old masters and an independent style characterized by bold brushwork and the use of impasto, a thick surface texture of paint, such as in his portrait of "Captain the Honourable John Hamilton."

Back in Devon in 1746, he painted a large group portrait of the "Eliot Family" (c. 1746/47; Earl of St. Germans, Port Eliot, Cornwall), which clearly indicates that he had studied the large-scale portrait of the "Pembroke Family" (1634–35; Wilton House, Wiltshire) by the Flemish Baroque painter Sir Anthony Van Dyck (1599–1641), whose style of portrait painting influenced English portraiture throughout the 18th century. In 1749 he sailed with a friend to Minorca, one of the Balearic Islands off the Mediterranean coast of Spain. A fall from a horse detained him for five months and permanently scarred his lip—the scar being a prominent feature in his subsequent self-portraits. From Minorca he went to

Rome, where he remained for two years, devoting himself to studying Italian art from ancient to his own times. Returning to England via Florence, Bologna, and Venice, he became absorbed by the compositions and colour of the great Renaissance Venetian painters of the 16th century: Titian, Jacopo Tintoretto, and Paolo Veronese. The Venetian tradition of atmospheric painting with its emphasis on colour and the effect of light and shading had a lasting influence on Reynolds, and, although all his life he preached the need for young artists to study the sculptural definition of form characteristic of Florentine and Roman painters, his own works are redolent of the Venetian style.

Later years. In 1753 Reynolds settled in London, where he was to live for the rest of his life. His success was assured from the first, and by 1755 he was employing studio assistants to help him execute the numerous portrait commissions he received. The early London portraits have a vigour and naturalness about them that is perhaps best exemplified in a likeness of "Honourable Augustus Keppel." The pose is not original, being a reversal of the "Apollo Belvedere," an ancient Roman copy of a mid-4th-century-BC Hellenistic statue he had seen in the Vatican. But the fact that the subject is shown striding along the seashore introduces a new kind of vigour into the tradition of English portraiture. In these first years in London, his knowledge of Venetian painting is very apparent in such works as the portraits of "Lord Cathcart" (1753/54; Trustees of Earl Cathcart, on loan to Manchester City Art Gallery, Lancashire) and "Lord Ludlow" (1755; Woburn Abbey, Bedfordshire). Of his domestic portraits, those of "Nelly O'Brien" and of "Georgiana, Countess Spencer, and Her Daughter" (1761; Earl Spencer, Althorp, Northamptonshire) are especially notable for their tender charm and careful observation.

After 1760 Reynolds' style became increasingly classical and self-conscious. As he fell under the influence of the classical Baroque painters of the Bolognese school of the 17th century and the archaeological interest in Greco-Roman antiquity that was sweeping Europe at the time, the pose and clothes of his sitters took on a more rigidly antique pattern, in consequence losing much of the sympathy and understanding of his earlier works.

There were no public exhibitions of contemporary artists in London before 1760, when Reynolds helped found the Society of Artists and the first of many successful exhibitions was held. The patronage of King George III was sought, and in 1768 the Royal Academy was founded. Although Reynolds' painting had found no favour at court, he was the obvious candidate for the presidency, and the King confirmed his election and knighted him. Reynolds guided the policy of the academy with such skill that the pattern he set has been followed with little variation ever since. His yearly *Discourses* clearly mirrored many of his own thoughts and aspirations, as well as his own problems of line versus colour and public and private portraiture, and gave advice to those beginning their artistic careers.

From 1769 nearly all of Reynolds' most important works appeared in the academy. In certain exhibitions he included historical pieces, such as "Ugolino" (1773; Knole House, Kent), which were perhaps his least successful works. Many of his child studies are tender and even amusing, though now and again the sentiment tends to be excessive. Two of the most enchanting are "Master Crewe as Henry VIII" (1775–76; Lord O'Neil, London) and "Lady Caroline Scott as 'Winter'" (1778; Duke of Buccleuch, London). His most ambitious portrait commission was the "Family of

the Duke of Marlborough" (1777; Blenheim Palace, Oxfordshire).

In 1781 Reynolds visited Flanders and Holland, where he studied the work of the great Flemish painter of the Baroque style Peter Paul Rubens. This seems to have affected his own style, for in the manner of Rubens' later works the texture of his picture surface becomes far richer. This is particularly true of his portrait of the "Duchess of Devonshire and Her Daughter" (1786; Chatsworth House, Derbyshire). Reynolds was never a mere society painter or flatterer. It has been suggested that his deafness gave him a clearer insight into the character of his sitters, the lack of one faculty sharpening the use of his eyes. His vast learning allowed him continually to vary his poses and style. In 1782 Reynolds had a paralytic stroke, and about the same time he was saddened by bickerings within the Royal Academy. Seven years later his eyesight began to fail, and he delivered his last *Discourse* at the academy in 1790. He died in 1792 and was buried in St. Paul's Cathedral.

Personality and criticism. Reynolds preferred the company of men of letters to that of his fellow artists. Although his 14th *Discourse* (1788) is a tender and moving appreciation of his rival, the painter Thomas Gainsborough, who stood for so much that he himself disliked in painting, it was in the company of the lexicographer and author Samuel Johnson, the statesman and philosopher Edmund Burke, and the dramatist, novelist, and poet Oliver Goldsmith that Reynolds was happiest. When Goldsmith died, Reynolds could not bring himself to paint for a whole day, and a moving essay he wrote on his friend showed that he could write a portrait as well as he could paint one. Reynolds and his friends were members of The Club, which he established in 1764. He never married, and his house was kept for him by his sister Frances.

Reynolds' state portraits of the King and Queen were never considered a success, and he seldom painted for them; but the Prince of Wales patronized him extensively, and there were few distinguished families or individuals who did not sit for him. Nonetheless, some of his finest portraits are those of his intimate friends and of fashionable women of questionable reputation.

Unfortunately, Reynolds' technique was not always entirely sound, and many of his paintings have suffered as a result. After his visit to Italy, he tried to produce the effects of Tintoretto and Titian by using transparent glazes over a monochrome underpainting, but the pigment he used for his flesh tones was not permanent and even in his lifetime began to fade, causing the overpale faces of many surviving portraits. An example of this can be seen in the "Roffey Family" (1765; City of Birmingham Museum and Art Gallery). This paleness often has been increased by injudicious cleaning. In the 1760s Reynolds began to use more extensively bitumen or coal substances added to pigments. This practice proved to be detrimental to the paint surface. Though a keen collector of old-master drawings, Reynolds himself was never a draftsman, and indeed few of his drawings have any merit whatsoever.

His *Discourses Delivered at the Royal Academy* is among the most important art criticism of the time. In it he outlined the essence of grandeur in art and suggested the means of achieving it through rigorous academic training and study of the old masters of art. (J.Wo.)

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Reynolds, Mary Ellen: see Miller, Marilyn.

Reynolds, Osborne (b. Aug. 23, 1842, Belfast, Ire.—d. Feb. 21, 1912, Watchet, Somerset, Eng.), British engineer, physicist, and educator best known for his work in hydraulics and hydrodynamics.

Reynolds was born into a family of Anglican clerics. He gained early workshop experience by apprenticing with a mechanical engineer, and he graduated at Queens' College, Cambridge, in mathematics in 1867. In 1868 he became the first professor of engineering at Owens College, Manchester, a position he held until his retirement in 1905. He became a fellow of the Royal Society in 1877 and received a Royal Medal in 1888.

Though his earliest professional research dealt with such properties as magnetism, electricity, and heavenly bodies, Reynolds soon began to concentrate on the area of fluid mechanics. In this area he made a number of significant contributions. His studies of condensation and heat transfer between solids and fluids brought radical revision in boiler and condenser design, while his work on turbine pumps permitted their rapid development. He formulated the theory of lubrication (1886) and in 1889 developed the standard mathematical framework used in turbulence work. He also studied wave engineering and tidal motions in rivers and made pioneering contributions to the concept of group velocity. Among his other contributions were the explanation of the radiometer and an early absolute determination of the mechanical equivalent of heat. His paper on the law of resistance in parallel channels (1883) is a classic. The "Reynolds stress" in fluids with turbulent motion and the "Reynolds number" used for modeling in fluid flow experiments are named for him.

Reynolds, Walter (d. Nov. 16, 1327), archbishop of Canterbury best known for his political involvement with Edward II.

Reynolds was the son of a Windsor baker. Sometime in the late 13th century he became a clerk, or chaplain, in the service of Edward I. He may have been a tutor to Edward, prince of Wales (later Edward II), with whom he became a favourite. When Prince Edward ascended the throne in 1307, he appointed Reynolds treasurer of England, and in 1308 Reynolds also became bishop of Worcester. When Robert Winchelsey, archbishop of Canterbury, died in May 1313, Edward II prevailed upon Pope Clement V (and, it is believed, bribed him) to appoint Reynolds to the vacant archbishopric; Reynolds was enthroned at Canterbury in February 1314. In this role he continued the historical struggle for precedence between the archbishops of Canterbury and of York. For a number of reasons, not the least of which was the pope's granting of extraordinary power to Reynolds, the king and the archbishop of Canterbury began to differ. By about 1323 the bond between Reynolds and Edward II had all but dissolved. Reynolds openly opposed the king in defense of the

bishop of Hereford, Adam of Orleton. In the events that concluded Edward's life and reign, the archbishop played a contemptible part. Eager to be on the winning side in the struggle between the king and the British barons for ascendancy and having fled for safety into Kent, Reynolds returned to London after the imprisonment of Edward II and declared for Edward III, whom he crowned in February 1327.

Reynolds number, in fluid mechanics, a criterion of whether fluid (liquid or gas) flow is absolutely steady (streamlined, or laminar) or on the average steady with small unsteady fluctuations (turbulent). Whenever the Reynolds number is less than about 2,000, flow in a pipe is generally laminar, whereas, at values greater than 2,000, flow is usually turbulent. Actually, the transition between laminar and turbulent flow occurs not at a specific value of the Reynolds number but in a range usually beginning between 1,000 to 2,000 and extending upward to between 3,000 and 5,000.

In 1883 Osborne Reynolds, a British engineer and physicist, demonstrated that the transition from laminar to turbulent flow in a pipe depends upon the value of a mathematical quantity equal to the average velocity of flow times the diameter of the tube times the mass density of the fluid divided by its absolute viscosity. This mathematical quantity, a pure number without dimensions, became known as the Reynolds number and was subsequently applied to other types of flow that are completely enclosed or that involve a moving object completely immersed in a fluid.

Where the same name may denote a person, place, or thing, the articles will be found in that order

Reynolds number, magnetic: see magnetic Reynolds number.

Reynolds Tobacco Company, in full R.J. REYNOLDS TOBACCO COMPANY, American manufacturer of tobacco products.

The origins of the R.J. Reynolds Tobacco Company date to the post-Civil War era, when Richard Joshua Reynolds (1850–1918) began trading in tobacco, first in his native Virginia and then in Winston, N.C., where in 1875 he established his first plug factory. In 1899 the R.J. Reynolds Tobacco Company was incorporated, with Reynolds as president. The following year it entered the giant tobacco trust that came to be called the American Tobacco Company. In 1911 the trust was dissolved by the U.S. Court of Appeals, and Reynolds Tobacco Company again became independent. In 1906 the company had introduced the popular Prince Albert pipe tobacco. In 1913 it introduced a new cigarette, a blend of American and Turkish tobaccos, called Camel. Winston filter tips went on sale in 1954, and Salem, the first filter-tipped menthol cigarette, was introduced in 1956.

The company began to diversify in the 1960s, acquiring chiefly food and oil concerns, and the tobacco concern became a subsidiary of R.J. Reynolds Industries, Inc., in 1970 (since 1986 RJR Nabisco, Inc.).

Reynosa, city, north-central Tamaulipas state, northeastern Mexico. Just across the Rio Grande (Río Bravo del Norte) from Hidalgo, Texas, U.S., Reynosa was founded in 1749 as part of a program to develop the Mexican interior. Subject to repeated floods, it was moved to higher ground, 300 feet (90 m) above sea level, in 1802. Its inhabitants were among the first to rebel in 1810; they also participated in the Revolution of 1910. The state congress declared Reynosa a city in 1926.

Its economy, based principally on cattle raising, was improved considerably with the introduction of irrigation in 1935, improving pasture and greatly expanding production