ENCYCLOPAEDIA. The Greeks seem to have understood by encyclopædia (ἐγκυκλοπαίδεια, or ἐγκύκλιος παιδεία) instruction in the whole circle (πάν χώρα) or complete system of learning—education in arts and sciences. Thus Pliny, in the preface to his Natural History, says that his book treated of all the subjects of the encyclopædia of the Greeks, "Iam omnia attingenda quae Graeci γυναῖκας vocant." The word encyclopædia was probably first used in English by Sir Thomas Elyot. In his Latin dictionary, 1538, he explains "Encycloes et Encyclia, the cyle or course of all doctrines," and "Encyclopædia, that learning which comprehended all lyberall science and studies." The term does not seem to have been used as the title of a book by the ancients or in the middle ages. The edition of the works of Joachimus Fortius Ringelberghius, printed at Basle in 1541, is called on the title-page LecturATIONS vel potius absolutionis κυνοενðαιας. Paulus Scalchius de Lika, a Hungarian count, wrote Encyclopædæae seu orbis disciplinarum episemon (1599). Alsted published in 1608 his Encyclopædia curas philosophici, and afterwards expanded this into his great work, noticed below, calling it without any limitation Encyclopædia, because it treats of everything that can be learned by man in this life. This is now the most usual sense in which the word encyclopædia—used—a book treating of all the various kinds of knowledge. The form "encyclopedia" is not merely without any appearance of classical authority, but is etymologically less definite, complete and correct. For as Cyropaedia means "the instruction of Cyrus," so encyclopedia may mean "instruction of a circle." Vossius says, "Encyclopedia is sometimes found, but the best writers say encyclopædia."

In a more restricted sense, encyclopedia means a system or classification of the various branches of knowledge, a subject on which many books have been published, especially in Germany, as Schmid's Allgemeine Encyclopädie and Methodologie der Wissenschaften (Jena, 1810). In this sense the Novum Organum of Bacon has often been called an encyclopedia. Fortunius Licetus, an Italian physician, entitled several of his dissertations on Roman arts and other antiquities encyclopædias (as, for instance, Encyclopædia ad Aram mystican Nonarii 1631), because in composing them he borrowed the aid of all the sciences. Encyclopædia is often used to mean a book which is, or professes to be, a complete or very full collection of treatises relating to some particular subject, as Blaine's work, The Encyclopedia of Rural Sports; The Encyclopedia of Wit; The Vocal Encyclopædia, a collection of songs, catchs, etc. The word is frequently used for an alphabetical dictionary treating fully of some science or subject, as Murray, Encyclopædia of Geography; Lefebvre Laboulaye, Encyclopédie technologique; E. R. Seligman, editor, Encyclopædia of the Social Sciences (1930), etc. Whether under the name of "dictionary" or "encyclopædia" large numbers of this class of reference-work have been published. These are essentially encyclopædical, being subject books and not word-books. The important books of this character are referred to in the articles dealing with the respective subjects.

Early Examples.—The great Chinese encyclopædias are referred to in the article on Chinese Literature. It will be sufficient to mention here the Wên hsien t'ung k'ao, compiled by Ts'ai T'ung-lin in the 14th century, the encyclopædia ordered to be compiled by the Emperor Yung-loh in the 15th century, and the Ku chin t'ao shu chi chêng prepared for the Emperor Kang-î (d. 1721), in 5,020 volumes. A copy of this enormous work, bound in some 700 volumes, is in the British Museum.

THE MOST ANCIENT WORKS

The most ancient encyclopædia extant is Pliny's Natural History in 37 books (including the preface) and 2,493 chapters, which treat of cosmography, astronomy and meteorology, geography (including man), the invention of the arts, botany, medicines, vegetable and animal remedies, medical authors and magic, metals, fine arts, mineralogy and mineral remedies. Pliny, who died A.D. 79, was not a naturalist, a physician or an artist, and collected his work in his leisure intervals engaged in political affairs. He says he contains 20,000 facts (100 small a number by half, says Lemaître), collected from 2,000 books by 100 authors. Hardouin has given a list of 604 authors quoted by him. His work was a very high authority in the middle ages, and 45 editions of it were printed before 1536.

Martianus Minneus Felix Capella, an African, wrote (early in the 5th century), in verse and prose, a sort of encyclopædia, which is important from having been regarded in the middle ages as a model storehouse of learning, and used in the schools, where the scholars had to learn the verses by heart, as a text-book of high-class education in the arts. It is sometimes entitled Satyra, a Satyricon, but is usually known as De nuptiis Philologiae et Mercurii, though this title is sometimes confined to the first 170 books, a rather confused allegory ending with the apotheosis of Philologia and the celebration of her marriage in the Milky Way, where Apollo presents her the seven liberal arts, who, in the succeeding seven books, describe their respective branches of knowledge from grammar to music (including poetry). It is that of an African of the 5th century, full of grandiloquent, metaphors and strange words.

Moreover, bishop Isidore, who flourished from 600 to 630, wrote Etymologi- tarum libri XX, (often also entitled Origines) at the request of his friend Braulio, bishop of Saragossa, who after Isidore's death divided the work into books, dealing with a great variety of subjects, from grammar to war and games, from angel to animal, from mathematics to ships, buildings and gardens. Isidore appears to have known Hebrew and Greek, and to have been familiar with the Latin classical poets, but he is a mere collector and his derivations are often absurd. He seldom mentions his authorities except when he quotes the poets or historians. Yet his work was a great one for the time, and for many centuries was a much valued authority and a rich source of material for other works, and he had a high reputation for learning both in his own time and in subsequent ages.

Hrabanus Maurus, whose family name was Magnentius, was educated in the abbey of Fulda, ordained deacon in 802, sent to the school of St. Martin of Tours, then directed by Alcuin, when he seems to have learned Greek, and is said by Trithemius to have been taught Hebrew, Syriac and Chaldee by Theophilus of Ephesians. He was ordained bishop of Mainz in 847, and died in 856. He compiled an encyclopedia De universali natura, De universali rerum, and De origine rerum) in 22 books. It is chiefly a rearrangement of Isidore's Etymologiae, omitting a considerable part of it, and adding the meanings given in the Bible to the subject matter of the chapter; while not mentioned in Scripture, especially such as belong to classical antiquity, are omitted, so that his work seems to be formed of two alternating parts. His aim was of beginning with God and the angels long prevailed in methodical encyclopaedias. His omissions are characteristic of the diminished literary activity and more contracted knowledge of his time. His work was presented to Louis the German, king of Bavaria, at Hirsfeld in 856.
how very rare, is well arranged, with a copious index, and is full of curious learning.

ENCYCLOPAEDIA AS DICTIONARIES

Alsted's Encyclopaedia.—Johann Heinrich Alsted, born 1588, died 1658, published *Encyclopaedia septem tomis distincta* (1638). It treats of a wide range of subjects, including not only the more important sciences, but paradoxologia, the art of explaining paradoxes; dipnosophistica, the art of philosophizing while feasting; cyclognomica, the art of conversing well de quovis scibili, and tabacologia, the nature, use and abuse of tobacco. Alsted's encyclopaedia was received with very great applause, and was highly valued. Lami (Entretiens, 1684) thought it almost the only encyclopaedia which did not deserve to be despised. Alsted's learning was very various. He wrote not long before the appearance of encyclopaedias in modern languages superseded his own and other Latin books, and but a short time before the alphabetical arrangement began to prevail over the methodical.

Jean de Magnon, historiographer to the king of France, undertook to write an encyclopaedia in French heroic verse, which was to fill ten volumes of 20,000 lines each, and to render libraries merely a useless ornament. But he did not live to finish it, as he was killed at night by robbers on the Pont Neuf in Paris, in 1662. The part he left was printed as *Le Science universelle* (1663)—about 8000 books containing about 11,000 lines. They begin with the nature of God, and end with the history of the fall of man. His verses, say Chaudon and Delandine, are perhaps the most nerveless, incorrect, obscure and flat in French poetry; yet the author had been the friend of Molière, and had acted with him in comedy.

Louis Moréri (born in 1643, died in 1680 at Paris) wrote a dictionary of history, genealogy and biography, *Le Grand Dictionnaire historique, ou, le ménage curieux de l'histoire sacrée et profane* (Lyons, 1674), the 20th edition of which was published in 1759. Moréri's dictionary, still very useful, was of great value and importance, although not the first of the kind.

Johann Jacob Hofmann (1763–1769), son of a schoolmaster at Basle, which he is said never to have left, and where he was professor of Greek and History, wrote *Lexicon universalie historico-geographico-chronoloico-poetico-philologicum* (1677), a dictionary of history, biography, geography, genealogies of princely families, chronology, mythology and philology. In 1683 he published a continuation in two volumes. From the great extent of his plan, many articles, especially in history, are superficial and far-fetched.

Étienne Chauvin was born at Nîmes in 1640. He fled to Rotterdam on the revocation of the edict of Nantes, and in 1688 supplied Bayle's place in his lectures on philosophy. In 1695 he was invited to go as professor of philosophy to Berlin, where he became the representative of the Cartesian philosophy. He wrote *Lexicon rationale, sive thesaurus philosophici ordine alphabeticò digestus* (1662). An improved and enlarged edition was printed as *Lexicon philosophicum secundis curis* in 1713. This great work may be considered as a dictionary of the Cartesian philosophy.

Dictionaries of Arts and Sciences.—The great dictionary of French, begun by the French Academy on Feb. 7, 1639, excluded all words especially belonging to science and the arts. But the success of the rival dictionary of Furetière, which, as its title-page, as well as that of the *Essais* published in 1654, consequently announced, professed to give "les termes de toutes les Sciences et des Arts," induced Thomas Corneille, a member of the Academy, to compile *Le Dictionnaire des arts et des sciences*, which the Academy published with the first edition of their dictionary (1694) as a supplement to two volumes. A long series of dictionaries of arts and sciences have followed Corneille in placing in their titles the arts before the sciences, which he probably did merely in order to differ from Furetière.

Pierre Bayle (1647–1706) wrote a very important and valuable work, *Dictionnaire historique et critique* (Rotterdam, 1697). His design was to make a dictionary of the errors and omissions of Moréri and others, but he was much embarrassed by the numerous editions and supplements of Moréri. The fourth edition (4 vols., Rotterdam, 1720) was much enlarged from his manuscripts,
and was edited by Prosper Marchand. It contains 3,132 pages besides tables, etc. It was translated into English from the second edition in 1790. Prosper Marchand, editor of the fourth edition, left at his death on Jan. 14, 1756, materials for a supplementary Dictionnaire historique (La Haye, 1758). It had occupied his leisure moments for 40 years. Much of his work was written on small scraps of paper, sometimes 20 in half a page and no larger than a nail, in such small characters that not only the editor but the printer had to use powerful magnifiers. Boyle’s dictionary is still a work of great importance and value.

Vincenzo Maria Coronelli, a Franciscan friar, who was born in Venice about 1650, made cosmographer to the republic in 1685, and became general of his order in 1702, began in 1701 to publish a general alphabetical encyclopedia, written in Italian, at which he had been working for 30 years, Biblioteca universale sacro-profana. It was to explain more than 300,000 words, to include history and biography as well as all other subjects, and to extend to 45 volumes folio. But seven volumes only were published (Venice, 1701–06), A to Caque. This work is remarkable for the extent and completeness of its plan, and for being the first great alphabetical subject encyclopedia, as well as for being written in a modern language; but it was hastily written and very incorrect. Never, perhaps, says Tiraboschi, was there so quick a writer; he composed a folio volume as easily as others would a page.

The First Alphabetical Encyclopaedias in English.—The first alphabetical encyclopedia written in English was the work of a London clergyman, John Harris (born about 1667, elected first secretary of the Royal Society in 1709, died 1719), Lexicon technique, or an universal English Dictionary of Arts and Sciences (1704). As in many subsequent English encyclopaedias the pages are not numbered. It professes not merely to explain the terms used in the arts and sciences, but the arts and sciences themselves. The author omits theology, antiquity, biography and poetry. This volume was reprinted in 1708. A second volume of 1,419 pages appeared in 1710, with a list of about 1,300 subscribers. A great part of it consisted of mathematical and astronomical tables, as he intended his work to serve as a small mathematical library. He was allowed by Sir Isaac Newton to print his treatise on acids. The mathematical and physical part is considered very able. He often mentions his authorities, and gives lists of books on particular subjects, as botany and chronology. His dictionary was long very popular. The fifth edition was published in 1736.

Johann Hübner, rector of the Johanneum in Hamburg, born 1668, wrote prefaces to two dictionaries written in German, which bore his name, and were long popular. The first was Reales Staats Zeitsungs- und Conversations-Lexicon (Leipzig 1704); the second, published as a supplement, was Curioses und reales Natur-Kunst- Borg- Gewerb-und Handlings-Lexicon (Leipzig, 1712), frequently reprinted to 1792. The first relates to the political state of the world, treating of religion, orders, States, rivers, towns, castles, mountains, genealogy, war, ships; the second to nature, science, art and commerce. They were the work of many authors, among whom Paul Jacob Marpurg, a celebrated and voluminous writer on trade and commerce, was an extensive contributor.

Johann Theodor Jablonski, who was born at Danzig in 1654, and was appointed secretary to the newly founded Prussian Academy in 1700, when he went to Berlin, published Allgemeines Lexicon der Künste und Wissenschaften (Leipzig, 1721), a short but excellent encyclopaedia still valued in Germany. It does not include theology, history, geography, biography and genealogy. He does not quote his authorities, but gives a list of them in a separate volume.

Ephraim Chambers (q.v.) published his Cyclopaedia; or a Universal Dictionary of Art and Sciences, containing an Explication of the Terms and an Account of the Things Signified thereby in the several Arts, Liberal and Mechanical, and the several Sciences, Human and Divine, in 1728 (2 vols.). Chambers endeavored to connect the scattered articles relating to each subject by a system of references, and to consider “the several matters, not only in themselves, but relatively, as or as they respect each other; but to treat them as so many wholes and as so many parts of some greater whole.” Under each article he refers to the subject to which it belongs, and also to its subordinate parts; thus Copyhold has a reference to Tenure, of which it is a particular kind, and other references to Rolls, Custom, Manor, Fine, Charterland and Freehold. His work, he says, is a collection, not the produce of one man’s wit, for that would go but a little way, but of the whole commonwealth of learning. To the subjects given by Harris he adds theology, metaphysics, ethics, politics, logic, grammar, rhetoric and poetry, but excludes history, biography, genealogy, geography and chronology, except their technical parts. A second edition appeared in 1738. A few articles were added and some others enlarged, but he was prevented from doing more because “the booksellers were alarmed with a bill in parliament containing a clause to oblige the publishers of all improved editions of books to print their improvements separately.” The bill after passing the Commons was unexpectedly thrown out by the Lords; but fearing that it might be revived, the booksellers thought it best to retreat though more than 20 sheets had been printed. An Italian translation (Venice, 1742-49) was the first complete Italian encyclopaedia. When Chamber was in France in 1759 he rejected very favourable proposals to publish an edition there dedicated to Louis XV. His work was “judiciously, honestly and carefully done, and long maintained in popularity. At his death, on May 15, 1740, he had collected and arranged materials for seven new volumes. The Supplement, edited hastily by Dr. (later Sir) John Hill, was published in 1753. As Hill was a botanist, the botanical part, which had been very defective in the Cyclopaedia, was the best. Abraham Rees (1743-1825), a Nonconformist minister, published a revised and enlarged edition, “with the supplement and modern improvements incorporated in one alphabet” (1778-88). It was published in 418 numbers at 6d. each. Rees said that he added more than 4,400 new articles.

Zedler’s Universal Lexicon.—One of the largest and most comprehensive encyclopaedias was undertaken and in a great measure completed by Johann Heinrich Zedler, a bookseller of Leipzig, who was born at Breslau in 1706, made a Prussian commerzienrat in 1731, and died at Leipzig in 1750—Grosse vollständiges Universal Lexicon Aller Wissenschaften und Künste welche bisher durch menschlichen Verstand und Wits erfunden und verbessert worden sind (64 vols., Halle and Leipzig, 1732-50), and Nöthige Supplemente (8 vols., 1751-54, vols. 1 to 6, A. to C, 3,016 pages). Nine editors were employed, and the whole of each subject was entrusted to the same person, that all its parts might be uniformly treated. The work was published by subscription. Johann Heinrich Wolff, an eminent merchant and bookseller in Leipzig, came to Zedler’s assistance by advancing the funds for expenses and becoming answerable for the subscriptions, and spared no cost that the work might be complete. Zedler very truly says that his Universal Lexicon was a work such as no time and nation could show, and both in its plan and execution it is much more comprehensive and complete than any previous encyclopaedia. Its plan embraces not only history, geography and biography, but also genealogy, topography, and from vol. xviii, published in 1738, lives of illustrious living persons. Zedler enquires why death alone should make a deserving man capable of having his services and worthy deeds made known to the world in print. Cross references generally give not only the article referred to, but also the volume and column, and, when necessary, such brief information as may distinguish the word referred to from other similar but of different meaning. Lists of authorities, often long, exact and valuable, are frequently appended to the articles. The Universal Lexicon is a valuable and very useful dictionary. Every particular, is still a most valuable book of reference on many subjects, especially topography, genealogy and biography. The genealogies and family histories are excellent, and many particulars are given of the lives and works of authors not easily found elsewhere.

A work on a new plan was published by Dennis de Coetlogon, a Frenchman naturalized in England, who styled himself “Knight of St. Lazare, M.D., and member of the Royal Academy of Angers”—An Universal History of Arts and Sciences (2 vols., 1745). He “endeavors to render each treatise as complete as possible, avoiding above all things needless repetitions, and never puzzling the reader with the least reference.” The subject matter
ENCYCLOPAEDIA

sometimes curious. The author says that his work is the only one of the kind, and that he wrote it with his own hand every line, even the index. But notwithstanding the novelty of his plan, his work does not seem ever to have been popular.

Giovanni Francesco Pivati (1689-1764), secretary of the Academy of Sciences at Venice, who had published in 1744 a 410 volume Dizionario universale, wrote Nuovo dizionario scientifico e curioso sacro profano (Venice, 1745-51, 10 vols., 597 plates). It is a general encyclopaedia, including geography, but not history or biography. It is remarkable for the number of its plates, which are engraved on copper.

The French Encyclopedists.—One of the greatest and most remarkable literary enterprises of the 18th century, the famous French Encyclopédie, originated in a French translation of Emanuel Chambers's Cyclopaedia, begun in 1743 and finished in 1772 by John Mills, an Englishman resident in France, assisted by Gottfried Siebold. They applied to Lebreton, the king's printer, to publish the work, to fulfil the formalities required by French law with, as foreigners, they were not acquainted, and to solicit a royal privilege. This he did for them, but only in his own name. Mills complained so loudly and bitterly of this decision that Lebreton had to acknowledge formally that the privilege belonged en toute propriété to John Mills. Mills, however, again became the victim of tricksery and was ultimately deprived of the work which he had executed, and had to return to England. Jean Paul de Gua de Malves, professor of philosophy in the college of France, was then engaged as editor merely to correct errors and add new discoveries. But he proposed a thorough revision, and obtained the assistance of many learned men and artists, among whom Desessarts names Louis, Condillac, d'Alembert, and Diderot. But the publishers did not think his reputation high enough to ensure success, withheld their confidence, and often opposed his plans as too expensive. De Gua resigned the editorship. The publishers, who had already made heavy advances, offered it to Diderot, who was probably recommended to them by his very recent Dictionnaire universel de médecine (1746-48), a translation, made with the assistance of Eilouze and Tousissant, of the celebrated work of Dr. Robert James (inventor of the inferior powders), A Medical Dictionary. The proposed work was to have been similar in character.

De Gua's papers were handed over to Diderot in great confusion. He soon persuaded the publishers to undertake a far more original and comprehensive work. His friend d'Alembert undertook to edit the mathematics. Other subjects were divided among the contributors. The Jesuits were to criticize the articles on their subject in Mills's translation to serve as a basis for his work. But they were in most cases so badly composed and translated, as full of errors and omissions, that they were not used. The contributions were to be finished in three months, but none was ready in time, except Music by Rousseau, which he admits was hastily and badly done. Diderot was imprisoned at Vincennes, on July 20, 1759, for his Lettere sur les aveugles. He was closely confined for 28 days, and was then for three months and ten days a prisoner at parole in the castle. This did not stop the printing, though it caused delay. The prospectus by Diderot appeared in Nov. 1759.

The work was to form 8 vols., with at least 600 plates. The first volume was published in July 1757; the second appeared in Jan. 1758. An arrêt of the council suppressed both volumes as injurious to the king's authority and to religion. Malesherbes, director-general of the Library, stopped the issue of vol. ii. on Feb. 9, and at the 21st went with a lettre de cachet to Lebreton's to seize the plates and the ms., but did not find even those of vol. i., as they had been taken to his own house by Diderot and one of the contributors, each of whom received the work, but in vain. It was less easy, says Grimm, than to ruin philosophers. The Government had to request the editors to resume the work as favourable to the nation. Vol. iii., rather improved by the delay, appeared in Oct. 1753; and vol. v., completing G, in Nov. 1757.

The clamours against the work soon recommenced. D'Alembert retired in Jan. 1758, weary of sermons, satires and intolerant and absurd censors. The parlement of Paris, by an arrêt of Jan. 23, 1759, stopped the sale and distribution of the Encyclopédie and other books; and by an arrêt of Feb. 6, ordered them all to be burnt, but referred the Encyclopédie for examination to a commission of nine. A arrêt du conseil (March 9) revoked the privilege of 1746, and stopped the printing. Vol. viii. was then in the press. Malesherbes warned Diderot that he would have his papers seized next day; and when Diderot said he could not make a selection, or find a place of safety at such short notice, Malesherbes said, "Send them to me, they will not look for them there." Malesherbes, Choiseul and Mme. de Pompadour protected the work. Diderot obtained private permission to go on printing, but with a strict charge not to publish any part until the whole was finished. The Jesuits were condemned by the parlement of Paris in 1762, and by the king in Nov. 1764. Vol. i. of plates appeared in 1765, and vol. vili. to xvili., ten volumes of text, 9,408 pages, completing the work, with the 4th volume of plates in 1765, when there were 4,250 subscribers. The work was secretly distributed in Paris and Versailles. The general assembly of the clergy, on June 20, 1765, approved articles in which it was condemned, and on Sept. 27 adopted a mémoire to be presented to the king. They were forbidden to publish their acts which favoured the Jesuits, but Lebreton was required to give a list of his subscribers, and was put into the Bastille for eight days in 1766. A royal order was sent to the subscribers to deliver their archives to the king.

Voltaire in 1774 relates that, at a petit souper of the king at Trianon, there was a debate on the composition of gunpowder. Mme. de Pompadour said she did not know how her rouge or her silk stockings were made. The duc de la Vallière regretted that the king had confiscated their encyclopedias, which could decide everything. The king said he had been told that the work was most dangerous, but as he wished to judge for himself, he sent for a copy. Three servants with difficulty brought it within the 21 volumes. The company found everything they looked for, and the king allowed the confiscated copies to be returned. Lebreton, who had the largest printing office in Paris, employed 50 workmen in printing the last ten volumes. He had the articles set in type exactly as the authors sent them in, and when Diderot had corrected the last proof of each sheet, he and his foreman, hastily and by night, unknown to his partners in the work, cut out whatever seemed to them daring, or likely to give offence, mutilated most of the best articles without any regard to the consecutiveness of what was left, and burnt the manuscript. The printing of the work was nearly finished when Diderot, having to consult one of his most valuable articles in the letter Chamber's Cyclopaedia, was detained. He was confounded, says Grimm, at discovering the atrocity of the printer; all the best articles were in the same confusion. This discovery put him into a state of frenzy and despair from rage and grief. Diderot at first refused to correct the remaining proofs, or to do more than write the explanations of the plates. He required, according to Mme. de Vandeul, that a copy (now at Leningrad with his library) should be printed with columns in which all was restored. Diderot's articles were on very many subjects, but principally on grammar, history, morality, philosophy, literature and metaphysics. As a contributor, his special department of the work was philosophy, and arts and trades. He passed whole days in workshops, and began by examining a machine carefully, then he had it taken to pieces and put together again, then he watched it at work, and lastly worked it himself. He thus learned to use such complicated machines as the stocking and cut velvet looms. He at first received 1,200 livres a year as editor, but afterwards 2,500 livres a volume, besides a final sum of 20,000 livres. All the publishers made large fortunes; their expenses amounted to 2,158,000 livres and their profits to 2,162,000.

The Encyclopédie, as a sequel to Chambers's Cyclopaedia, history and biography were excluded, except incidentally; thus Aristotle's life is given in the article Aristotelisme. The science to which an article belongs is generally named at the beginning of it, references are given to other articles, and the authors' names are marked by initials, of which lists are given in the earlier volumes, but sometimes their names are subscribed in full. Articles by Diderot have no mark, and those inserted by him as editor have an asterisk prefixed. Among the contributors were Voltaire,
Euler, Marmontel, Montesquieu, D'Anville, D'Holbach and Tour-
got, the leader of the new school of economists which made its first
appearance in the pages of the Encyclopédie. No encyclopæ-dia perhaps has been so eminently liberal, or has occupied so
conspicuous a place in the civil and literary history of its cen-
tury. It sought not only to give information, but to guide opinion.
It was, as Rosenkranz says (Diderot, l. 157), theistic and heret-
ical. It was opposed to the church, then all-powerful in France,
and it treated dogma historically. It was, as Duesnoyestesses says
(Voltaire, v. 164), a war machine; as it progressed, its attacks
both on the church and the still more despotic Government, as
well as on Christianity itself, became bolder and more undisguised,
and it was met by opposition and persecution unparalleled in the
history of encyclopaedias. Its execution is very unequal, and its
articles of very different value. It was not constructed on a regular
plan, or subjected to sufficient supervision; articles were sent in
by the contributors, and not seen by the editors until they were in
type. In each subject there are some excellent articles, but others
are very inferior, and references are often given to articles which
do not exist. The style is too generally loose, digressive and in-
extant; dates are seldom given; and discursiveness, verbosity and
dogmatism are frequent faults. Voltaire was constantly demand-
ing truth, brevity and method, and said it was built half of mar-
bles and half of wood. D'Alembert complained it to be "harmful to
courage some good taste," but too much of a mixture. Diderot
was satisfied with it as a whole; much of it was compiled in
haste; and carelessly written articles and incompetent contribu-
tors were admitted for want of money to pay good writers. Zed-
ler's Universal Lexicon is on the whole much more useful for
reference than its far more brilliant successor. The books attack-
and defending the Encyclopédie are very many. No original
work of the 18th century, says Lanfrey, has been more deprecated,
ridiculed and calumniated. It has been called chaos, nothingness,
the Tower of Babel, a work of disorder and destruction, the
gospel of Satan and even the ruins of Palmyra.

**THE ENCYCLOPÆDIA BRITANNICA**

The Encyclopædia Britannica or Dictionary of Arts and Sciences, "by a society of gentlemen in Scotland, printed in Edin-
burgh for A. Bell and C. Macfarquhar, and sold by Colin Macfar-
quhar at his printing office in Nicolson street," was completed in
1771 in 3 vol. 410, containing 2,570 pages, and 160 copperplates
engraved by Andrew Bell. It was published in numbers, of which
the first two were issued in Dec. 1768, "price 6d. each, or 8d. on
a finer paper," and was to be completed in 100 weekly numbers.
It was compiled, as the title-page says, on a new plan. The differ-
ent sciences and arts were "digested into distinct treatises or sys-
tems," of which there are 45 with cross headings, i.e., titles printed
cross each page, and about 30 other articles more than three pages
long. The longest are "Anatomy," 166 pages, and "Subjects of Art,
paper." The various technical terms, etc., are explained as they
occur in the order of the alphabet. "Instead of dismembering the
sciences, by attempting to treat them intelligibly under a mul-
titude of technical terms, they have digested the principles of
every science in the form of systems or distinct treatises, and ex-
plained the terms as they occur in the order of the alphabet, with
references to the sciences to which they belong." This plan, as the
compilers say, differs from that of all the previous dictionaries of
arts and sciences. Its merit and novelty consist in the combination
of De Coeetlogon's plan with that in common use—on the one
hand keeping important subjects together, and on the other facil-
itating reference by numerous separate articles. It is doubtfull to
whom the credit of this plan is due. The editor, William Smellie,
a printer (born in 1740, died on June 24, 1795), afterwards secre-
tary and superintendent of natural history to the Society of Scot-
tish Antiquaries, is said by his biographer to have devised the
plan and written or compiled all the chief articles. Archibald
Constant, who was interested in the work from 1788, and was
afterwards intimately acquainted with Bell, says Colin Mac-
farquhar was the actual projector of the Encyclopædia, and the
eeditor of the first two editions, while Smellie was merely "a con-
tributor for hire." Dr. Smellie, in his preface to the third edition,
says: "The idea had been conceived by him (Colin Macfarquhar)
and his friend, Mr. Andrew Bell, engraver." Macfarquhar, ac-
tording to Smellie, was a person of excellent understanding, but
very general knowledge, though he had studied a little and little
or no capital, and was obliged to associate Bell, then the principal engraver
in Edinburgh, as a partner in his undertaking.

The second edition was begun in 1776, and was published in
numbers, of which the first was issued on June 21, 1777, and the
last, No. 181, on Sept. 18, 1784, forming 10 vols. 410, dated 1771
to 1783, and containing 8,955 pages and 340 plates. The pagina-
tion is continuous, ending with page 9,200, but 293 pages are
inserted in various places, and page 7,099 is followed by 8,000. The
number and length of the articles were much increased, 71 cross
headings, and more than 150 others may be classed as log
articles. At the end is an appendix ("Abatement") to "Wood") of
200 pages, containing, under the heading Botanical Table, 1
list of the 931 genera included in the 58 natural orders of Lin-
aeus, and followed by a list of 526 books, said to have been the
principal authorities used. All the maps are placed together under
the article "Geography" (195 pages). Most of the long articles have
numbered marginal titles; "Scotland," 84 pages, has 83; "Medicine," 599 pages, and "Pharmacy" have each an index.

The Third Edition.—After about a year's preparation, the
third edition was announced in 1787; the first number was pub-
ished early in 1788, and the first volume in Oct. 1788. There
were to be 300 weekly numbers, price 1s. each, forming 30 pars
at 10s. 6d. each, and 15 volumes, with 360 plates. It was com-
pleted in 1797 in 18 vols. 410, containing 14,579 pages and 50
plates. Among the multifarious articles represented in the front-
ispiece, which was required by the traditional fashion of the period
as the ornament of the work, there are as many as 400, making
among the articles relating to the respective countries. It was
directed by Colin Macfarquhar as far as the article "Mysteries,"
when he died, in 1793 in his 48th year, "worn out," says Constable,
"by fatigue and anxiety of mind." His children's trustees and
Andrew Bell requested George Gleig of Stirling (consecrated at
Oct. 30, 1808, assistant and successor to the bishop of Brechin),
who had written about 12 articles, to edit the rest of the work.
According to Kerr (Smellie's Life), i. 354–363, 10,000 copies
were printed, and the profit to the proprietors was £42,000, but
sides the payments for their respective work as tradesmen in the
conduct of the publication—Bell as engraver of all the plates,
and Macfarquhar as sole printer. According to Constable, the
impression was begun at 5,000 copies, and concluded with a sale
of 13,000. James Hunter, "an active bookseller of no character," who had a shop in the Middle Row, Holborn, sold the
book to the trade, and on his failure Thomson Bonar, a wine merchant,
who had married Bell's daughter, became the seller of the book.
He quarrelled with his father-in-law, who would not see him dur-
ing the ten years before his death. When the edition was com-
pleted, the copies lay at the printers, in order to wind up the con-
cern, and "the whole was purchased by Bell, who gave £13 3s. a
year, sold all the complete copies to the trade, printed up the
odd volumes, and thus kept the work in the market for several
years."

**SUPPLEMENTS AND OTHER EDITIONS**

The supplement of the third edition, printed for Thomson
Bonar, and edited by Gleig, was published in 1801 in 2 vols,
containing 1,634 pages and 50 copperplates engraved by D. Linn.
In the dedication to the king, dated Stirling, Dec. 10, 1800, Dr.
Gleig says: "The French Encyclopédie had been accused, at
justly accused, of having disseminated far and wide the seeds of
sordid and atheism. If the *Encyclopaedia Britannica* shall in
any degree counteract the tendency of that pestiferous work, even
these two volumes will not be wholly unworthy of your Majesty's
attention." Dr. Thomas Thomson wrote "Chemistry," "Miner-
avogy" and other articles, in which the use of symbols was for
the first time introduced into chemistry; and these articles formed
the first outline of his *System of Chemistry*.

The fourth edition, printed for Andrew Bell, was begun in 1800
or 1801, and finished in 1810 in 20 vols. 4to, containing 16,033
pages, with 581 plates engraved by Bell. No articles were re-
printed from the supplement, as Bell had not the copyright. Prof.
Wallace's articles on mathematics were much valued, and raised
the scientific character of the work. Dr. Thomas Thomson de-
dined the editorship, and recommended Dr. James Millar, after-
wards editor of the *Encyclopaedia Edinensis*. He was fond of
natural history and a good chemist, but, according to Constable,
slow and dilatory and not well qualified. The edition began with
1505 copies and concluded at 4,000, of which two-thirds passed
through the hands of Constable's firm. Early in 1804 Andrew
Bell had offered Constable and his partner Hunter the coercion of
his subscription lists, but Constable, who was then printing the
fourth edition, for £30,000. This offer was in agitation in
March 1804, when the two partners were in London. On May 5,
1804, after Lord Jeffrey's arrival in Edinburgh, as he relates to
Francis Horner, they entrusted him with a design, on which he
found that most of his friends had embarked with great eagerness,
"for publishing an entire new encyclopaedia upon an improved
plan." W. Scott has embraced it with great affection.

The authors are to be paid at least as well as reviewers, and are
to retain the copyright of their articles for separate publication
if they think proper." It was then, perhaps, that Constable gave
loan to Bonar for the copyright of the supplement.

Andrew Bell died in 1809, and a fifth edition was begun im-
mEDIATELY after the fourth as a mere reprint. Bell's trustees mis-
managed the new edition so badly that, after the issue of five
volumes, both the stock and the copyright were sold to Con-
table who paid between £15,000 and £14,000. Bonar, who lived
two doors from the printing office, thought he could conduct the
book and had resolved on the purchase. Having a good deal of
money, he seemed to Constable a formidable rival, whose alliance
was to be secured. After "sundry interviews" it was agreed that
Constable should publish the copyright in his own name, and that
Bonar should have one-third, and also one-third of the copyright
of the supplement, for which he gave £20. Dr. James Millar
corrected and revised the last 15 volumes. The edition dated
1817 was published in 20 vols., 16,917 pages, 582 plates, price £36.

**Famous Contributors.**—Soon after the purchase of the copy-
right, Constable began to prepare for the publication of a supple-
ment, to be of four or, at the utmost, five volumes. Dugald
Stewart, in a letter to Constable, Nov. 15, 1812, though he declines
to engage to execute any of his own suggestions, recommends that
four discourses should "stand in front," forming "a general map
of the various departments of human knowledge," similar to "the
excelled discourse prefixed by D'Alembert to the French En-
cyclopedie," together with historical sketches of the progress since
Bacon's time of modern discoveries in metaphysical, moral and
political philosophy, in mathematics and physics, in chemistry, and
in zoology, botany and mineralogy. He would only promise to
undertake the general map and the first historical sketch, if his
health and other engagements permitted. For the sake, he recom-
manded Playfair, for chemistry Sir Humphry Davy. He rece-
lved £1,000 for the first part of his dissertation (166 pages),
and £700 for the second (257 pages), the right of publication
being limited to the Supplement and *Encyclopaedia*. Constable
next contracted with Prof. Playfair for a dissertation "to be equal
in length or not to Stewart's." He at first intended to have two
editors, "one for the strictly literary and the other for the scienti-
fic department." He applied to Dr. Thomas Brown, who "preferred
writing trash of poetry to useful and lucrative employment."
At last he fixed on Macvey Napier (1777), whom he had
known from 1798, and who "had been a hard student, and
at college laid a good foundation for his future career, though
more perhaps in general information than in what would be,
strictly speaking, called scholarship." Napier went to London,
and obtained the co-operation of many literary men. The supple-
ment was published in half-volume parts from Dec. 1816 to April
1824. It formed six volumes 4to, containing 4,933 pages, 125
plates, 9 maps, three dissertations and 669 articles, of which a list
is given at the end. The first dissertation, on the "progress of
metaphysical, ethical and political philosophy," was by Stewart,
who completed his plan only in respect to metaphysics. These
historical dissertations were admirable and delightful composi-
tions, and important and interesting additions to the *Encyclope-
dia*; but it is difficult to see why they should form a separate
department distinct from the general alphabet. Among the distin-
guished contributors were James Mill, Ricardo, Malthus, Arago,
Biot, Hazlitt and Sir Walter Scott, who, to gratify his generous
friend Constable, laid aside *Waverley*, which he was completing
for publication, and in April and May 1814 wrote "Chivalry." There
were about 160 biographies, chiefly of persons who had died within
the preceding 50 years. Signatures, on the plan of the *Encyclo-
pedia*, were prefixed to each article, the list forming a triple
alphabet, A to XXX, with the full names of the 72 contributors
arranged apparently in the order of their first occurrence.

At the end of vol. vi. are Addenda and Corrigenda.

The sixth edition, "revised, corrected and improved," appeared
in half-volume parts, price 16s. in boards, vol. xx. part ii.
completing the work in May 1823. Constable, thinking it not wise
to reprint so large a book after year without correction, in
1820 selected Charles Maclaren (1783-1866), as editor. "His
attention was chiefly directed to the historical and geographical
articles. He was to keep the press going, and have the whole
completed in three years." A new edition in 25 vols. was contempl-
at, not to be announced till a certain time after the supple-
ment was finished; but Constable's house stopped payment on
Jan. 19, 1826, and his copyrights were sold by auction. Those of
the *Encyclopaedia* were bought by contract, on July 16, 1828,
for £6,150, by Thomas Allan, proprietor of the *Caledonian Mer-
cury*, Adam Black, Abram Thomson, bookbinder, and Alexander
Wight, banker, who, with the trustee of Constable's estate, had
previously begun the seventh edition. Not many years later
Black purchased all the shares and became sole proprietor.

The seventh edition, 21 vols. 4to (with an index of 187 pages),
containing 17,101 pages and 506 plates, edited by Macvey Napier,
assisted by James Browne, LL.D., was begun in 1827, and pub-
lished from March 1830 to Jan. 1842. It was reset throughout
and stereotyped. Mathematical diagrams were printed in the text
from woodcuts. The dissertations of Stewart and others and their
index of 30 pages, filled vol. i. As they did not include Greek
philosophy, "Aristotle," "Plato" and "Socrates" were supplied by
Dr. Hampden, afterwards bishop of Hereford. Among the numer-
ous contributors of eminence, mention may be made of Sir David
Brewster, Thomas De Quincey, Antonio Panizzi and Robert
Stephenson. Zoology was divided into 11 chief articles, "Mam-
malia," "Oriithology," "Reptilia," "Ichthyology," "Mollusca,
"Crustacea," "Arachnides," "Entomology," "Helminthology,

The eighth edition, 1853-62, 21 vols. (and index of 239 pages,
1861), containing 17,957 pages and 502 plates, with many wood-
cuts, was edited by Dr. Thomas Steward Traill, professor of med-
cine and jurisprudence, emeritus, of Glasgow. The dissertations
were reprinted, with oneAT THE "Rise and Progress of Christian

churches of Fragments of Christianity" by Archbishop Whately. Lord
Macaulay, Charles Kingsley, Robert Chambers, Rev. Charles Merivale, Dr. Hooker,
Henry Austin Layard, Baron Bunsen, Sir John Herschel, Profes-
sors Owen, William Thomson and Blackie, were some of the many
eminent new contributors found among the 344 authors, of whom
an alphabetical list is given, with a key to the signatures. This
edition was not wholly reset like the seventh, but many long ar-
ticles were retained almost or entirely intact.

The publication of the ninth edition (A. and C. Black) was
commenced in Jan. 1875, under the editorship of Thomas Spencer
Baynes until 1880, and subsequently of W. Robertson Smith,
and
completed in 1889, 24 vols., with index. This great edition retained a certain amount of the valuable material in the eighth, but was substantially a new work; and it was universally acknowledged to stand in the forefront of the scholarship of its time. Its contributors included the most distinguished men of letters and of science.

The sale of the ninth edition by its publishers from 1875, when the first volume appeared, until 1898, a period of 23 years, was between 8,000 and 9,000 sets. The authorized American distributors, Charles Scribner's Sons, sold in the United States some 45,000 sets of the genuine ninth edition. At that time, however, so far as the United States was concerned, there was no inter-
The contributions were at most seven years old before that edition appeared in 1910. A brand new, or 14th edition, was indicated.

The sum of approximately $3,500,000 was invested in the assembling and promotion of the 14th edition. It was edited by J. L. Garvin in London and Franklin Hooper in New York and it took approximately three years to complete this work. More than 3,500 distinguished men and women of all nationalities contributed articles. The set of 24 vol., one of which contained an index and a complete atlas, was published in Sept. 1929, on the eve of the great depression. Although sales in the beginning were encouraging, the next four or five years proved to be trying ones in Encyclopædia Britannica history.

**THE PLAN OF CONTINUOUS REVISION**

The long history of the Encyclopædia Britannica has been a series of fat and lean periods. Once a new edition of the books had been completed, the editorial staff was disbanded and a distributing organization created. Sales, for a time, were generally good. This was the “fat” interval. For ten to 20 years the same numbered edition was printed without any revision of its contents. Soon the age of the set was noted and fewer and fewer sales were made. In order to prepare a completely new edition of the dictionary in all its volumes, it was necessary then to organize a new editorial staff.

Once the new edition was in process the fact became publicly known and the sales of the then current edition ceased and the selling department was disbanded. Vast sums of money had to be expended to cover the editorial costs. This was the “lean” interval and because it required from three to 14 years to make a new edition, the “lean” interval was a long hard one. The traditional method of publishing—which tolerated only a sales organization or an editorial staff but never the two together—was not only inefficient and uneconomical, but often financially and editorially disastrous.

In 1933, E. H. Powell, at that time secretary and treasurer of Sears, Roebuck and Company, was appointed president of Encyclopædia Britannica, Inc. and began the formulation of a plan which would permit the maintenance, year in and year out, of the sales and operating division of the Encyclopædia Britannica by creating continuously the financial reserve necessary to keep the volumes always timely and always salable.

The editorial problem was solved first by dividing all the 41,000 articles in Encyclopædia Britannica into 30 classifications. These classifications were scheduled for complete revision at varying intervals over a period of ten years so that each article would be reviewed and revised if necessary, at least two times during that period. It meant that Encyclopædia Britannica would no longer be issued in numbered editions; that new printings would be made each year and only enough sets printed to meet the year’s demand; that Encyclopædia Britannica would be revised, in part, annually under a rigid classification schedule; that, consequently, the material in each annual printing of Encyclopædia Britannica would be more current than the material had ever been in any of the earlier numbered editions, and that, therefore, the books would always be salable.

Second, in order to supplement the annual printings and to take the place of the occasionally issued supplementary volumes to the old numbered editions, the continuous revision plan included the publication of a 1,000,000-word volume called Britannica Book of the Year, which is a record of political events and scientific and cultural developments of the year. The first of this annual series was published in 1938, covering the events of the year 1937, under the editorial direction of Franklin H. Hooper, who had been made editor-in-chief of Encyclopædia Britannica in 1933.

Third, in order to supply information too recent for inclusion in either Encyclopædia Britannica or Britannica Book of the Year, Mr. Powell organized the Britannica Library Research bureau. The service of this bureau was available, by correspondence, to owners of current printings of Encyclopædia Britannica. Organized in 1936, the bureau was the third of the three units
which currently are "Encyclopædia Britannica"—namely, the set of 24 vol. itself, the annual Britannica Book of the Year and the Britannica Library Research bureau.

Mr. Powell's plan proved successful. It permitted the organization of permanent selling and editorial divisions of the company—an innovation revolutionary in the production of "Encyclopædia Britannica" as was the original program for the first edition in the field of encyclopaedia-making 175 years before. Previously, the numbered editions, by the very nature of their financing and production, had been successive temporary "promotions." It was now possible under the plan of continuous revision to "merchandise" and sell "Encyclopædia Britannica" year after year, and to strengthen and improve the permanent organization responsible for its distribution; it was possible, also, to maintain a permanent editorial division, which, day in and day out, worked to revise and keep "Encyclopædia Britannica," within the mechanical limitations of so extensive a publication, always current.

By the beginning of World War II, Mr. Powell had established the central organization in Chicago, Ill., with companies in London, Eng., Toronto, Canada, and Johannesburg, S.Af., and with distributing agents in all parts of the world. The company had also extended its publication activities. In 1934, it issued a 12-vol. encyclopedia for boys and girls called "Britannica Junior." The method of revising and printing "Britannica Junior" followed that of its "Encyclopædia Britannica".

In 1935, the "Encyclopædia Britannica" company published "The March of Man," a chronological record of people and events from prehistoric times to 1934, in the form of an historical atlas and comparative time charts. The volume was edited by Albert Bushnell Hart, Isaac J. Cox and Lawrence H. Dawson.


In May, 1938, Franklin Hooper, after 40 years of service, resigned and Walter Yust, who for eight years had served as associate editor, succeeded him as editor-in-chief of "Encyclopædia Britannica" and the company's other publications.

"ENCYCLOPÉDIE AND CONVERSATIONS-LEXICONS"

Later History of the Encyclopédie.—A new and enlarged edition of the Encyclopédie, arranged as a system of separate dictionaries and entitled Encyclopédie méthodique ou par ordre de matières, was undertaken by Charles Joseph Panckoucke (1736–98), a publisher of Paris. His privilege was dated June 20, 1780. The articles belonging to different subjects would readily form distinct dictionaries, although, having been constructed for an alphabetical plan, they seemed unsuited for any system wholly methodical. Two copies of the book and its supplement were cut up into articles, which were sorted into subjects. The division adopted was: 1, mathematics; 2, physics; 3, medicine; 4, anatomy and physiology; 5, surgery; and so on through 26 subjects—all forming distinct dictionaries entrusted to different editors. The first object of each editor was to exclude all articles belonging to other subjects, and to take care that there should be no omissions owing to doubts as to which editor should deal with certain words. In some words (such as air, which belonged equally to chemistry, physics and medicine) the methodical arrangement has the unexpected effect of breaking up the single article into several, widely separated. Each dictionary was to have an introduction and a classified table of the principal articles. History and its minor parts, as inscriptions, fables, medals, were to be included. Theology, which was neither complete, exact nor orthodox, was to be by the abbé Bergier, confessor to Monsieur. The whole work was to be completed and connected together by a Vocabulaire Universel, 1 vol., with references to all the places where each word occurred, and a very exact history of the Encyclopédie and its editions of Panckoucke. The prospectus, issued early in 1782, proposed three editions—84 vols. 8vo., 43 vols. 4to., and 53 vols. 4to., each edition having 7 vols. 4to., of 250 to 300 plates each. It was to be issued in livraisons of 2 vols. each, the first to appear in July 1782, and the whole to be finished in 1789. The number of subscribers, 4,672, was so great that the "special-terms" subscription list was closed on April 30. Twenty-five printing offices were employed, and in Nov. 1782 the first livraison was issued.

A Spanish prospectus was sent out, and obtained 330 Spanish subscribers, with the inquisitor-general at their head. The complaints of the subscribers and his own heavy advances induced Panckoucke, in Nov. 1788, to appeal to the authors to finish the work. Those en retard made new contracts, giving their word of honour to put their parts to press in 1788, and to continue them without interruption, so that Panckoucke hoped to finish the whole, including the vocabulary (4 or 5 vols.), in 1792. Whole sciences, as architecture, engineering, hunting, police, games, etc., had been overlooked in the prospectus; a new division was made in 4 parts, to contain 51 dictionaries and about 124 volumes. Permission was obtained on Feb. 27, 1789, to receive subscriptions for the separate dictionaries. Two thousand subscribers were lost by the revolution. The 50th livraison appeared on July 3, 1792, when all except seven of the dictionaries eventually published had been begun. The publication was continued by Henri Agasse. Panckoucke's son-in-law, from 1794 to 1813, and then by Mme. Agasse, his widow, to 1832, when it was completed in 101 livraisons or 337 parts, forming 1661 vols. of text, and 51 parts containing 6,439 plates. Pharmacy, minerals, education, points et chausses had been announced but were not published. The original parts have been so often subdivided or added to that in exact account cannot be given of the work, which contains 8,353 indexes, and 166 introductions, discourses, etc. The largest dictionaries are medicine, 13 vols., 1,242 pages; zoology, 7 dictionaries, 13,645 pages, 1,200 plates; botany, 110 pages, 1,300 plates. The whole is as unmanageable as Mige's Encyclopédie théologique (1844–75), 119,059 pages.

The "Conversations-Lexicon."—No work of reference has been more useful and successful, or more frequently copied, imitated and translated, than that known as the Conversations-Lexikon of Brockhaus. It was begun as Conversations-Lexikon über vorzüglichere Rücksicht auf die gegenwärtigen Zeiten, Leipzig 1796 to 1808, 6 vols., 2,762 pages, by Dr. Gotthelf Renatus Löbel (1767–99), who intended to supersede Höhner, and included geography, history and some biography, besides mythology, philosophy, natural history, etc. Vols. i–iv (A to R) appeared 1796 to 1800, vol. v in 1806. Friedrich Arnold Brockhaus (q.v.) bought the work with its copyright in 1808, for 1,800 thalers from the printer, who seems to have got it in payment of his bill. The editor, Christian Wilhelm Franke, by contract dated Nov. 16, was to finish vol. vi by Dec. 5, and the already projected supplement, 2 vols., by Michaelmas 1809, for 8 thalers a printed sheet. No penalty was specified but, says his grandson, Brockhaus was so keen that such contracts, whether under penalty or not, are not kept. For the supplement was finished only in 1811. Brockhaus issued a new impression as Conversations-Lexikon oder Brockhaus Handwörterbuch, etc., 1809–11, and on removing to Altenburg in 1811 began himself to edit the 2nd edition (1812–16, 10 vols.) and, when vol. iv. was published, the 3rd (1814–19). He carried on both editions together until 1817, when he removed to Leipzig and began the 4th edition as Allgemeine deutsche Realencyklopädie für die gebildeten Stände: Conversations-Lexikon. This title was, in the 14th edition, changed to that of Brockhaus' Konversations-Lexicon. The 5th edition was at once begun, and was finished in 18 months. Edition succeeded edition until the appearance of the 14th (1901–03) in 16 vols. with a supplementary volume in 1904. The Konversations-Lexicon is intended, not for scientific use, but to promote general mental improvement by giving the results of research and discovery in a simple and popular form without extended details. The articles, often too brief, are excellent and trustworthy, especially on German subjects, and references to the best books, and include biographies of living men.

One of the best German encyclopaedias is Ersch and Gruber's Allgemeine Enzyklopädie der Wissenschaften und Künste, Leipzig.
It was designed and begun in 1813 by Prof. Johann Samuel Ersch to satisfy the wants of Germans, only in part supplied by foreign works. It was stopped by the Napoleonic war until 1816, when Prof. Hufeland joined, but he died in 1817 while the preparatory work was at press. The editors of the different sections at various times have been some of the best-known men of learning in Germany, including J. G. Gruber, M. H. E. Meier, Hermann Brockhaus, W. Müller and A. G. Hoffmann of Jena. The work is divided into three sections: (1) A–G, of which 99 vols. appeared 1819 to 1890, (2) H–N, 43 vols., (3) O–Z, 25 vols. Another valuable German work of an encyclopaedic character is Handwörterbuch der Staatswissenschaften, edited by J. Conrad, the last edition of which was published in 1933.

Among British encyclopaedias not previously mentioned, we may refer to Brewster's Edinburgh Encyclopaedia (1810–30), and Wike's Encyclopaedia Londinensis (1810–29). The Encyclopaedia Metropolitana (1825, 28 vols.) professed to give scientific and systematic arts entire and in their natural sequence, as shown in the introductory treatise on method by S. T. Coleridge. The plan was the proposal of the poet Coleridge, and it had at last enough of a poetical character to be eminently unpractical.

However defective the plan, the excellence of many of the treatises by Archbishop Richard Whately, Sir John Herschel, Prof. Hutton, Peacock, de Morgan, etc., is undeniable. It is divided into four divisions, the last only being alphabetical:—I Pure Sciences; II Allied and Applied Sciences; III History and Biography; IV Miscellaneous, including geography, a dictionary of English (the first in the form of Richardson's) and descriptive natural history. A large vols. was announced in 1849.

The very excellent and useful English Cyclopaedia (1854–62; supplements, 1860–74), conducted by Charles Knight, based on the Penny Cyclopaedia (1833–46, 29 vols.), of which he had the copyright, is in four divisions, all alphabetical, and evidently very unequal as classes: 1, geography; 2, natural history; 3, biography (with 270,000 lives of living persons); 4, arts and sciences.

Chamber's Encyclopaedia (1860–68, 10 vols.), edited in part by the publishers, but under the charge of Dr. Andrew Findlater, who was acting editor throughout, was founded on the 12th edition of Brockhaus. A revised edition appeared in 1874. In the list of contributors were J. H. Burton, Emmanuel Deutsch, Prof. Goldscheider, etc. The articles were generally excellent, more especially on Jewish literature, folklore and practical science; but, as in Brockhaus, the scope of the work did not allow extended treatment. A further revision took place, and in 1888–92 an entirely new edition was published, in 10 vols., still further new editions being issued in 1895, in 1901 and in 1923–27.


In the United States various encyclopaedias have been published, but without rivalling there in reputation and volume of sales the Encyclopaedia Britannica.

The New American Cyclopaedia (1858–63, 16 vols.) was the work of the editors, George Ripley and Charles Anderson Dana, and 884 contributors, chiefly American. A supplementary work, the American Annual Cyclopaedia, a yearly volume of about 800 pages, was started in 1861, but ceased in 1902. A new edition of the American Cyclopaedia (1873–76, 16 vols.) was prepared by the same editors.


In Europe a great impetus was given to the compilation of encyclopaedias by the appearance of Brockhaus' Konversations-Lexicon (see above), which, as a begetter of these works, must rank, in the 19th century, with the Cyclopaedia of Ephraim Chambers in the 18th. The following, although in no sense an exhaustive list, may be here mentioned. In France, Le Grand Dictionnaire universel du XIXe siècle, of Pierre Larousse (15 vols., 1865–76), with supplements in 1878 and 1888; the Nouveau Larousse illustré (7 vols., 1897–1901), an entirely new work; the Grande Encyclopédie inventaire raisonné des sciences, des lettres, et des arts (31 vols., 1886–1903); the Larousse du XXe siècle (6 vols., 1928–33) and the still later Encyclopédie française, which was planned to occupy 21 volumes. Italian works have been the Nuova Enciclopedia Italiana (14 vols., 1841–51 and in 25 vols., 1875–88), and the Enciclopedia Italiana, a great post-war project sponsored by the Istituto Giovanni Treccani, begun in 1929 and completed in 1939 in 36 volumes. It was under the editorship of Senator Giovanni Gentile. In Spain, the Diccionario enciclopedico Hispano-Americano de litteratura, ciencias y artes was published at Barcelona (25 vols., 1877–99). The Russian encyclopaedia, Russkiy Entsiklopedicheskiy Slovar (41 vols., 1903, 2 supplementary vols., 1910) was begun in 1890 as a Russian version of Brockhaus' Konversations-Lexicon, but became a monumental encyclopaedia to which all the best Russian men of science and letters contributed. A new Russian encyclopaedia Bolshaya Sovetskaya Entsiklopediya, under the general editorship of O. V. Schmidt, will, when it is complete, fill 30 volumes. In Germany, the first volume of a new encyclopaedia, Meyers Lexikon, appeared with an atlas in 1936. Other encyclopaedias have also been issued in Polish, Hungarian, Bohemian, Estonian, and Rumanian. There have been reissues of the Nordisk Conversations-Lexicon, first published in 1858–63, and of the Svenskt Conversations-Lexicon, first published in 1845–51. Among postwar additions of encyclopaedias was The Illustrated Australian Encyclopaedia, occupying two volumes and edited by A. W. Jose and H. J. Carter (Sydney, 1925–26).