Peter Harrison; Ronald L. Numbers; Michael H. Shank, eds. *Wrestling with Nature: From Omens to Science.*

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articles covering natural knowledge in the Enlightenment, the nineteenth century, and the twentieth century. But the editors perhaps realized that they would have to divide these later periods over an increasingly unwieldy number of chapters: chemistry and geology, for example, as well as natural history, to say nothing of mechanics, electricity, and so forth.

Instead, the editors changed tack. Chapters 8–14 offer surveys of a different kind. Each of these is concerned with ways in which “science,” if I may be allowed to hyponstsize for a moment, drew boundaries around its territory or separated itself from other ways of understanding or manipulating the natural world. So, our headings are now “Science and Medicine” (Ronald L. Numbers), “Science and Technology” (Ronald R. Kline), “Science and Religion” (Jon H. Roberts), “Science, Pseudoscience, and Science Falsely So-Called” (Numbers again, with Daniel P. Thurs), along with one piece that might have been called “Science and Philosophy” but is in fact entitled “Scientific Methods” (Thurs again). These are supplemented by two slightly different but no less useful surveys: Bernard Lightman on “Science and the Public” and David N. Livingstone on “Science and Place.” It seems fair to say that the main chronological focus of these surveys in the second half of the book is the nineteenth century. Natural philosophy (admittedly not exactly science) and medicine had been seen as “sisters” since the time of Galen (second century A.D.), and so Numbers might have spent longer than four of his seventeen pages covering the period before the nineteenth century. Similarly, there is much to be said about premodern concerns with the relations between natural philosophy and how artificial machines exploit natural effects, but Kline begins his survey of “boundary work” between pure and applied science in the late nineteenth century.

In spite of this odd arrangement, however, *Wrestling with Nature* remains an excellent and highly useful book. Each of the articles would prove highly useful on student reading lists—and even more advanced historians, seeking to familiarize themselves with an unfamiliar period or topic, will benefit greatly from them. For me, Rochberg’s introduction to natural knowledge in ancient Mesopotamia seemed to take too much for granted (but this might simply have been because my ignorance of this period is truly abysmal). She makes it clear that Babylonian astronomers observed the positions of the planets in relation to the zodiac, but there is no discussion of whether they therefore had a picture of the structure of the cosmos. Presumably they knew that an eclipse of the
The laboratory has been studied intensively as the space of a carefully orchestrated articulation of all kinds of human and nonhuman actors, instruments, technologies, and practices. With this move toward microhistories of scientific practices, the scope of analysis has also widened, by questioning the emergence and transformation of disciplinary boundaries, by investigating the relations between science and other knowledge-related practices such as art or literature, or by focusing on the circulation of knowledge inside and outside of scientific arenas. The volumes from the series under review, the product of a collaborative research project at the Max Planck Institute for History of Science in Berlin and the Max Planck Society’s Institute for Art History in Florence, take this double move one step further by suggesting the investigation of notational practices such as writing, sketching, and drafting as the most mundane but still knowledge-centered practices—the transdisciplinary infrastructure of knowledge in the making. Christoph Hoffmann, one of the two directors of the research project and now a professor of science studies in Lucerne, opens the series with a superb outline of the research agenda: Writing and drawing do not operate as specific methods or technologies but as more formal procedures, guiding the coming into being of epistemic things as habituated routines, temporal structures, or organizational arrangements. Such rules are certainly at the disposal of the actors, and a good deal of training goes into their successful application; the results they yield, however, escape any intentionality—which exactly describes their epistemic dimension.

Daten sichern: Schreiben und Zeichnen als Verfahren der Aufzeichnung, Volume 1 of this four-volume set (Vol. 4, Welten schaffen: Zeichnen und Schreiben als Verfahren der Konstruktion, is not yet available), pursues the project’s agenda in impressive breadth, with examples ranging from astronomical and biological drawings to philosophical manuscripts, art historical notes, and outlines for literary works; but its results remain somewhat ambivalent. Omar Nasim, for example, gives a wonderfully detailed account of the sophisticated arrangements in Lord Rosse’s team for the drawing of stellar nebulae with the help of the “monster of Parsonstown,” a gigantic telescope. The essay, however, does not fully succeed in convincing the reader of the historiographical significance of its analysis. Perhaps Nasim felt similarly; in any case, he has contributed a more powerful essay to the third volume, where he describes how such drawing practices turned a well-known, though opaque, astronomical entity in