

THE *ENCYCLOPAEDIA*: A COLLECTIVE WORK AND LIVING HERITAGES

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Part 1 – The *Encyclopaedia*, a collective work

Before the *Encyclopaedia*, authors of encyclopaedic works were essentially isolated, copying books, treatises, compiling second-hand knowledge. The *Encyclopaedia* was a collective work, which was a significant innovation. It used as much as possible scientists themselves, in other words living knowledge, thanks to which scientific news and its controversies spanned the books in many fields.

Who were these scholars? Many scholarly experts participated in the *Encyclopaedia* adventure. D'Alembert was responsible for the mathematical part, geometry, optics, physics, mechanics and astronomy. The anatomist Tarin and surgeon Louis handled their disciplines. Daubenton dealt with natural history, Jean-Jacques Rousseau, musician, with music, Venel with chemistry, the architect Blondel, with architecture, Marmontel with literature, the great grammarian Dumarsais with general grammar, the scholar d'Holbach with mineralogy, Voltaire with history and letters, not to mention Montesquieu, La Condamine, St. Lambert, Turgot, Quesnay, and finally Diderot, one of the greatest writers of his time, took care of defining the words of French language. Please read the "Delicious" or "Freshness" articles.

As for craftsmen, we can mention Goussier, watchmakers Jean-Baptiste Leroy, Berthoud, altogether nearly 200 names of collaborators. We can find in the *Encyclopaedia* articles infused by current knowledge on medicine, chemistry, mathematics, grammar, astronomy, etc. And it is because the scientists or craftsmen themselves wrote them.

Part 2 – The *Encyclopaedia* and living heritages

Here are some examples of these living knowledge in medicine, physics, chemistry, veterinary medicine, as can be found in the *Encyclopaedia*. Let's start with medicine. In the middle of the 18th century, an innovation of great significance was inoculation, the ancestor of what we call vaccination. Let us remember that smallpox caused thousands of victims each year in Europe. And it was only at the beginning of the 18th century that the first and tentative inoculations or vaccines against smallpox were used in England. The *Encyclopaedia* gave floor to the great Genevan doctor Théodore Tronchin, inoculator himself, who had just inoculated the Duke of Orleans's children, entrusting him with writing the great article "Inoculation", advocating for vaccination.

Let's talk about research on electricity. This is an area that was still largely enigmatic at the time. Many Encyclopaedists were interested in it. Jean-Baptiste Le Roy, who was one of the great names of electricity in the 18th century, wrote the article "Coup foudroyant", in which he provided detailed explanations of the phenomenon we now call electrocution. Here is the electrometer, a machine invented by D'Arcy and Le Roy to measure electricity. Similarly, Louis Guillaume Le Monnier took stock of the most recent experiments on the speed of electricity and told in detail the experiments he himself had conducted on how what he called the "electric virtue" circulates. Having used as a

conductor a wire 2000 toises long, about 4 km or 2.5 miles, he concluded that the propagation of electricity runs at a prodigious speed and is almost infinite.

In chemistry, the encyclopaedic years are still far from the great revolution that will be due to Antoine Lavoisier at the end of the 18th century. But Doctor Gabriel François Venel, chemist and author of the article "Chemistry", crossed an important threshold in the *Encyclopaedia*. He defended the autonomy of chemistry regarding to other sciences, and above all with regard to physics, to which it was hitherto bound, if not subjected, as being the "physics of small bodies". Venel recognised chemistry's ability to analyse the nature of matter. He thus established chemistry's scientific legitimacy as a science in its own right and underlined its universal and immediate utility. "The glass industry, he wrote, the porcelain manufactory, the art of enamels, pyrotechnics, or the art of fireworks, the tannery, the manufacture of soap, the art of varnish, the baking art, panificium, cooking, etc. are all-chemical arts."

On another note, what we call veterinary medicine was almost unknown in the 18th century. But in this case again, the *Encyclopaedia* prepared the ground for a new science. From 1755 onwards, many articles written by Claude Bourgelat, were devoted to horse medicine, hippiatry. It should be recalled that the use of horses was then the only means of locomotion apart from walking. However, incessant wars and military campaigns exhausted the population of horses, hence the importance of knowing how to preserve their health. After the horses, Bourgelat extended his action to other animals. And it was at the initiative of this Encyclopaedist that was created in Lyon in 1761 the first veterinary school in the world.

In conclusion, we were able to discover some of the living heritages that form the *Encyclopaedia*, this huge collective work. The great scientists and practitioners of the 18th century writing themselves articles about their science gave the *Encyclopaedia* its character of scientific actuality.