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CONTENTS

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ENCYCLOPAEDIAS

By

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THE first author to use the word 'encyclopaedia' in the title of a book has also given a definition of the term upon which it is hard to improve. Johann Heinrich Alsted (1588–1638) published in 1620 *Scientiarum omnium encyclopaedia*; and explained the title as meaning 'methodica comprehensio rerum omnium in hac vita discendarum'—a methodical summary of human knowledge.

The term 'encyclopaedia' then is used here to apply to a general work of reference, accessible to the average educated layman, dealing with subject-matter arranged alphabetically, and trying to impart unbiased information. These characteristics are not necessarily inherent in the idea of an encyclopaedia: in fact, they are the result of a gradual development during which various combinations have been tried out. The only common denominator is the ever-repeated attempt to present a comprehensive conspectus of the accumulated learning of an age. In this respect, every encyclopaedia, and each separate edition of an encyclopaedia is, indeed, as Lord Bryce has put it, 'a sort of landmark in the history of knowledge'; at the same time it summarizes the factual knowledge of any generation, and mirrors the effect of this knowledge upon the mind and outlook of this same generation. Thus, the history of encyclopaedias is an informative guide to the evolution of philosophy and education, as well as to the development of political ideas and social conditions.

The method of presentation, and the nature of the material to be thus presented, have given rise to different types of encyclopaedias. They may be described as the organic and classified 'Summa', a collection of treatises; the analytical and alphabetical 'Dictionary', a vocabulary of definitions; and the methodical 'Lexicon', which breaks up the 'Summa' into its alphabetical components and at the same time introduces system into the caprices of the alphabet. These three types have, to a large extent, followed and succeeded one another, reflecting intellectual progress and social changes. The systematic 'Summa' prevailed from the first century B.C. to the beginning of the seventeenth century,

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Francis Bacon being its last great exponent. It is the encyclopaedia for a small, homogeneous class of learned and leisured readers: written by and for scholars, speaking, literally and metaphorically, the same language and sharing a common outlook in secular and spiritual matters. A curious attempt to revive medieval scholasticism in rationalist guise was made by H. G. Wells in the 1930s when he propounded a 'World Encyclopaedia'. This absurd scheme would no doubt have foundered on its intrinsic contradictions. The haziness of Wells's picture of a 'row of twenty or thirty or forty volumes' condemns it from the start in the eyes of any member of the Trade; Wells's anti-religious and anti-semitic attitude would speedily have brought about the defection of every serious scholar: the history of Palestine, for instance, was to be excluded as 'nothing important ever began there or worked out there'.

The break-up of the uniform world-picture of the Middle Ages and the concomitant secularization of learning made the analytical 'Dictionary' the common type of the encyclopaedia of the seventeenth and eighteenth centuries. Empirical, critical, even destructive, with an appeal to the man of the world rather than the scholar, apologetic in defending the past or aggressive in asserting the new philosophy of the age, the 'Dictionary' of the seventeenth and eighteenth centuries was an intellectual weapon of the rising forces of the *bourgeoisie*; it had its greatest vogue in France where the struggle was fiercest.

The third type, that of the methodical 'Lexicon', was shaped and perfected in England where the middle classes first gained social and political ascendancy, and in Germany where the middle classes secured the monopoly of science and learning. Its main representatives today are *The New Chambers's Encyclopædia* in Great Britain, the *Encyclopaedia Britannica* in the United States, *Brockhaus* in Germany, *Larousse* in France, the *Enciclopedia Italiana* in Italy; all the rest being modelled on one or the other of these.

The systematic 'Summa' as well as the 'Dictionary' proper have more or less disappeared from the field of general encyclopaedias and now serve special purposes and a limited public. Encyclopaedias of theology, medicine, law, etc., and dictionaries such as the *O.E.D.*, Grimm's *Wörterbuch* or Grove's *Dictionary of Music* have become indispensable aids to scholars in their particular fields of research, but are not intended to appeal to the general public.

There have, of course, always been overlaps of classification as well as chronology.

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Isidore of Seville included 'Dictionary' features in what was essentially a 'Summa'; modern 'Lexica' like *Larousse* have preserved the main features of a 'Dictionary'; and the 'Dictionaries' of the seventeenth and eighteenth centuries go considerably beyond the scope of a modern dictionary, viz. the bare explanation of words. Nor has the systematic encyclopaedia completely died out: the biggest European encyclopaedia ever attempted, that of Ersch and Gruber (167 vols., 1818–89, left unfinished) is a true nineteenth-century specimen of the medieval 'Summa'; and the most recent French encyclopaedias, A. de Monzie's *Encyclopédie Française Permanente* (1935 ff.; twenty-one volumes, of which eleven have appeared so far) and the *Grand Mémento Larousse* (2 vols., 1936–8) have reverted to this type.

The reasons for the ultimate prevalence of the 'Lexicon' encyclopaedia are partly to be found in the fact that it includes all the best features of its predecessors. From the learned encyclopaedia it has taken over the need for real scholarship even in the shortest contribution to a popular work of reference. No mere second-hand compilation will secure recognition; and it is the ambition of every good encyclopaedia to serve the scholar outside his special field of studies no less than the general reader. The model of the systematic encyclopaedia has also kept the alphabetical type from becoming a mere agglomeration of unrelated and isolated entries; and it has been found that quick reference is very well compatible with methodical co-ordination and discreet guidance. The word-book type has acted as a stimulus to precise and concise definition, and works against woolliness and wordiness. The choice of appropriate headings has therefore become a primary concern of the editor of *The New Chambers's Encyclopædia* as much as of any of Cassell's dictionaries.

However, all these devices are only the outward signs of a new conception of the function of an encyclopaedia, necessitated by the change in the composition of the public for which the modern encyclopaedia has to cater. On the one hand, the range of human knowledge has been steadily widening and deepening so that a systematic 'Summa' has become a counsel of perfection rather than a feasible objective. On the other hand, the rising standard of education has enlarged the numbers of intelligent inquirers after truth and knowledge to such an extent that an analytical 'Dictionary' no longer suffices to satisfy the demand for full information over an ever-extending field of knowledge. Paradoxically, the

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progress of science and learning has made the scholar himself a mere 'educated layman' in every sphere except that of his specialized training.

The narrowing of one man's mastery of knowledge and the extension of mass education have thus combined to create the demand for the type of encyclopaedia which satisfies the common needs of the greatest number of people. The modern encyclopaedia has thus become the embodiment as well as the vehicle of the intellectual achievements and ideas of the age of democracy.

This, however, is only the latest and present stage of a 2,000-year-old evolution of the encyclopaedia. The history of the encyclopaedia is, in fact, a concentrated history of Western thought. Pliny represents the heritage of Greece and Rome; Isidore of Seville, Hrabanus Maurus and Vincent of Beauvais, three aspects of medieval Christendom; Brunetto Latini heralds the lay civilization of the Italian Renaissance; Moréri stands for the political and ecclesiastical absolutism of the age of Louis XIV, while Diderot represents the revolt of the *philosophes* against despotism and dogma. Ephraim Chambers crystallized the world-picture of eighteenth-century Whiggism and Brockhaus that of nineteenth-century Liberalism; and the *Penny Cyclopædia of the Society for the Diffusion of Useful Knowledge* epitomizes early Victorian utilitarianism.

The systematic encyclopaedia can trace its pedigree to the encyclopaedias written by M. Terentius Varro (116–28 B.C.) and C. Plinius Secundus (A.D. 23–79). The former's *Disciplinarum libri IX* is known to us only in fragments; these, however, permit us to reconstruct the general plan of the work. In the first seven books it dealt with what was to become known as the liberal arts, and added to them medicine and architecture, each branch of science being treated in a separate book.

The older Pliny's *Historia Naturalis*, dedicated to the emperor Titus in A.D. 77, starts with a volume of contents and sources, or as we should say, a combined index and bibliography; the following thirty-six volumes deal with cosmography, geography, ethnography, anthropology, physiology, zoology, botany and medicine, mineralogy and metallurgy—including a history of the fine arts in the Greco-Roman world, which is still indispensable to art historians and archaeologists.

The encyclopaedic literature of the Middle Ages has grown beyond Varro and Pliny only in that Christian theology was introduced as a fresh subject which

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directly and indirectly coloured every other topic. Otherwise, Varro's formalistic arrangement according to the seven liberal arts remained the ground plan, and Pliny's notes the stock-in-trade of all subsequent encyclopaedias. Of the greatest influence upon medieval scholarship were the first three Christian encyclopaedias by Martianus Capella, Isidore of Seville and Hrabanus Maurus. None of them was an original or creative writer but they succeeded in what must be the ambition of every editor of an encyclopaedia: their books became the authoritative works of reference for the whole 'intelligentzia' of the Western world. Two features deserve special mention: Isidore in his *Etymologiae* combined a systematic encyclopaedia with two dictionaries of words, one arranged alphabetically, the second systematically. This combination of subject-book and word-book was to continue through the seventeenth- and eighteenth-century *Dictionnaire des arts et sciences*; and has not completely disappeared even today.

The second point of interest is that in Hrabanus Maurus's *De Universo* (847) illustrations formed an integral part of the book; and all better editions of Isidore were also supplied with pictures. As regards illustrations in modern encyclopaedias, the *Enciclopedia Italiana* easily surpasses the rest in quantity and quality, while the fifteenth edition of *Brockhaus* can claim the introduction of half-tone illustrations directly printed in the text, and small-size colour plates pasted on the pages. The illustration of English and American encyclopaedias has always been, and still is, below the standards of Continental works.

Martianus Capella, Isidore, Hrabanus Maurus were superseded not by new scientific discoveries or a new philosophy of life but by social changes in the composition of their public. Vincent of Beauvais (died 1264) is the last great medieval encyclopaedist who wrote his *Speculum Universale* as a cleric for clerics; it is the best compilation of its kind which scholasticism produced. Measured by the standard of Vincent of Beauvais, the various *Mirror*, *Margerita*, *Speculum*, *Catholicon*, etc., of the late Middle Ages can only be ranked with the cheap, mass-produced encyclopaedias of our time. But the new, educated lay society of the Italian communes of the thirteenth century wanted a different kind of encyclopaedia; and Brunetto Latini, a Florentine notary, was the man to meet this demand of his compatriots. His *Li Livres dou Tresor* is based on Vincent of Beauvais and other French and English encyclopaedias of the first half of the thirteenth century; it is written in French, the language of the educated Italian

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middle classes before Dante. Brunetto's intention was to write for laymen, and he therefore stressed those sections of learning which were of use and interest to the citizens of Florence and other mercantile communes. To Brunetto, theology is no longer the corner-stone of human learning; its place has been taken by political science in its widest meaning, founded on the writings and wisdom of Cicero. His *Tresor* is the first attempt to base an encyclopaedia on the needs of a public which was hitherto ignored and to reach out for what we should now call the 'educated layman'. The success of the *Tresor* was great and immediate; more than forty manuscripts are extant of the French original, some twenty of the first Italian translation. Dante has expressed his lasting obligation to his 'paternal friend' (*la cara e buona imagine paterna*) whom he makes thus entrust his encyclopaedia to posterity:

Siati raccomandato il mio Tesoro
Nel quale io vivo ancora, e più non cheggio.

Brunetto can be acclaimed as the father of 200 years of Italian and French lay education; his work was as important and far-reaching in its effects as Brunetto's greater contemporary's *Summa Theologiae*.

The centuries from about 1400 to about 1620 are barren as far as the history of encyclopaedias is concerned. This can probably be explained by the fact that the humanistic scholars were so deeply engrossed in coping with the ever-increasing mass of discoveries in every field of science and learning, that the time was not considered ripe to gather the new harvest.

For it is an indisputable, though perhaps regrettable, fact that an encyclopaedia cannot by its very nature be abreast of the latest theories and inventions. Its main purpose is to hand on accepted knowledge, not to send up *ballons d'essai*. In the words of Ephraim Chambers, the lexicographer 'supposes the advances and discoveries made'; he can hardly indulge in speculations as to their possible significance and future importance.

The more an encyclopaedia tries to be 'topical' the less useful it is for the student and the sooner it will be out of date. A touchstone is the admission or omission of living persons—politicians, writers, artists, etc.; their biographies, indispensable in *Who's Who*, are a snare in an encyclopaedia. A collection of entries under the heading 'CHURCHILL, WINSTON (born 1874)', culled from

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the reference books of the past fifty years, might provide great fun and perhaps some uneasy reflection.

It is the 'age of reason' which put the encyclopaedia once more on the map. The insufficiency of the Seven Liberal Arts to encompass the new learning is very amusingly demonstrated in the first book to bear the word 'Cyclopaedia' in its title—Joachim Stergk von Ringelbergh's *Lucubrationes vel potius absolutissima* Κυκλοπαιδεία (1529). Having faithfully run through grammar, dialectics, rhetoric, etc., he ends with a chapter entitled 'Chaos': and every encyclopaedist, bibliographer, librarian, etc., will cordially endorse the choice of this term for the miscellaneous stuff which defies even the subtlest classification.

Francis Bacon's *Novum Organum Scientiarum* (1620) was the first to prove the organic interrelation of all sciences; it did away once and for all with the formalism of Varro. Bacon became the creator of the encyclopaedia on a philosophical basis. But it was France, with its immense pride in the achievements of all the arts and sciences, its polite society of connoisseurs, and the impact of a wholly integrated national civilization, which produced the most famous encyclopaedias of the seventeenth and eighteenth centuries. As in the case of Brunetto Latini, the wish to reach an audience beyond the circle of pure scholars prompted the authors of the era of Louis XIV to write their encyclopaedias in the living language of their own time; and no Latin encyclopaedia has been published since.

For a century, two different types of encyclopaedias appeared side by side, namely, the dictionaries of arts and sciences and historical dictionaries, neither of them as yet aiming at a comprehensive world-picture, but both contributing to a closer approximation of this goal. The two types very soon tended to take over certain features from each other; a tendency which has been visible down to the present. Professed opposition usually ends in the two rivals becoming almost indistinguishable in all essential features.

Antoine Furetière, a member of the Académie Française, published his *Dictionnaire des Arts et Sciences* (1690) in defiance of the Académie's dictionary of the French language. He was expelled from the Académie; but his success caused the Académie to produce a rival publication, Thomas Corneille's *Dictionnaire des Arts et Sciences par M.D.C. de l'Académie Françoise* (2 vols., 1694). The *Lexicon Technicum, or an Universal English Dictionary of the Arts and Sciences*, edited by John Harris, Secretary of the R.S., in 1704, reached its fifth edition in 1736.

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Harris had concentrated largely on mathematics, physics and chemistry, and excluded theology, biography, geography and poetry. Ephraim Chambers in his *Cyclopaedia, or an Universal Dictionary of Art and Sciences* (2 vols., 1728; 2nd ed., 1738) followed him in omitting history, biography and geography, but admitted theology, philosophy, politics and poetry. He introduced the ugly word 'cyclopaedia' into common English usage, from which it has spread to America to become almost the hall-mark of American encyclopaedias. His claim to fame, however, is based on his employing a system of cross-references without which no modern work of reference can be compiled. The excellent quality of his work caused it to be translated into Italian (1748–9) and thus to become the first modern Italian as well as English encyclopaedia; and thoroughly revised English editions, by Abraham Rees, appeared between 1778 and 1791; after which Rees edited *The New Cyclopaedia* (45 vols., 1802–20) as a venture of his own. In fact, it is Ephraim Chambers who originated the idea that encyclopaedias should be vehicles of general instruction, with no particular axe to grind. By reinterpreting the brilliance and learning of his French models in terms of English common sense, he has become the great begetter of the eighteenth-century encyclopaedia; as the nineteenth-century encyclopaedia derived from Friedrich Arnold Brockhaus's Teutonic love of learning and shrewd business capacity.

In Germany, Joh. Theodor Jablonski's *Allgemeines Lexicon der Künste & Wissenschaften* (1721) was superseded by Joh. Heinrich Zedler's *Grosses vollständiges Universal-Lexicon aller Wissenschaften & Künste* (64 vols., 1732–50; suppl. 4 vols., 1751–4), which is still useful to students of the eighteenth century. France produced two outstanding works, namely, Louis Moréri's *Le Grand Dictionnaire Historique* (1674; 20th ed., 1759) and Pierre Bayle's *Dictionnaire Historique et Critique* (1697; Engl. trans. 1709). Moréri has in the long run exercised greater indirect influence than any of his rivals. For his *Dictionnaire* was the first to give pride of place to historical and biographical entries, heretofore and often later on very much neglected. He was also the first to make an encyclopaedia subservient to a sectarian tendency in that his avowed purpose was the defence and vindication of the Roman Church and its teachings. This caused Pierre Bayle to publish his *Dictionnaire* as a counterstroke from the rationalist and anti-clerical camp of the *philosophes*; and as rationalism became the dominant note of eighteenth-century thought, Bayle has completely overshadowed Moréri.

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Two important new features appeared in this competitive struggle. Harris, wanting to describe the advance of his lexicon over his French predecessors, was the first to formulate the contrast between subject-book and word-book; he said: 'That which I have aimed at is to make it a dictionary not only of bare words but things'. He himself, it is true, still supplied more word-explanations than a modern editor would admit, but the way was now clear to keep encyclopaedias and dictionaries apart—a distinction which from the time of Isidore of Seville had not been clearly recognized. However, the Spanish *Enciclopedia Universal Ilustrada Europeo-Americana* is still an amalgamation of the 'Lexicon' and 'Dictionary' types, as it includes a complete dictionary of the Spanish language and its American variants.

Zedler was the first to organize a staff of nine 'Associate Editors', each of whom was in complete charge of a special subject and responsible for consistency and uniform treatment of his subject-matter. Johann Hübner seems to have been the first to employ a large staff of contributors for his *Reales Staats-, Zeitungs- und Conversations-Lexicon* (1704) and *Curieuses & reales Natur-, Kunst-, Berg-, Gewerb- & Handlungslexicon* (1712), both frequently reprinted throughout the eighteenth century (to 1792) and finally submerged in *Brockhaus*.

It is somewhat surprising to find that the most famous of all encyclopaedias, the *Encyclopédie ou Dictionnaire raisonné des Sciences, des Arts et des Métiers* of Diderot, D'Alembert and their twenty-odd contributors, plays only a minor role in the history of encyclopaedias (17 vols. of text, 11 vols. of plates, 1751–65). There is no need to expatiate upon its importance for the history of European thought in the eighteenth century in general and upon its historic role in undermining the *ancien régime* in France in particular. But its success was not due to its novelty or excellence as an encyclopaedia. The only really new feature was the employment of some eminent men of letters as editors and contributors. And whereas the use of first-rate brains as contributors has become the accepted way of compiling a modern encyclopaedia, the placing of encyclopaedias in the charge of outstanding *littérateurs* has always proved a failure. Many of the troubles connected with the chequered history of the *Encyclopédie* are due to the editorial incompetence and indifference of Diderot, who hardly ever read an article supplied by his contributors before it was printed.

The *Encyclopédie* was originally planned as a French edition of Ephraim

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Chambers's *Encyclopaedia*; this was in fact achieved in 1743–5 by John Mills, an Englishman residing in France. It was only quarrels about printing and publishing rights which made the publisher offer the editorship to Diderot, who recommended himself for this job as the editor of the *Dictionnaire Universel de Médicine* (1746–8), a French adaptation of Robert James's *Medical Dictionary* (1743). The principle adopted by the *Encyclopédie*, of guiding opinion rather than giving information, was a step back towards the tendentious productions of Moréri and Bayle, while Ephraim Chambers and his followers had already pointed the way towards the true goal of encyclopaedic works, namely the unbiased summing up of contemporary knowledge. From the encyclopaedic point of view the *Encyclopédie* was barren. This is clearly shown by its immediate successor. Misled by the sensational success of the *Encyclopédie*, the publisher, Pankoucke, launched a kind of super-encyclopaedia under the title *Encyclopédie méthodique ou par ordre de matières*, in 166 volumes of text and fifty-one parts of plates (1781–1832), comprising large portions of the *Encyclopédie*, with Diderot's permission. It is nothing but an unmanageable collection of individual dictionaries: there are no fewer than eighty-eight alphabets and eighty-three indexes!

It is a matter of speculation what the encyclopaedia would have been like which Oliver Goldsmith planned. He had already gained such contributors as Dr. Johnson, Edmund Burke and Sir Joshua Reynolds; but his death and the indifference—or was it prudence?—of the publishers whom he had approached prevented the appearance of the work.

The encyclopaedia which for 150 years was to be the representative of British knowledge in the English-speaking world and beyond originated in Scotland. 'A society of gentlemen in Scotland' appeared as the sponsors of this enterprise in 1768. The main credit, however, is due to the Edinburgh antiquarian and naturalist, William Smellie (1740–95), beside whom the engraver, Andrew Bell (1726–1809), and the printer, Colin Macfarquhar (d. 1793), deserve to be mentioned. The *Encyclopaedia Britannica, or Dictionary of Arts and Sciences*, was the English counterblast to the *Encyclopédie*; that is, at least, the impression the editor of the supplement to the third edition (1801) wished to create when he dedicated it to the King as a means 'to counteract the tendency [of anarchy and atheism] of that pestiferous work'. In reality, the subtitle suggests that the 'society of gentlemen' were indebted as much to Harris and Chambers as to the *société de gens de*

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lettres who signed as sponsors of the *Encyclopédie*. A tendency towards the types of the *dictionnaire historique* and the *Conversations-Lexicon* was even responsible for the departure of the first editor: Smellie refused to edit the second edition (1778–83) because the two owners insisted on including biographies. From the supplement to the fifth edition (1816–24) onward, the *Encyclopaedia Britannica* followed the example of the *Encyclopédie* in appending the signatures of the contributors to articles of original value. They had every reason to vaunt the names of such intellectual giants as Arago, Hazlitt, Malthus, James Mill, Ricardo, Sir Walter Scott. From this time onward it became a custom and one which for a long time gave the *Encyclopaedia Britannica* its singular position to acquire the services of the most eminent British and foreign scholars. There is at least one instance which shows that working for the *Encyclopaedia Britannica* was not void of dangers: William Robertson Smith (1846–94) was dismissed from his Chair of Old Testament Studies at Aberdeen in 1881 for the advanced ideas of biblical criticism which he had contributed and admitted to the ninth edition. Aberdeen's loss was certainly Britain's gain, for the ninth edition of which Smith was the chief editor from 1880 to 1889 has remained unsurpassed as a digest of world-wide scholarship at a given time.

The immediate success of the *Encyclopaedia Britannica* can best be gauged by a brief tabulation of some of the rival enterprises which sprang up in this country during the fifty years after its first publication:

Encyclopaedia Londinensis (ed. J. Wilkes, 24 vols., 1797–1829).
English Encyclopaedia (10 vols., 1801).
Edinburgh Encyclopaedia (ed. D. Brewster, 18 vols., 1809–31).
British Encyclopaedia (ed. W. Nicholson, 6 vols., 1809).
Imperial Encyclopaedia (ed. W. M. Johnson and T. Exley, 4 vols., 1809–14).
Pantologia (ed. J. M. Good and others, 12 vols., 1813).
Encyclopaedia Edinensis (ed. J. Millar, 6 vols., 1816).
Encyclopaedia Perthensis (23 vols., 1816).
Encyclopaedia Metropolitana (ed. E. Smedley and H. J. Rose, 30 vols., 1817–45).
Modern Encyclopaedia (ed. Burrow, 11 vols., 1822).
London Encyclopaedia (22 vols., 1829).

None of these works has gone beyond one edition; nor was any of them worth it. The titles—most of them very good, indeed, from the bookseller's point of view—are their best features. *The New Complete Dictionary of Arts and Sciences*

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(2 vols., n.d.), edited by Erasmus Middleton (1739–1805) and 'other gentlemen' is worth noting as an attempt to produce a dictionary to end dictionaries. In it, so the editors assert, 'the marrow and quintessence of every other dictionary and work of the kind [has been] preserved, and their superfluities and obscurities entirely omitted'; *Chambers's Encyclopaedia*, the *Encyclopédie* and the *Encyclopaedia Britannica* are specially mentioned as being superseded by the new venture.

Admirable, in parts even brilliant, as the successive editions of the *Encyclopaedia Britannica* were, their uninterrupted successes cannot be explained without giving due acknowledgement to the publishers who for a hundred years took an active interest in the work. Of the first two proprietors, Bell contributed the engravings, Macfarquhar acted as editor of the third edition; after Bell's death, Archibald Constable acquired control, and the introduction of famous writers, most of whom were his personal friends, was no doubt due to his influence. After his bankruptcy in 1826, the *Encyclopaedia Britannica* was bought by a consortium of which Adam Black (1784–1874) was one. He soon became the sole proprietor, and the seventh, eighth and ninth editions appeared under the imprint of A. & C. Black. The inroad of the American buccaneers, Horace Hooper and W. M. Jackson, in 1897 led to a dazzling upsurge of the *Encyclopaedia Britannica*: its tenth and eleventh editions were connected with *The Times* newspaper and the Cambridge University Press; two successive foreign editors of *The Times* and the President of Yale University appeared on the title-page; and the sales on both sides of the Atlantic outstripped anything thought possible in the book market.

Two features of great merit must be attributed to the hectic activities of Hooper and to the remarkable editorial capacity of Hugh Chisholm (1866–1924), editor of the tenth, eleventh and twelfth editions, from 1900 to 1922: the twenty-nine volumes of the eleventh edition could be brought out practically simultaneously within a few months (1910–11); and this edition was adorned by what may fairly be described as the best index of any work of reference.

However, Hooper's stewardship virtually meant the end of the *Encyclopaedia Britannica* of 150 years' fame; just as Hooper, unwittingly and unwillingly, destroyed *The Times* of John Walter II, Barnes and Delane. Hooper, it is true, was full of the educated American's naïve admiration for traditional British 'institutions', such as *The Times* and the *Encyclopaedia Britannica*; but when

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financial difficulties and his early death put the *Encyclopaedia Britannica* in charge of other men, the *Encyclopaedia Britannica* speedily lost its specific character.

As regards its scope, make-up, quality of contributions and production, the *Enciclopedia Italiana* is no doubt the worthiest and in almost every respect superior offspring of the *Encyclopaedia Britannica* type. Even its avowed Fascist tendency is in actual performance limited to very few articles where it can easily be discounted; otherwise it is difficult to imagine that such a galaxy of international scholarship, combined with the most lavish illustrations, can ever again be brought together.

The *Encyclopaedia Britannica* was originally produced by 'gentlemen' and for 'gentlemen' in the strictest eighteenth-century meaning of the term; and it virtually stuck to this interpretation right through the nineteenth century. It was just this timely recognition of the irrevocable passing away of eighteenth-century civilization which inspired the Leipzig publisher Friedrich Arnold Brockhaus to establish a new kind of dictionary. He and his successors several times changed the titles, seeking for an appropriate expression of what they wished to offer; but the terms 'Conversations-Lexicon' and 'für die gebildeten Stände' occur in every edition from 1809 to 1904; until the fifteenth edition (1928–35) proudly called itself *Der Grosse Brockhaus*—the name of the firm having in fact become a trade-mark. The term 'Conversations-Lexicon' was used for the first time as part-title of Johann Hübner's *Reales Staats-, Zeitungs- und Conversations-Lexicon* (1704); it was frequently reissued throughout the eighteenth century and had become so popular that when one Dr. Gotthelf Renatus Löbel (1769–99) wanted to supersede it by a topical work of his own, he adopted the name Conversations-Lexicon. His venture proved a failure; but Brockhaus shrewdly recognized its inherent qualities, bought it up in 1808 and reissued the six volumes under his own imprint in 1809. 'Conversation' in eighteenth-century German means 'good manners', 'polite erudition', and a 'Conversations-Lexicon' was intended to improve general knowledge as a means to gain entry into good society. The 'educated classes', at which Brockhaus aimed, were the *bourgeoisie*, the *tiers état* which had just asserted itself. Spread of knowledge among the rising classes: this was the avowed aim of Brockhaus.

The success of the Brockhaus type of encyclopaedia is easily explained by the fact that both his assumptions proved correct: the middle class was to dominate

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the civilization of the nineteenth century, and the diffusion of knowledge was to be the most cherished slogan of middle-class intellectualism.

How thoroughly the Brockhaus type of encyclopaedia caught on can be seen from the sales figures of *Brockhaus*, and even more from its numberless imitations. The first edition was printed in 1,000 copies; the fifth edition, thoroughly revised, was issued in 12,000 copies in 1818; within three years two reprints of 10,000 each became necessary. Of the seventh edition (1827–30), 26,000 sets were sold; of the eighth, 31,000 (1837–42); 30,000 of the tenth (1851–5); and there were 80,000 subscribers when the first volume of the fifteenth edition came out in 1928.

Among the encyclopaedias which derived directly and legitimately from *Brockhaus*, i.e. by acquiring the copyright, the following may be mentioned: *Encyclopaedia Americana*, ed. Francis Lieber (13 vols., 1829–32); the same name was subsequently used for an entirely new work, which between 1903 and 1928 went through six editions; William & Robert Chambers's *Encyclopædia* (10 vols., 1860–8), of which six editions appeared (the latest in 1923–7); and *Russki Entsiklopedicheski Slovar* (41 vols., 1890–1905).

In addition, all the nineteenth-century encyclopaedias published in Denmark, Sweden, Spain, Hungary, Italy, Poland, the Netherlands and France, were more or less conscious imitations of *Brockhaus*. Of these, Larousse—*Grand Dictionnaire Encyclopédique du XIXe siècle* (15 vols., 1866–76; suppl. 1877, 1887, 1890); *Nouveau Larousse Illustré* (7 vols., 1896–1904); *Larousse du XXe siècle* (1927–33)—has become the epitome of French encyclopaedic activities, to a larger extent than Brockhaus in Germany, as it has been left without serious competitors.

In Germany itself, Brockhaus's great and merited success called into being several rival undertakings, apart from some pirated editions. Two of them have established themselves in the favour of the German-speaking peoples hardly less securely than Brockhaus, without, however, enjoying quite the same prestige.

Herder's Conversations-Lexicon (5 vols., 1853–7) championed the cause of political catholicism, which was very much in the ascendant in the second half of the nineteenth century. In its first edition Herder was aggressively sectarian, and it is an interesting part of the history of German political thought to notice the gradual disappearance of militant catholicism. The latest edition of *Herder* (12 vols. plus atlas, 1931–5) and its successor, the *Schweizer Lexikon* (7 vols., 1945–9), are

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hardly distinguishable from *Brockhaus*; except perhaps in so far as a certain deliberate guidance of the reader has remained a valuable feature, by which to obtain, for example, a definite approach to philosophy or social science.

In fact, the approximation of the originally conservative and catholic Herder to the originally liberal and protestant Brockhaus was mutual. Brockhaus was sharply pulled up when in 1839 Hermann Joseph Meyer brought out the first edition of his *Neues Conversations-Lexicon*. In an interesting preface Meyer stated his aims: 'Since the first appearance of *Brockhaus*,' he admits, 'a Conversations-Lexicon has become a household article'; but, he maintains, none of the existing encyclopaedias actually meets the needs of the public—they are either too learned or too popular, too expensive, appearing over too long a time, and above all they cater for a public brought up on the *moralische Bildung* of the eighteenth century, and neglect the *intellectuelle Bildung* of our own time; in other words, he reproaches Brockhaus and the rest for preferring the humanities to science. In fact, strong emphasis on natural science, geography and engineering were, and have remained, outstanding features of Meyer's lexicon. An almost incredible publishing success rewarded Meyer's firm for thus gauging correctly the prevailing trend of the second half of the nineteenth century. The second edition sold 40,000 sets in 1861–73; the third, 160,000 in 1874–8, and the fourth, 200,000 in 1892; in addition to which shorter editions sold 55,000 sets (2 vols.) in 1888; 70,000 (3 vols.) in 1892–3; and 100,000 (6 vols.) in 1921.

Brockhaus took the cue: subsequent editions gave more space to the sciences; whereas Meyer's later editions paid greater attention to the humanities. And when one compares the inter-war editions of the three German encyclopaedias (*Brockhaus*, fifteenth ed., 20 vols., 1928–35; *Meyer*, seventh ed., 12 vols., 1924–30; *Herder*, fourth ed., 12 vols., 1931–5), four-fifths of their contents and lay-out are more or less identical. But whereas *Brockhaus* and *Herder* had almost completely shed their respective protestant and catholic bias and, in the political field, found common ground in a positive appraisal of democracy, *Meyer* completely abandoned the liberal and progressive outlook of its founder and embraced in 1920 an uncompromising nationalism and in 1933 openly hailed the advent of National Socialism: the firm was liquidated in 1945.

An important problem which editors and publishers of encyclopaedias have to face is what might be called the optimum size of an encyclopaedia. Questions of

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price and library space play a vital part in deciding the number of volumes. As the encyclopaedia must be as comprehensive as possible there has been a general tendency to keep pace with the widening range of knowledge by increasing the number of volumes from edition to edition. The *Encyclopaedia Britannica*, which had started with three volumes, came out in its eleventh edition (1910–11) in twenty-nine volumes; *Brockhaus* rose from six to twenty volumes in its fifteenth edition (1928–35). Even *Chambers's Encyclopædia*, which from the first (1860–8) to the latest edition (1923–7) kept to ten volumes, has now expanded to fifteen volumes (1950).

Libraries of learned institutions, and also Public Libraries, as a rule are not greatly influenced by the size of their acquisitions. They will take in any work they need regardless of the number of volumes and the price. As regards private libraries, the publishers of the eighteenth century could reckon with the libraries of the large country houses and spacious town houses of the well-to-do. This room available for books has been shrinking steadily throughout the nineteenth and twentieth centuries. A modern encyclopaedia has probably to be fitted into a flat of very moderate dimensions. Moreover, while the number of wealthy connoisseurs and book-collectors has been diminishing, absolutely and proportionally, the number of educated or at least potentially educated people has been, and still is, increasing. The advance of democracy in education has made the encyclopaedia, in Garvin's words, 'a habit and a stimulus and a familiar part of the civilized apparatus'.

An all-round consideration of what is desirable and what is feasible in present circumstances will probably regard ten to fifteen volumes as the optimum, from the point of view of the reader who has to buy, store and consult an encyclopaedia.

On the other hand, national likings or prejudices may considerably vary this figure. The famous Chinese encyclopaedia *Ku chin t'u shu chi ch'êng* was published in 5,044 volumes in 1726 and reissued in 1,628 volumes in 1889. Even in Europe there are the Russian encyclopaedia of 1890–1907 with forty-two volumes; the *Bolshaya Sovietskaya Entsiklopedia* of 1928–47 with sixty-five volumes; the *Enciclopedia Italiana* with thirty-six volumes (1929–39) and the Spanish *Enciclopedia universal ilustrada europeo-americana* of 1905–32, based originally on *Meyer*, with seventy-one volumes. The Slav and Mediterranean

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nations seem to be prepared to accept what English, American and Central European publishers would not dare contemplate. In this sphere, Zedler's *Grosses vollständiges Universallexicon aller Wissenschaften und Künste* (64 vols., 1732–50) will probably remain the biggest encyclopaedia ever to be completed. Vincenzo Maria Coronelli's *Biblioteca universale sacroprofana*, planned at forty-five volumes, did not appear beyond its seventh volume (A–Caque, 1701–6); Ersch and Gruber's *Allgemeine Encyclopädie der Wissenschaften und Künste* was abandoned after 167 volumes had appeared (A–Ligatur, O–Phyxios; 1818–89); and Meyer's first attempt of fifty-eight volumes (1839–55) proved a failure so that he had to start afresh on a more modest basis (18 vols., 1857–61).

Saving library space, without actually lowering the price, can be achieved by India paper editions; this has been done in the last edition of the *Encyclopaedia Britannica* and in many other American publications. There are two main drawbacks to this expedient: India paper does not stand up very well to the wear and tear of a book of reference which is consulted more frequently and less patiently than most other books. The choice of paper for a modern encyclopaedia is closely related to the nature of the illustrations. Formerly, wood-engravings and line-blocks could be used on the current text papers of the day. With the advent of illustrations printed by the half-tone, photo offset or photogravure processes, fresh problems of the choice of paper have arisen. Half-tone blocks need a shiny-coated art paper, which greatly adds to the bulk and weight of a book, whilst photo offset and gravure have their special requirements which do not always enhance the letterpress. The illustrations of most encyclopaedias are a mixture of two or more processes. The line-block remains most suitable for geographical and geological features, mathematical charts, architectural plans, anatomical designs and the like.

The number and quality of even artistically unsatisfactory illustrations—and much more so the addition of art-paper plates, especially coloured ones—cannot, of course, be dissociated from the question of pricing: a thorny problem about which no generalization is possible. It would seem, however, that something like 25s. to 30s. (pre-devaluation sterling) or its equivalent in other currencies, can be considered the average net price per volume of all the standard encyclopaedias.

The proportion of space which is to be allotted to the various branches of science and learning, and the length of each article within each of these divisions

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are two points of great concern. It is a somewhat surprising fact that in the field of the natural sciences the very extension of knowledge has permitted an increasing conciseness in the treatment of theory. When the fundamental nature of matter is being considered the distinction between physics and chemistry disappears. Moreover the scientific 'laws' tend to become more compact as they pass from the initial stage, when they are little more than classifications of experimental observations, to the status of fully understood mathematical relationships. Relationships between them appear and two or more 'laws' merge into one which is more universal. The space needed for a theoretical treatment of natural science increases but little, therefore, compared with the rapid increase in fundamental scientific knowledge. The same does not apply, of course, to applied science or technology, and any attempt to cover this in as much detail as was formerly customary would result in its occupying a far larger proportion of the space. A rough estimate would allot about seventy per cent to the humanities and thirty per cent to the sciences in order to establish a fair equilibrium. However, even the most careful plan is subject to last-minute alterations. When an encyclopaedia is published in instalments, the later volumes will always contain items which were certainly not included in the original schedule. An example which reflects high credit on the editor's ingenuity is to be found in the first volume of the *Schweizer Lexikon*, which came out in the autumn of 1945. Look up 'Atom bomb' and you will see that the leads have been deleted from the column so as to gain an additional line for 'Atom bomb, see Nuclear Physics'!

The final revision of the word-list of any encyclopaedia, whether published at intervals like the *Swiss Lexicon*, or all at once like *Chambers's Encyclopædia*, starts with the letter A, that is to say at a time when the editor has still a reserve fund of unallocated words to spend and is not yet harassed by the printer's time-table and the chief cashier's balance sheet. The human failing of letting the devil take the hindmost has therefore led to a curious distortion in the distribution of the alphabet. The most remarkable example is the *Grande Encyclopédie* of Marcelin Berthelot (31 vols., 1885–1901), in which the letters A to M occupy twenty-four volumes, with the rest of the alphabet condensed in seven volumes. But even works of sounder proportion show an unmistakable preponderance of the first five or six letters of the alphabet over the rest.

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Within each section, one has to decide between a small number of comprehensive articles supplemented by a number of subsidiary items including biographies, and the splitting up into a larger number of medium-sized articles; in other words, to strike a balance between the systematical and the analytical types of encyclopaedias. It seems, on the whole, that the Anglo-Saxon public have a preference for fewer and longer contributions whereas Continental readers prefer a larger number of briefer items. The Anglo-Saxon method, followed by the *Encyclopaedia Britannica* and *The New Chambers's Encyclopædia*, makes almost indispensable the addition of an index volume—which destroys one of the basic advantages of an alphabetic encyclopaedia, that of a single alphabet. On the other hand, if people will look up the index first—and they should do so when there is one—they may get a more comprehensive idea of the real and potential ramifications of the subject they seek information about.

This is connected with the question of the immediate purpose for which an encyclopaedia is consulted—for consecutive study or for casual reference. Most people will probably use their encyclopaedia for both. What they are entitled to expect is to find their subject as effortlessly as possible—whether it be a long disquisition on vocational training or a brief checking of the day of the battle of Hastings. The pleasant combination of instruction and entertainment, which characterizes so many eighteenth- and nineteenth-century encyclopaedias, has almost completely disappeared. It is perhaps a pity that contributors to modern encyclopaedias are no longer permitted to insert entries like the article on Bonaparte written by Pierre Athanase Larousse for his *Grand Dictionnaire*:

> Bonaparte, le nom le plus grand, le plus glorieux, le plus éclatant de l'histoire, sans en excepter celui de Napoléon; général de la République Française, né à Ajaccio (Corse) le 15 août 1769, mort au château de Saint-Cloud, près de Paris, le 18 brumaire, an VIII de la République Française.

The choice of appropriate headings is easier in theory than in practice, and many compromises have to be made between accuracy, convenience and common sense. A compromise usually means a cross-reference; and the editor must only be watchful lest the item referred to is not shifted or omitted at some later stage while the cross-reference remains—a desolate pointer into the void.

There are also different views regarding the signing or anonymity of the

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contributions. The Continental encyclopaedias have always maintained the solemn anonymity which, in this country, has been the distinction of *The Times* newspaper; assuming—and with good reasons—that the trade-mark 'Brockhaus' or 'Larousse' is in itself sufficient guarantee of the quality.

As regards the choice of the responsible editor on whom, after all, the success or failure of the enterprise is largely dependent, a bit of shrewd advice can be found in the preface of the *Columbia Encyclopaedia* (1935): 'The rule for preparing a reference work is: Find the right woman and do what she says'. It would seem that the publishers of *The New Chambers's Encyclopædia* have greatly profited by taking this hint and entrusting the English standard encyclopaedia to a graduate of Girton College, Cambridge.

In general, modern encyclopaedists are unanimous in their aims however much their methods may diverge. It seems to be agreed that an encyclopaedia must be accurate, authoritative, up to date and relatively compact, that it must be impartial and at the same time stimulating, and that withal it must be a work of collective and co-operative scholarship. What Sir Henry Dale, on the occasion of the inauguration of *The New Chambers's Encyclopædia*, said with special reference to the problems of current scientific thought and knowledge, may perhaps, in a wider sense, be applied to the modern encyclopaedia as a whole: It is an institution 'not merely for our interest and our wonder, but as a real necessity of ordinary civilized life'.

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DRAWINGS BY MARINO MARINI

By

JOHN BERGER

WHEN a writer sees or hears something that strikes him as interesting he jots it down in his note-book. These notes are not in themselves interesting to the layman. They simply allow him to see how a particular writer collects his raw material. It is quite different, however, when the writer notes down an aphorism, an image, or phrase that has occurred to him. These are often startling and interesting in themselves. Such sentences or phrases usually come to the writer when he is casually or deliberately re-creating an experience in his imagination, not when he is actually faced with it. He requires time to discover what is significant for his purpose and what he is able to discard—as it takes time to discover the basic motif of a complicated repeating pattern. The amount of time it takes him is perhaps an indication of his maturity as an artist.

A painter or sculptor makes drawings in exactly the same way. Looking at the later drawings of Rembrandt it is impossible to guess whether he was working from a model or from imagination, because he was immediately able to turn whatever he saw into a Rembrandt. Only a few of his early drawings are mere notes of reference.

The drawings reproduced here by Marino Marini are drawings of imagination, not simply notes of immediate observations. I think it is possible that in one or two of these drawings Marini worked from a model. If he did, it is a sign of his maturity as an artist that they appear satisfying and interesting in themselves and are not just memoranda. They may indeed make us anxious to see some of his sculpture but that is only because they have aroused an appetite in us for his work.

Marino Marini was born in 1901 near Florence and now works in Milan. His reputation as a sculptor is spreading throughout Europe and America, and it is only because we have had little opportunity of seeing his work that he is comparatively unknown in this country.

To bother overmuch about the influences that an artist has felt is a profitless excuse for not experiencing his work. Marini has obviously studied Italian and

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