

Encyclopedia

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This article is about the type of reference work. For other uses, see [Encyclopedia \(disambiguation\)](#).



[Brockhaus Enzyklopädie](#)

An **encyclopedia** ([also spelled encyclopaedia or encyclopædia](#))^[1] is a type of [reference work](#), a [compendium](#) holding a summary of [information](#) from either all branches of [knowledge](#) or a particular branch of knowledge.^[2] Encyclopedias are divided into [articles](#) or entries, which are usually accessed alphabetically by article name.^[3] Encyclopedia entries are longer and more detailed than those in most [dictionaries](#).^[3] Generally speaking, unlike dictionary entries, which focus on [linguistic](#) information about [words](#), encyclopedia articles focus on factual information to cover the thing or concept for which the article name stands.^{[4][5][6][7]}

Encyclopedias have existed for around 2,000 years; the oldest still in existence, *Naturalis Historia*, was written in *ca.* 77 AD by [Pliny the Elder](#). The modern encyclopedia evolved out of dictionaries around the 17th century. Historically, some encyclopedias were contained in one [volume](#), but some, such as the *Encyclopædia Britannica* or the world's largest *Enciclopedia universal ilustrada europeo-americana*, became huge multi-volume works. Some modern encyclopedias, such as [Wikipedia](#), are electronic and are often freely available.

The word *encyclopaedia* comes from the [Koine Greek](#) ἐγκυκλοπαιδεία,^[8] from [Greek](#) ἐγκύκλιος παιδεία,^[9] transliterated *enkyklios paideia*, meaning "general education": *enkyklios* (ἐγκύκλιος), meaning "circular, recurrent, required regularly, general"^[10] + *paideia* (παιδεία), meaning "education, rearing of a child".^[11] but it was reduced to a single word due to an error^[12] by copyists of Latin manuscripts. Together, the phrase literally translates as "complete instruction" or "complete knowledge".

Indeed, the purpose of an encyclopedia is to collect knowledge disseminated around the globe; to set forth its general system to the men with whom we live, and transmit it to those who will come after us, so that the work of preceding centuries will not become useless to the centuries to come; and so that our offspring, becoming better instructed, will at the same time become more virtuous and happy, and that we should not die without having rendered a service to the human race in the future years to come.

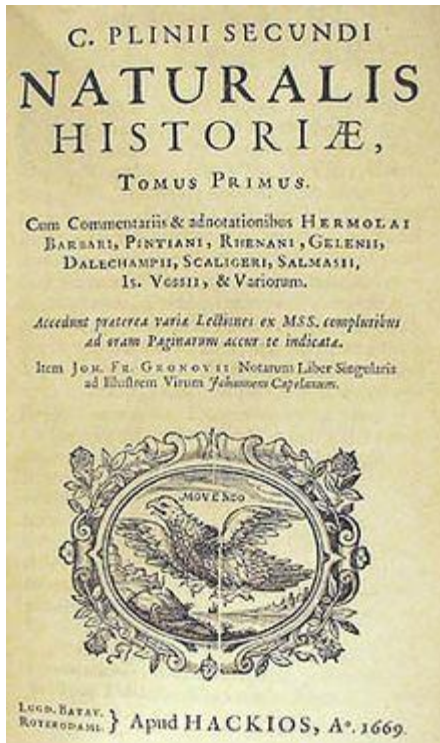
—[Diderot](#)^[13]


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History

Pliny the Elder



 *Naturalis Historiæ*, 1669 edition, title page

One of the earliest encyclopedic works to have survived to modern times is the [Naturalis Historia](#) of [Pliny the Elder](#), a [Roman](#) statesman living in the 1st century AD. He compiled a work of 37 chapters covering natural history, architecture, medicine, geography, geology, and all aspects of the world around him. He stated in the preface that he had compiled 20,000 facts from 2000 works by over 200 authors, and added many others from his own experience. The work was published around AD 77-79, although he probably never finished proofing the work before his death in the eruption of [Vesuvius](#) in 79 AD. ^[14]

The content of his great work is vast and comprehensive, being nothing short of a compendium of learning and of art so far as they are connected with nature, or draw their materials from nature. He admits that

My subject is a barren one – the world of nature, or in other words life; and that subject in its least elevated department, and employing either rustic terms or foreign, many barbarian words that actually have to be introduced with an apology. Moreover, the path is not a beaten highway of authorship, nor one in which the mind is eager to range: there is not one of us who has made the same venture, nor yet one Greek who has tackled single-handed all departments of the subject. ^[14]

He also elaborates on the difficulties of writing such a work:

It is a difficult task to give novelty to what is old, authority to what is new, brilliance to the common-place, light to the obscure, attraction to the stale, credibility to the doubtful, but nature to all things and all her properties to nature. ^[14]

Although there were earlier works of similar nature, by [Marcus Terentius Varro](#) for example, Pliny's was the only one to survive the [Dark Ages](#). It became very popular in the Roman world, and survived, with many copies being made and distributed in the western world. It was one of the first classical manuscripts to be printed in 1470, and has remained popular ever since as a source of information on the [Roman](#) world, and especially [Roman art](#), [Roman technology](#) and [Roman engineering](#). It is also a recognised source for [medicine](#), [art](#), [mineralogy](#), [zoology](#), [botany](#), [geology](#) and many other topics not discussed by other classical authors. Among many interesting entries are those for the [elephant](#) and the [murex](#) snail, the much sought-after source of [Tyrian purple](#) dye. ^[14]

Although his work has been criticized for the lack of candor in checking the "facts", some of his text has been confirmed by recent research, like the spectacular remains of Roman [gold mines](#) in Spain, especially at [Las Medulas](#), which Pliny probably saw in operation while a [Procurator](#) there a few years before he compiled the encyclopedia. Although many of the [mining](#) methods are now redundant, such as [hushing](#) and [fire-setting](#), it is Pliny who recorded them for posterity, thereby helping us understand their importance in a modern context. Pliny makes clear the fact in the preface to his work that he had checked his facts by reading and comparing the works of others, as well as referring to them by name. Many such books are now [lost works](#) and remembered only by his references, much like the lost sources mentioned in the work of [Vitruvius](#) a century earlier. ^[citation needed]

Middle Ages



First printed edition of 1472 (by Guntherus Zainer, [Augsburg](#)), title page of book 14 (*de terra et partibus*), illustrated with a [T and O map](#).

The work *De nuptiis Mercurii et Philologiae* ("About the wedding of [Mercury](#) and Philologia") written by [Martianus Capella](#) (4th-5th century) was very influential on the successive medieval encyclopedias. It consists in a complete encyclopedia of classical erudition. It firstly introduced the division and classification of the seven [liberal arts](#) ([trivium](#) and [quadrivium](#)), followed by many successive works along the [Middle Ages](#).

The first Christian encyclopedia were the *Institutiones divinarum et saecularium litterarum* of [Cassiodorus](#) (543-560), which were divided in two parts: the first one dealt with Christian Divinity; the second one described the seven liberal arts.

[Saint Isidore of Seville](#), one of the greatest scholars of the early Middle Ages, is widely recognized as being the author of the first known encyclopedia of the Middle Ages, the [Etymologiae](#) or *Origines* (around 630), in which he compiled a sizable portion of the learning available at his time, both ancient and modern. The encyclopedia has 448 chapters in 20 volumes, and is valuable because of the quotes and fragments of texts by other authors that would have been lost had they not been collected by Saint Isidore.

The most popular encyclopedia of [Carolingian](#) Age was the *De universo* or *De rerum naturis* by [Rabanus Maurus](#), written about 830, which was based on *Etymologiae*.

During the XII and XIII centuries many encyclopedic works have been written. Among them *De proprietatibus rerum* by [Bartholomeus Anglicus](#)' (1240) was the most widely read and quoted encyclopedia in the [High Middle Ages](#)^[15] while [Vincent of Beauvais](#)'s *Speculum Majus* (1260) was the most ambitious encyclopedia in the late-medieval period at over 3 million words.^[15]

The first encyclopedias in vernacular language were translations or abridgements of works in [Latin](#).

Among them the most famous is *Li livre dou Trésor*, written in [French](#) by the [Florentine Brunetto Latini](#). It is mainly based on the *Speculum Majus*.

Often also the works by the [Flemish Jacob van Maerlant](#), as a whole, are regarded as an encyclopedia. These works, too, are based on former Latin texts.

[Byzantine](#) encyclopedias were compendia of informations about both [Ancient](#) and Byzantine Greece. The first of them was the *Bibliotheca* written by the [patriarch Photius](#) (9th century).

The *Suda* or Souda (Greek: Σοῦδα) is a massive 10th century Byzantine encyclopedia of the ancient Mediterranean world, formerly attributed to an author called Suidas. It is an encyclopedic lexicon, written in Greek, with 30,000 entries, many drawing from ancient sources that have since been lost, and often derived from medieval Christian compilers.

Arabic and Persian

The [early Muslim compilations of knowledge](#) in the Middle Ages included many comprehensive works. Around year 960, the [Brethren of Purity](#) of [Basra](#)^[16] were engaged in their [Encyclopedia of the Brethren of Purity](#). Notable works include [Abu Bakr al-Razi](#)'s encyclopedia of science, the [Mutazilite Al-Kindi](#)'s prolific output of 270 books, and [Ibn Sina](#)'s medical encyclopedia, which was a standard reference work for centuries. Also notable are works of [universal history](#) (or sociology) from [Asharites](#), [al-Tabri](#), [al-Masudi](#), [Tabari](#)'s *[History of the Prophets and Kings](#)*, [Ibn Rustah](#), [al-Athir](#), and [Ibn Khaldun](#), whose [Muqadimmah](#) contains cautions regarding trust in written records that remain wholly applicable today. These scholars influenced methods of research and editing, due in part to the Islamic practice of [isnad](#) which emphasized fidelity to written record, checking sources, and skeptical inquiry.^{[[citation needed](#)]}

China

Main article: [Chinese encyclopedia](#)

The enormous encyclopedic work in China of the *[Four Great Books of Song](#)*, compiled by the 11th century during the early [Song Dynasty](#) (960–1279), was a massive literary undertaking for the time. The last encyclopedia of the four, the *[Prime Tortoise of the Record Bureau](#)*, amounted to 9.4 million [Chinese characters](#) in 1,000 written volumes. There were many great encyclopedists throughout Chinese history, including the scientist and statesman [Shen Kuo](#) (1031–1095) with his *[Dream Pool Essays](#)* of 1088, the statesman, inventor, and agronomist [Wang Zhen](#) (active 1290–1333) with his *Nong Shu* of 1313, and the written *Tiangong Kaiwu* of [Song Yingxing](#) (1587–1666), the latter of whom was termed the "[Diderot of China](#)" by British historian [Joseph Needham](#).^[17]

The [Chinese emperor Yongle](#) of the [Ming Dynasty](#) oversaw the compilation of the [Yongle Encyclopedia](#), one of the largest encyclopedias in history, which was completed in 1408 and comprised over 370 million Chinese characters in 11,000 handwritten volumes, of which only about 400 remain today. In the succeeding dynasty, emperor [Qianlong](#) of the [Qing Dynasty](#) personally composed 40,000 poems as part of a 4.7 million page library in 4 divisions, including thousands of essays, called the [Siku Quanshu](#) which is probably the largest collection of books in the world. It is instructive to compare his title for this knowledge, *Watching the waves in a Sacred Sea* to a Western-style title for all knowledge. Encyclopedic works, both in imitation of Chinese encyclopedias and as independent works of their own origin, have been known to exist in Japan since the 9th century ad.

Renaissance



Anatomy in *Margarita Philosophica*, 1565

These works were all hand copied and thus rarely available, beyond wealthy patrons or monastic men of learning: they were expensive, and usually written for those extending knowledge rather than those using it. ^[15]

During [Renaissance](#) the creation of [printing](#) allowed a wider diffusion of encyclopedias and every scholar could have its own copy.

The *De expetendis et fugiendis rebus* by Giorgio Valla was posthumously printed in [1501](#) by [Aldo Manuzio](#) in [Venice](#). This work followed the traditional scheme of liberal arts. However, Valla added the translation of ancient Greek works on mathematics (firstly by [Archimedes](#)), newly discovered and translated.

The *Margarita Philosophica* by [Gregor Reisch](#), printed in 1503, was a complete encyclopedia explaining the seven liberal arts.

Much encyclopaedism of the [French Renaissance](#) was based upon the notion of not including every fact known to humans, but only that knowledge that was necessary, where necessity was judged by a wide variety of criteria, leading to works of greatly varying sizes. [Béroalde de Verville](#) laid the foundation for his encyclopaedic works in a [hexameral poem](#) entitled *Les cognoissances nécessaires* for example. Often, the criteria had moral bases, such as in the case of [Pierre de La Primaudaye](#)'s *L'Académie française* and Guillaume Telin's *Bref sommaire des sept vertus &c.*. Encyclopaedists encountered several problems with this approach, including how to decide what to omit as unnecessary, how to structure knowledge that resisted structure (often simply as a consequence of the sheer amount of material that deserved inclusion), and how to cope with the influx of newly discovered knowledge and the effects that it had on prior structures. ^[18]

The term encyclopaedia was coined by 15th century humanists who misread copies of their texts of [Pliny](#) and [Quintilian](#), and combined the two Greek words "*enkyklios paideia*" into one word. The phrase *enkyklios paideia* (ἐγκύκλιος παιδεία) was used by Plutarch and the Latin word Enciclopedia came from him.

The first work titled in this way was the *Encyclopaedia orbisque doctrinarum, hoc est*

omnium artium, scientiarum, ipsius philosophiae index ac divisio written by [Johannes Aventinus](#) in 1517.^[citation needed]

The English physician and philosopher, Sir [Thomas Browne](#), specifically employed the word *encyclopaedia* for the first time in English^[citation needed] as early as 1646 in the preface to the reader to describe his [Pseudodoxia Epidemica](#) or *Vulgar Errors*, a series of refutations of common errors of his age. Browne structured his encyclopaedia upon the time-honoured schemata of the Renaissance, the so-called 'scale of creation' which ascends a hierarchical ladder via the mineral, vegetable, animal, human, planetary and cosmological worlds. Browne's compendium went through no less than five editions, each revised and augmented, the last edition appearing in 1672. *Pseudodoxia Epidemica* found itself upon the bookshelves of many educated European readers for throughout the late 17th century and early 18th century it was translated, for many years it was not thought compatible with the French and Dutch, into the French, [Dutch](#) and German languages as well as [Latin](#).

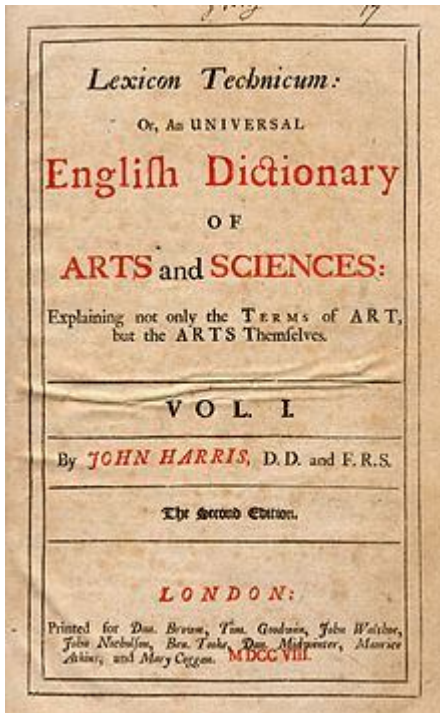
18th–19th centuries




 [Encyclopédie](#), 1773

The beginnings of the modern idea of the general-purpose, widely distributed printed encyclopedia precede the 18th century encyclopedists. However, [Chambers' Cyclopaedia, or Universal Dictionary of Arts and Sciences](#) (1728), and the [Encyclopédie](#) of Diderot and D'Alembert (1751 onwards), as well as [Encyclopædia Britannica](#) and the [Conversations-Lexikon](#), were the first to realize the form we would recognize today, with a comprehensive scope of topics, discussed in depth and organized in an accessible, systematic method. Chambers, in 1728, followed the earlier lead of John Harris's [Lexicon](#)

[Technicum](#) of 1704 and later editions (see also below); this work was by its title and content "A Universal English Dictionary of Arts and Sciences: Explaining not only the Terms of Art, but the Arts Themselves".



 Harris' [Lexicon Technicum](#), title page of 2nd edition, 1708

[John Harris](#) is often credited with introducing the now-familiar alphabetic format in 1704 with his English *Lexicon Technicum: Or, A Universal English Dictionary of Arts and Sciences: Explaining not only the Terms of Art, but the Arts Themselves* – to give its full title. Organized alphabetically, its content does indeed contain explanation not merely of the terms used in the arts and sciences, but of the arts and sciences themselves. [Sir Isaac Newton](#) contributed his only published work on chemistry to the second volume of 1710. Its emphasis was on science—and conformably to the broad 18th-century understanding of the term 'science', its content extends beyond what would be called science or technology today, and includes topics from the humanities and fine arts, e.g. a substantial number from law, commerce, music, and heraldry. At about 1,200 pages, its scope can be considered as more that of an [encyclopedia](#) than a true encyclopedia. Harris himself considered it a dictionary; the work is one of the first technical dictionaries in any language. ^{[[citation needed](#)]}

[Ephraim Chambers](#) published his *Cyclopaedia* in 1728. It included a broad scope of subjects, used an alphabetic arrangement, relied on many different contributors and included the innovation of cross-referencing other sections within articles. Chambers has been referred to as the father of the modern encyclopedia for this two-volume work.

A French translation of Chambers' work inspired the [Encyclopédie](#), perhaps the most famous early encyclopedia, notable for its scope, the quality of some contributions, and its political and cultural impact in the years leading up to the [French revolution](#). The *Encyclopédie* was edited by [Jean le Rond d'Alembert](#) and [Denis Diderot](#) and published in 17 volumes of articles, issued from 1751 to 1765, and 11 volumes of illustrations, issued from 1762 to 1772. Five volumes of supplementary material and a two volume index, supervised by other editors, were issued from 1776 to 1780 by [Charles Joseph Panckoucke](#).

The *Encyclopédie* represented the essence of the [French Enlightenment](#).^[19] The prospectus stated an ambitious goal: the *Encyclopédie* was to be a systematic analysis of the "order and interrelations of human knowledge."^[20] Diderot, in his [Encyclopédie article of the same name](#), went further: "to collect all the knowledge that now lies scattered over the face of the earth, to make known its general structure to the men among we live, and to transmit it to those who will come after us," to make men not only wiser but also "more virtuous and more happy."^[21]

Realizing the inherent problems with the model of knowledge he had created, Diderot's view of his own success in writing the *Encyclopédie* were far from ecstatic. Diderot envisioned the perfect encyclopedia as more than the sum of its parts. In his own article on the encyclopedia, Diderot also wrote, "Were an analytical dictionary of the sciences and arts nothing more than a methodical combination of their elements, I would still ask whom it behooves to fabricate good elements." Diderot viewed the ideal encyclopedia as an index of connections. He realized that all knowledge could never be amassed in just one large work, but he hoped the relations among the subjects could be.

The *Encyclopédie* in turn inspired the venerable [Encyclopædia Britannica](#), which had a modest beginning in Scotland: the first edition, issued between 1768 and 1771, had just three hastily completed volumes – A–B, C–L, and M–Z – with a total of 2,391 pages. By 1797, when the third edition was completed, it had been expanded to 18 volumes addressing a full range of topics, with articles contributed by a range of authorities on their subjects.

The [German-language Conversations-Lexikon](#) was published at [Leipzig](#) from 1796 to 1808, in 6 volumes. Paralleling other 18th century encyclopedias, its scope was expanded beyond that of earlier publications, in an effort at comprehensiveness. It was, however, intended not for scholarly use but to provide results of research and discovery in a simple and popular form without extensive detail. This format, a contrast to the *Encyclopædia Britannica*, was widely imitated by later 19th century encyclopedias in Britain, the United States, France, Spain, Italy and other countries. Of the influential late-18th century and early-19th century encyclopedias, the *Conversations-Lexikon* is perhaps most similar in form to today's encyclopedias.



A typical custom-made encyclopedia engraving by [Maurice Dessertenne](#) for the *Nouveau Larousse illustré* (France, 1898–1907)

The early years of the 19th century saw a flowering of encyclopedia publishing in the United Kingdom, Europe and America. In England [Rees's Cyclopaedia](#) (1802–1819) contains an enormous amount in information about the industrial and scientific revolutions of the time. A feature of these publications is the high-quality illustrations made by engravers like [Wilson Lowry](#) of art work supplied by specialist draftsmen like [John Farey, Jr.](#) Encyclopaedias were published in Scotland, as a result of the [Scottish Enlightenment](#), for education there was of a higher standard than in the rest of the United Kingdom. The [National Revival](#) of [Bulgaria](#), influenced by the [Enlightenment](#), resulted in [Petar Beron's](#) [Primer with Various Instructions](#) (also known as the *Fish Primer*) in 1824. It was a small encyclopedia for children, containing fables, proverbs, ancient history, basic [arithmetics](#), [zoology](#) and [linguistics](#).^[22] Beron later published a 7-volume work in natural sciences known as [Panepisteme](#) in 1867.

The 17-volume [Grand dictionnaire universel du XIXe siècle](#) and its supplements were published in France by [Pierre Larousse](#) from 1866 to 1890.

Encyclopædia Britannica appeared in various editions throughout the century, and the growth of [popular education](#) and the [Mechanics Institutes](#), spearheaded by the [Society for the Diffusion of Useful Knowledge](#) led to the production of the [Penny Cyclopaedia](#), as its title suggests issued in weekly numbers at a penny each like a [newspaper](#).

In the early 20th century, the *Encyclopædia Britannica* reached its eleventh edition, and inexpensive encyclopedias such as [Harmsworth's Universal Encyclopaedia](#) and [Everyman's Encyclopaedia](#) were common.

International development

During the 19th and early 20th century, many smaller or less developed languages saw their first encyclopedias, using French, German, and English role models. While encyclopedias in larger languages, having large markets that could support a large editorial staff, churned out new 20-volume works in a few years and new editions with

brief intervals, such publication plans often spanned a decade or more in smaller languages.

The first large encyclopedia in Russian, [*Brockhaus and Efron Encyclopedic Dictionary*](#) (86 volumes, 1890–1906), was a direct cooperation with the German Brockhaus.

Without such a formal cooperation, the Swedish *Conversations-lexicon* (4 volumes, 1821–1826) was a translation of Brockhaus 2nd edition. The first encyclopedia written originally in Swedish was *Svenskt konversationslexikon* (4 volumes, 1845–1851) by Per Gustaf Berg. A more ambitious project was [*Nordisk familjebok*](#), established in 1875 and intended to comprise 6 volumes. But in 1885, when it had published 8 volumes and gotten only halfway (A–K), the publisher turned to the government for extra funding; encyclopedias had become national monuments. It was finished in 1894 with 18 volumes,^[23] with two supplement volumes (1896–1899).



 [*Encyclopedia Americana*](#) at Göttingen State and University Library.

The first major Danish encyclopedia was [*Salmonsens Konversationsleksikon*](#) (19 volumes, 1893–1911).

In Norway, encyclopedias follow the unique history of the [*Norwegian language*](#), the [*Bokmål*](#) variant having branched off from Danish during the 19th century. After the national independence in 1905, publisher [*Aschehoug*](#) (owned by [*William Martin Nygaard*](#)) hired librarian Haakon Nyhuus to edit *Illustreret norsk konversationsleksikon* (6 volumes, 1907–1913), in later editions known as *Aschehougs konversationsleksikon*. In the [*Nynorsk*](#) variant of the language, *Norsk Allkunnebok* (10 volumes, 1948–1966) was the only encyclopedia until the arrival of Wikipedia.

The first major Finnish encyclopedia was [*Tietosanakirja*](#) (11 volumes, 1909–1922). Inspired by the minority language example of *Norsk Allkunnebok*, a Swedish-language encyclopedia of Finland was initiated in 1969 and eventually published as [*Uppslagsverket Finland*](#) (3 volumes, 1982–1985; 2nd edition in 5 volumes, 2003–2007).

With such a small market, the sales revenue only covered the printing cost, while editors were paid by endowments. In 2009 the entire contents was made available online, free of charge.

Already during [czarist Russian](#) rule, two editions appeared of the Latvian *Konversācijas vārdnīca* (2 volumes, 1891–1893; 4 volumes, 1906–1921). The larger *Latviešu konversācijas vārdnīca* (21 volumes, A–Tjepolo, 1927–1940) was interrupted by [World War II](#) and never completed. After the war, Latvian emigrants in Sweden published *Latvju enciklopēdija* (3 volumes, 1950–1956, with a supplement volume in 1962). Soviet authorities published *Latvijas PSR mazās enciklopēdijas* (3 volumes, 1967–1970) and *Latvijas padomju enciklopēdija* (10 volumes, 1981–1988).^[24]

Similarly, in the history of [Lithuanian encyclopedias](#), the *Lietuviškoji enciklopedija* (9 volumes A–J, 1933–1941) was interrupted by [World War II](#) and never completed. Lithuanian emigrants in the United States published *Lietuvių enciklopedija* (35 volumes, 1953–1966). Soviet authorities published *Mažoji lietuviškoji tarybinė enciklopedija* (3 volumes, 1966–1971), *Lietuviškoji tarybinė enciklopedija* (12 volumes, 1976–1985), and *Tarybų Lietuvos enciklopedija* (4 volumes, 1985–1988). First Turkish encyclopedia was *Kamus-ül-Ulûm ve'l-Maarif* written by Ali Suvai in 1870 after that Ahmet Rifat Efendi's 7 volumes work "Lûgaat-i Tarihiye ve Coğrafiye" (Dictionary of History and Geography) published in Istanbul at 1881.^[25]

See also this list of [historical encyclopedias](#).

20th century



1913 advertisement for [Encyclopædia Britannica](#), the oldest and one of the largest contemporary English encyclopedias.

Popular and affordable encyclopaedias such as [Harmsworth's Universal Encyclopaedia](#) and the [Children's Encyclopaedia](#) appeared in the early 1920s.

In the United States, the 1950s and 1960s saw the introduction of several large popular encyclopedias, often sold on installment plans. The best known of these were [World Book](#) and [Funk and Wagnalls](#).

The second half of the 20th century also saw the publication of several encyclopedias that were notable for synthesizing important topics in specific fields, often by means of new

works authored by significant researchers. Such encyclopedias included *The Encyclopedia of Philosophy* (first published in 1967 and now in its second edition), and *Elsevier's Handbooks In Economics*^[26] series. Encyclopedias of at least one volume in size exist for most if not all [academic disciplines](#), including, typically, such narrow topics such as [bioethics](#) and [African American history](#).

By the late 20th century, encyclopedias were being published on [CD-ROMs](#) for use with personal computers. [Microsoft's Encarta](#), launched in 1993, was a landmark example as it had no printed equivalent. Articles were supplemented with video and audio files as well as numerous high-quality images. After sixteen years, Microsoft discontinued the Encarta line of products in 2009.^[27]

Traditional encyclopedias are written by a number of employed text writers, usually people with an [academic degree](#), and distributed as [proprietary](#) content.

Encyclopedias are essentially derivative from what has gone before, and particularly in the 19th century, [copyright infringement](#) was common among encyclopedia editors. However, modern encyclopedias are not merely larger compendia, including all that came before them. To make space for modern topics, valuable material of historic use regularly had to be discarded, at least before the advent of digital encyclopedias. Moreover, the opinions and world views of a particular generation can be observed in the encyclopedic writing of the time. For these reasons, old encyclopedias are a useful source of historical information, especially for a record of changes in science and technology.^[28]

As of 2007, old encyclopedias whose [copyright has expired](#), such as the 1911 edition of Britannica, are also the only [free content](#) English encyclopedias released in print form. However, works such as the [Great Soviet Encyclopedia](#), which were created in the public domain,^[citation needed] exist as free content encyclopedias in other languages.

Free encyclopedias

See also: [History of wikis](#)



 [Wikipedia](#) is one of the first "[user generated content](#)" encyclopedias.

The concept of a new free encyclopedia began with the [Interpedia](#) proposal on [Usenet](#) in 1993, which outlined an Internet-based [online encyclopedia](#) to which anyone could submit content and that would be freely accessible. Early projects in this vein included [Everything2](#) and [Open Site](#). In 1999, [Richard Stallman](#) proposed the [GNUPedia](#), an

online encyclopedia which, similar to the [GNU operating system](#), would be a "generic" resource. The concept was very similar to Interpedia, but more in line with Stallman's [GNU](#) philosophy.

It was not until [Nupedia](#) and later [Wikipedia](#) that a stable free encyclopedia project was able to be established on the Internet. The English Wikipedia became the world's largest encyclopedia in 2004 at the 300,000 article stage^[29] and by late 2005, Wikipedia had produced over two million articles in more than 80 languages with content licensed under the [copyleft GNU Free Documentation License](#). As of August 2009, Wikipedia had over 3 million articles in English and well over 10 million combined in over 250 languages. Wikipedia currently has [4,016,189](#) articles in English. Since 2003, other free encyclopedias like the Chinese-language [Baidu Baike](#) and [Hudong](#), as well as English language encyclopedias like [Citizendium](#) and [Knol](#) have appeared.

Twenty-first century



 [Encyclopædia Britannica Ultimate Reference Suite](#), an example of a twenty-first century encyclopedia.

The encyclopedia's hierarchical structure and evolving nature is particularly adaptable to a [digital format](#), and all major printed multi-subject encyclopedias had moved to this method of delivery by the end of the 20th century. [Disk-based](#), typically [DVD-ROM](#) or [CD-ROM](#) format, publications have the advantage of being cheaply produced and easily portable. Additionally, they can include [media](#) which are impossible to store in the printed format, such as [animations](#), [audio](#) and [video](#). [Hyperlinking](#) between conceptually related items is also a significant benefit, although even Diderot's encyclopedia had cross-referencing.

On-line encyclopedias offer the additional advantage of being dynamic: new information can be presented almost immediately, rather than waiting for the next release of a static format, as with a disk- or paper-based publication. Many printed encyclopedias traditionally published annual supplemental volumes ("yearbooks") to update events between editions, as a partial solution to the problem of staying up-to-date, but this of course required the reader to check both the main volumes and the supplemental volumes. Some disk-based encyclopedias offer subscription-based access to online updates, which are then integrated with the content already on the user's [hard disk](#) in a manner not possible with a printed encyclopedia.

Information in a printed encyclopedia necessarily needs some form of hierarchical structure. Traditionally, the method employed is to present the information ordered alphabetically by the article title. However with the advent of dynamic electronic formats the need to impose a pre-determined structure is less necessary. Nonetheless, most electronic encyclopedias still offer a range of organizational strategies for the articles, such as by subject, area, or alphabetically.

Digital encyclopedias also offer greater search abilities than printed versions. While the printed versions rely on indexes to assist in searching for topics, computer accessible versions allow searching through article text for keywords or phrases.

Characteristics



This section **needs additional [citations](#) for [verification](#)**. (June 2010)

The modern encyclopaedia was developed from the [dictionary](#) in the 18th century. Historically, both encyclopaedias and dictionaries have been researched and written by well-educated, well-informed content [experts](#), but they are significantly different in structure. A dictionary is a linguistic work which primarily focuses on alphabetical listing of [words](#) and their [definitions](#). [Synonymous](#) words and those related by the subject matter are to be found scattered around the dictionary, giving no obvious place for in-depth treatment. Thus, a dictionary typically provides limited [information](#), [analysis](#) or background for the word defined. While it may offer a definition, it may leave the reader lacking in [understanding](#) the meaning, significance or limitations of a [term](#), and how the term relates to a broader field of knowledge.

To address those needs, an encyclopaedia article is typically non linguistic, and covers not a word, but a *subject or [discipline](#)*. As well as defining and listing synonymous terms for the topic, the article is able to treat it in more depth and convey the most relevant accumulated knowledge on that subject. An encyclopaedia article also often includes many [maps](#) and [illustrations](#), as well as [bibliography](#) and [statistics](#).

Four major elements define an encyclopaedia: its subject matter, its scope, its method of organization, and its method of production:

- Encyclopaedias can be general, containing articles on topics in every field (the English-language *Encyclopædia Britannica* and German *Brockhaus* are well-known examples). General encyclopaedias often contain guides on how to do a variety of things, as well as embedded dictionaries and [gazetteers](#).^{*[citation needed]*} There are also encyclopaedias that cover a wide variety of topics but from a particular cultural, ethnic, or national perspective, such as the *Great Soviet Encyclopedia* or *Encyclopaedia Judaica*.
- Works of encyclopedic scope aim to convey the important accumulated knowledge for their subject domain, such as an encyclopaedia of medicine,

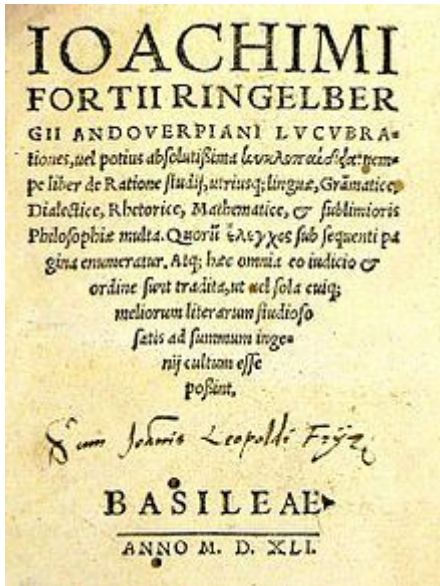
- philosophy, or law. Works vary in the breadth of material and the depth of discussion, depending on the [target audience](#). (For example, the [Medical encyclopaedia](#) produced by A.D.A.M., Inc. for the U.S. [National Institutes of Health](#).)
- Some systematic method of organization is essential to making an encyclopaedia usable as a work of reference. There have historically been two main methods of organizing printed encyclopaedias: the [alphabetical](#) method (consisting of a number of separate articles, organised in alphabetical order), or organization by [hierarchical](#) categories. The former method is today the most common by far, especially for general works. The fluidity of electronic media, however, allows new possibilities for multiple methods of organization of the same content. Further, electronic media offer previously unimaginable capabilities for search, indexing and cross reference. The epigraph from [Horace](#) on the title page of the 18th century *Encyclopédie* suggests the importance of the structure of an encyclopaedia: "What grace may be added to commonplace matters by the power of order and connection."
 - As modern multimedia and the information age have evolved, they have had an ever-increasing effect on the collection, verification, summation, and presentation of information of all kinds. Projects such as [Everything2](#), [Encarta](#), [h2g2](#), and [Wikipedia](#) are examples of new forms of the encyclopaedia as information retrieval becomes simpler.


Some works entitled "dictionaries" are actually similar to encyclopaedias, especially those concerned with a particular field (such as the [Dictionary of the Middle Ages](#), the [Dictionary of American Naval Fighting Ships](#), and [Black's Law Dictionary](#)). The [Macquarie Dictionary](#), Australia's national dictionary, became an [encyclopedic dictionary](#) after its first edition in recognition of the use of proper nouns in common communication, and the words derived from such proper nouns.

There are some broad differences between encyclopedias and dictionaries. Most noticeably, encyclopedia articles are longer, fuller and more thorough than entries in most general-purpose dictionaries.^{[31][30]} There are differences in content as well. Generally speaking, dictionaries provide [linguistic](#) information about words themselves, while encyclopedias focus more on the thing for which those words stand.^{[4][5][6][7]} Thus, while dictionary entries are inextricably fixed to the word described, encyclopedia articles can be given a different entry name. As such, dictionary entries are not fully translatable into other languages, but encyclopedia articles can be.^[4]

In practice, however, the distinction is not concrete, as there is no clear-cut difference between factual, "encyclopedic" information and linguistic information such as appears in dictionaries.^{[6][30][31]} Thus encyclopedias may contain material that is also found in dictionaries, and vice versa.^[31] In particular, dictionary entries often contain factual information about the thing named by the word.^{[30][31]}

Etymology



 Title page of "*Lucubrationes...*" 1541 edition, the first book to use the word encyclopedia in the title

See also: [American and British English spelling differences#Simplification of ae and oe](#)

The word "encyclopaedia" comes from the [Pseudo-^{\[32\]} Classical Greek](#) "ἐγκύκλιος παιδεία", transliterated "enkyklios paideia"; "enkyklios" (ἐγκύκλιος), meaning "circular, recurrent, required regularly, general" + "paideia" (παιδεία), meaning "education". Together, the phrase literally translates as "common knowledge" or "general knowledge". Copyists of Latin manuscripts took this phrase to be a single Greek word, "enkuklopaedia", with the same meaning, and this spurious Greek word became the New Latin word "encyclopaedia", which in turn came into English. Though the notion of a compendium of knowledge dates back thousands of years, the term was first used in the title of a book in 1517 by Johannes Avenarius: *Encyclopedia orbisque doctrinarum, hoc est omnium artium, scientiarum, ipsius philosophiae index ac divisio*, and in 1541 by [Joachimus Fortius Ringelbergius](#), *Lucubrationes vel potius absolutissima kyklopaideia* (Basel, 1541). The word *encyclopaedia* was first used as a noun in the title of his book by the Croatian encyclopedist [Pavao Skalić](#) in his *Encyclopaedia seu orbis disciplinarum tam sacrarum quam prophanarum epistemon* (Encyclopaedia, or Knowledge of the World of Disciplines, Basel, 1559).^{[[dubious](#) - [discuss](#)]} One of the oldest vernacular uses was by [François Rabelais](#) in his *Pantagruel* in 1532.^{[[33](#)][[34](#)]}

Several encyclopaedias have names that include the suffix *-p(a)edia*, e.g., [Banglapedia](#) (on matters relevant for Bengal).

In British usage, the spellings *encyclopedia* and *encyclopaedia* are both current.^{[[35](#)]} Although the latter spelling is considered more "proper" by British speakers, the former is becoming increasingly common in British English, in part due to the spread of American English. In American usage, only the former is commonly used.^{[[36](#)]} The spelling *encyclopaedia*—with the [æ ligature](#)—was frequently used in the 19th century and is

increasingly rare, although it is retained in product titles such as *Encyclopædia Britannica* and others. The [Oxford English Dictionary](#) (1989) records *encyclopaedia* and *encyclopaedia* as equal alternatives (in that order), and notes the *æ* would be obsolete except that it is preserved in works that have Latin titles. [Webster's Third New International Dictionary](#) (1997–2002) features *encyclopedia* as the main headword and *encyclopaedia* as a minor variant. In addition, *cyclopedia* and *cyclopaedia* are now rarely used shortened forms of the word originating in the 17th century.

See also



[Literature portal](#)

[Education portal](#)

- [Biographical dictionary](#)
- [Fictitious entry](#)
- [History of science and technology](#)
- [Lexicography](#)
- [Lexicon](#)
- [Library science](#)
- [List of encyclopedias](#)
- [Thesaurus](#)
- [Wikipedia](#)

Notes

1. [^] ["encyclopaedia"](#) (online). [Oxford English Dictionary](#) (OED.com), [Oxford University Press](#). Retrieved 2012-02-18.
2. [^] ["Encyclopedia."](#) Archived from [the original](#) on 2007-08-03. Glossary of Library Terms. Riverside City College, Digital Library/Learning Resource Center. Retrieved on: November 17, 2007.
3. [^] [a b c](#) Hartmann, R. R. K.; James, Gregory; Gregory James (1998). [Dictionary of Lexicography](#). Routledge. p. 48. [ISBN 0-415-14143-5](#). Retrieved July 27, 2010.
4. [^] [a b c](#) Béjoint, Henri (2000). [Modern Lexicography](#), pp. 30–31. Oxford University Press. [ISBN 0-19-829951-6](#)
5. [^] [a b](#) ["Encyclopaedia"](#). *Encyclopædia Britannica*. Retrieved July 27, 2010. "An English lexicographer, H.W. Fowler, wrote in the preface to the first edition (1911) of *The Concise Oxford Dictionary of Current English* that a dictionary is concerned with the uses of words and phrases and with giving information about the things for which they stand only so far as current use of the words depends upon knowledge of those things. The emphasis in an encyclopaedia is much more on the nature of the things for which the words and phrases stand."
6. [^] [a b c](#) Hartmann, R. R. K.; Gregory James (1998). [Dictionary of Lexicography](#). Routledge. p. 49. [ISBN 0-415-14143-5](#). Retrieved July 27, 2010.

- "In contrast with linguistic information, encyclopedia material is more concerned with the description of objective realities than the words or phrases that refer to them. In practice, however, there is no hard and fast boundary between factual and lexical knowledge."
7. ^{^ [a](#) [b](#)} Cowie, Anthony Paul (2009). *The Oxford History of English Lexicography, Volume I*. Oxford University Press. p. 22. [ISBN 0-415-14143-5](#). Retrieved August 17, 2010. "An 'encyclopedia' (encyclopaedia) usually gives more information than a dictionary; it explains not only the words but also the things and concepts referred to by the words."
 8. [^] [Ἐγκυκλοπαιδεία](#), Henry George Liddell, Robert Scott, *A Greek–English Lexicon*, at Perseus project
 9. [^] [Ἐγκύκλιος παιδεία](#), Quintilian, *Institutio Oratoria*, 1.10.1, at Perseus project
 10. [^] [Ἐγκύκλιος](#), Henry George Liddell, Robert Scott, *A Greek–English Lexicon*, at Perseus project
 11. [^] [Παιδεία](#), Henry George Liddell, Robert Scott, *A Greek–English Lexicon*, at Perseus project
 12. [^] According to some accounts such as the [American Heritage Dictionary](#) copyists of Latin manuscripts took this phrase to be a single Greek word, enkuklopaedia,
 13. [^] Denis Diderot and Jean le Rond d'Alembert *Encyclopédie*. University of Michigan Library:Scholarly Publishing Office and DLXS. Retrieved on: November 17, 2007
 14. ^{^ [a](#) [b](#) [c](#) [d](#)} Naturalis Historia
 15. ^{^ [a](#) [b](#) [c](#)} See "Encyclopedia" in *Dictionary of the Middle Ages*.
 16. [^] P.D. Wightman (1953), *The Growth of Scientific Ideas*
 17. [^] Needham, Volume 5, Part 7, 102.
 18. [^] Neil Kenny (1991). *The Palace of Secrets: Beroalde de Verville and Renaissance Conceptions of Knowledge*. Oxford University Press. pp. 12–13. [ISBN 0-19-815862-9](#).
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 20. [^] Jean le Rond d'Alembert, "Preliminary Discourse," in *Denis Diderot's The Encyclopédie: Selections*, ed. and trans. Stephen J. Gendzier (1967), cited in Himmelfarb 2004
 21. [^] Denis Diderot, *Rameau's Nephew and Other Works*, trans. and ed. Jacques Barzun and Ralph H. Bowen (1956), cited in Himmelfarb 2004
 22. [^] Todorov, Nikolai (1968). *Bulgaria: historical and geographical outline*. Sofia. p. 263.
 23. [^] [Slutord](#), postscriptum to the 1st edition, 1894.
 24. [^] [List of Latvian encyclopedias](#) from the website Historia.lv.
 25. [^] [Ansiklopedi \(encyclopaedia\) \(tr\)](#)
 26. [^] ["Economics and Finance – Elsevier"](#). Elsevier.com. Retrieved 2010-11-07.

27. [^ "Important Notice: MSN Encarta to be Discontinued"](#). *Important Notice: MSN Encarta to be Discontinued*. MSN Encarta. Archived from [the original](#) on 2009-10-31.
28. [^](#) Kobasa, Paul A. "Encyclopedia." World Book Online Reference Center. 2008. [Place of access.] 13 Jan. 2008
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29. [^](#) "Wikipedia Passes 300.000 Articles making it the worlds largest encyclopedia", *Linux Reviews*, 2004 July 7.
30. [^](#) [a](#) [b](#) [c](#) Hartmann, R. R. K.; James, Gregory; Gregory James (1998). "Encyclopedic definition". *Dictionary of Lexicography* (Routledge): 48–49. ISBN 0-415-14143-5. Retrieved July 27, 2010. "Usually these two aspects overlap – encyclopedic information being difficult to distinguish from linguistic information – and dictionaries attempt to capture both in the explanation of a meaning..."
31. [^](#) [a](#) [b](#) [c](#) Béjoint, Henri (2000). *Modern Lexicography*. Oxford University Press. p. 31. ISBN 0-19-829951-6. "The two types, as we have seen, are not easily differentiated; encyclopedias contain information that is also to be found in dictionaries, and vice versa."
32. [^](#) *The Compact Edition of the Oxford English Dictionary, Volume I A-O*. Oxford University Press. 1971. p. 861.
33. [^](#) Bert Roest (1997). "Compilation as Theme and Praxis in Franciscan Universal Chronicles". In Peter Binkley. *Pre-Modern Encyclopaedic Texts: Proceedings of the Second Comers Congress, Groningen, 1 – July 4, 1996*. BRILL. pp. 213. ISBN 90-04-10830-0.
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35. [^](#) "encyclopaedia", Chambers Reference Online; "encyclopaedia"^{[[dead link](#)]}, AskOxford.
36. [^](#) "encyclopaedia"^{[[dead link](#)]}, Bartleby.com; "Encyclopaedia", Merriam Webster.

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- [Chambers' Cyclopaedia](#), 1728, with the 1753 supplement
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