

When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution, 1700–1850. By *Daniel Headrick*. New York: Oxford University Press, 2000. 256 pp. Maps, figures, bibliography, index. Cloth, \$35.00; paper, \$19.95. ISBN: cloth 0-195-13597-0; paper 0-195-15373-1.

Reviewed by Catherine Bertho Lavenir

“Technologies of Knowledge,” the subtitle of Daniel Headrick’s study, precisely describes the intention of his book, *When Information Came of Age*: “[to show] how, between 1700 and 1850, scholars, scientists and administrators forged tools in order to be able to take the measure of reality, write descriptions of the world both natural and social, and communicate the results to an elite of learned men.” Headrick joins for consideration elements that are usually examined separately. The first chapters, grouped under the heading “Organizing Information,” are devoted to the history of classifications, such as the taxonomies and nomenclatures in botany, chemistry, and zoology that Carl Linnaeus, Jean-Baptiste Lamarck, and Antoine-Laurent de Lavoisier proposed during the last decades of the eighteenth century; the second section tells the story of “intellectual tools,” such as cartography (developed in France during the eighteenth century under the supervision of the Caselli family) and statistics (notably the medical surveys conducted in England at the beginning of the Victorian era). Headrick demonstrates how the use of statistics is related to the diffusion of graphs as a means of understanding and controlling the society, and he shows how maps became more useful as the ability to represent topography emerged. The third section, “Storing Information,” examines how encyclopedias and dictionaries progressively gain efficiency when arranged in alphabetical order, allowing the reader to find answers quickly. The final chapter considers the postal system and the first optical telegraph networks (such as the Chappe telegraph in France or naval signaling in England) as tools for quick and efficient communication.

The book’s investigations, which place in the Europe of the Enlightenment, are concerned essentially with Great Britain and France, and only occasionally with Germany, Italy, Spain, Sweden, or the United States. Headrick largely consulted British and French publications. Curiously, Great Britain does not seem to have surpassed France in all areas: the history of cartography and statistics, for example, shows that if it was important to be a naval power (like Great Britain), to be productive in naval cartography it was just as important to have, as France did, a centralized state able to finance long-term scientific institutions and major research. Scientific knowledge of the period emerged in each European country in direct relation to events

unfolding there. Headrick reminds us, by example, of the connection between industrialization, urbanization, and the development of medical statistics in Great Britain; he explains also the link that has existed in France since 1789 between the necessity of asserting a new political order and the expansion of general statistics. Despite the very different strategic necessities propelling each country, there are surprising parallels in how they developed “the technologies of knowledge.” The same can be said of cartography, of dictionaries, or even of nonelectric telegraphy, which all were developed close to the same time in most major European countries, but for different, specific reasons and in various forms.

In order to draw these interesting historical comparisons, Headrick relies on a number of academic works. One could say “classic,” because most of them—often the best ones in their field (i.e., Numa Broc *La géographie des philosophes* [The geography of the philosophers], 1975, quoted on page 135, or Jacques and Michel Dupâquier, *Histoire de la démographie* [The history of demography] 1985, quoted on page 90) were published fifteen or twenty years ago. He also offers well-chosen excerpts and illustrations from the original books of Lavoisier, Linnaeus, and Lamark. His bibliography is valuable for the student but does not contain anything new for the specialist. For this reason, the book will interest the reader who is less acquainted with a particular field. In any case, who can be a specialist in the number of areas covered in this book? The writing is plain and efficient, sticking to facts rather than launching into interpretation.

The intellectual project of the book seems to be situated in the tradition once inaugurated by Michel Foucault with *Les mots et les choses* [The order of things] (1966) and developed during the last decades by the “new” history of science, which examines the categories of knowledge, showing how they have been constructed historically and explaining the political, economic, and strategic forces that have shaped them. Headrick is a specialist in both the history of techniques and the history of society. In his first book, *Tools of Empire*, he explained how technology figured in the process of colonization during the nineteenth century and showed how techniques like steam navigation and electric telegraphy were connected to the political and strategic expansion of western societies. In this, his latest, book, he shows how the transformations of the technologies (both “hard” and “soft”) of storage, organization, and diffusion of knowledge have played a strategic role during the age of Enlightenment and the subsequent industrial and political revolution that took place in Europe at the very end of the eighteenth century and the beginning of the nineteenth. These stories of maps, graphs, and encyclopedias reveal how new intellectual questions emerge, and how some social groups are so constituted that they share the same knowledge, values, and power. Headrick’s study

demonstrates the value of studying the technologies of knowledge while situating them on the border between intellectual history and social history.

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