

Moor, Martina de, Leigh Shaw-Taylor, and Paul Warde, eds. *The Management of Common Land in North West Europe, c. 1500–1850*. Turnhout, 2002. Collection of chapters on the operation of common rights.

PAUL WARDE

ENCYCLOPEDIAS. See Dictionaries and Encyclopedias.

ENCYCLOPÉDIE. Beginning as a modest business venture, the *Encyclopédie* was planned to be simply a French translation of Ephraim Chambers's *Cyclopaedia*, published in England in 1728. Entrusted to Jean Le Rond d'Alembert (1717–1783) and Denis Diderot (1713–1784), the project quickly took on far vaster proportions, becoming ultimately one of the greatest commercial and intellectual enterprises of early modern French culture.

The encyclopedists' goal was to make available to the greatest number of readers the most complete account possible of all current knowledge. The first volume of the work appeared in Paris in 1751. When the project was completed two decades later, in 1772, the encyclopedists had produced the most massive single reference work in Europe to date. The *Encyclopédie* ran to seventeen folio volumes containing 71,818 articles, eleven folio volumes of 2,885 plates, and five supplemental volumes, published in 1776 and 1777 under editors other than Diderot. Sold by subscription to a readership in France and throughout Europe that totaled at least 4,500 individuals, the *Encyclopédie* was the product of more than 150 collaborators who worked under the sole editorship of Diderot after d'Alembert withdrew from the project in 1758. The *Encyclopédie* met with significant opposition, primarily from the Jesuit order and the antiphilosophie movement. It was placed on the Catholic Church's *Index librorum prohibitorum* (Index of forbidden books), and on two occasions the crown revoked (but soon restored) the work's *privilège* or royal authorization to publish. Five subsequent editions, either reprints or revisions, were produced in Switzerland and Italy prior to the French Revolution of 1789, and roughly half of these 25,000 copies went to readers in France.

In philosophical terms, the *Encyclopédie* reflected the most powerful tenet of the European Enlightenment, the belief in human reason as an individual and innate critical faculty. The world the encyclopedists represented was thoroughly subjected to the rule of reason. It was knowable, able to be ordered and mastered by the rational mind. The *Encyclopédie* thus contributed to consolidating the reformist values of the Enlightenment by testifying to the belief in the progressive and beneficial results of rational inquiry into all sectors of human activity. In the area of technology, the articles and plates devoted to the "mechanical arts"—including the crafts and trades, anatomy and surgery, the exact, natural, and military sciences—provided a remarkably complete account of eighteenth-century French technology, in a style aimed at a relatively broad readership. In this way the *Encyclopédie* spurred the development of French industry, which was lagging behind that of Britain.

The work's full title was *Encyclopédie, ou dictionnaire raisonné des arts, des sciences et des métiers*. As an analytic or descriptive dictionary, it was designed to compile and transmit as complete a version as possible of all existing human knowledge; as an encyclopedia, it was to reveal how that knowledge could be rationally ordered and the interrelations of its various parts displayed. Articles were arranged in alphabetical order, and each article was classified according to the category of knowledge to which it belonged. An extensive cross-reference system made explicit the linkages between articles. These cross-references were often employed to produce a subversive critique of established positions through the ironic juxtaposition of apparently unrelated articles, such as religion and mythology. The article "Aius Locutius," for instance, which deals with a minor Roman god of speech, is referred to in another article on casuistry, which itself is linked to articles on certainty (*certitude*) and moral judgment (*cas de conscience*). This critique was part of the encyclopedists' overarching aim to have their readers think freely, to become "undeceived," as Diderot put it. For him, this critical thinking involved resisting any authority, whether divine or human. Thus, in the area of religion the encyclopedists tirelessly denounced fanaticism in the name of religious tolerance, attacked Christian doctrine and the Catholic Church and its institutions, and presented other

beliefs more favorably. The encyclopedists reorganized the cognitive universe, rejecting the authority of all systems and institutions that claim to deliver up any absolute order of knowledge, and setting in their place more secular, empirical, and arbitrary ones, judged according to the values of technological productivity and social utility.

The best-known major contributors to the project were Diderot himself (with 10,000 articles), Louis de Jaucourt (17,395), d'Alembert (1,600), and Paul Thiry, baron d'Holbach (1723–1789) (425). Other significant contributors included Georges Louis Leclerc de Buffon (1707–1788), Louis-Jean-Marie Daubenton (1716–1800), Charles-Marie de La Condamine (1701–1774), Charles-Pinot Duclos (1704–1772), François Quesnay (1694–1774), Jean-Jacques Rousseau (1712–1778), and Anne Robert Jacques Turgot (1727–1781). Parisians, provincials, and foreigners, the encyclopedists were a heterogeneous group. They were not members of a revolutionary Third Estate, one of the three orders or “estates” that, along with that of the nobility and the clergy, reflected the political division of pre-Revolutionary France. Most were bourgeois, if not by source of income, then by lifestyle and by their conception of property and work. Jurists, doctors, professors, engineers, merchants, manufacturers, specialized technicians, upper civil servants, military officers, and philosophes, the encyclopedists played important roles in economic, cultural, and political institutions, from which they derived material benefits and prestige. This situation also allowed them a certain independence, both economic and intellectual, making it possible for them to imagine and promote other ways of thinking. Although the encyclopedists criticized arbitrary state power, they did not question the monarchical system.

See also Alembert, Jean Le Rond d'; Buffon, Georges Louis Leclerc; Diderot, Denis; Dissemination of Knowledge; Enlightenment; Holbach, Paul Thiry, baron d'; Index of Prohibited Books; Philosophes; Rousseau, Jean-Jacques.

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ENGINEERING

This entry contains two subentries:

CIVIL
MILITARY

CIVIL

Civil engineering, like military engineering, emerged in large part from the employments of Renaissance architects. Many Renaissance cities and regional princes engaged an architect-engineer to oversee the construction of all public works, including defensive structures, bridges, and maintenance of roads and waterways. Well into the eighteenth century, a number of engineers maintained versatile skills in both military and civil engineering, although men of more specialized backgrounds, such as surveyors, millwrights, and drainage engineers, always added expertise in the construction of public works and often fashioned themselves more broadly as engineers. Mathematicians, too, consulted on engineering works and helped develop the relationship between engineering and the emerging sciences of mechanics and hydrology. The rise of absolutism combined with growing capital interests to fund a broad range of city-planning, communica-