place in scholarship equal to 'astronomy' and 'medicine'" (p. 424). Philip Thibodeau ("Traditionalism and Originality in Roman Science") emphasizes the importance of the devotion to ancestors as a central feature of Roman culture that set it apart from the Greek tradition, with its incessant competitiveness, and explores how this feature led Roman intellectuals to obscure their originality and to ascribe their ideas to the most authoritative thinkers of the past. Kyle Fraser ("Distilling Nature's Secrets: The Sacred Art of Alchemy") challenges the commonplace image of Greco-Egyptian alchemy as an incoherent amalgam of heterogeneous elements and an irrational pseudoscience, conversely stressing its creativity in combining native Egyptian ideas with Greek philosophical concepts and technical innovativeness. Alain Bernard argues that Greek mathematics and astronomy of late antiquity, rather than being entirely "decadent," was important in laying the foundation for cultural legitimation of mathematical practice as a field of intellectual endeavor, "which paved the way for the outburst of physical mathematics in the Renaissance period" (p. 890).

On the whole, *The Oxford Handbook of Science and Medicine in the Classical World* is probably the most up-to-date and comprehensive guide to ancient science and medicine available today, and there is every reason to believe that it will remain an irreplaceable reference for everyone interested in the subject for decades to come.

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Michalis Sialaros (Editor). *Revolutions and Continuity in Greek Mathematics*. (Science, Technology, and Medicine in Ancient Cultures, 8.) x + 391 pp., index. Berlin: De Gruyter, 2018. €129.95 (cloth). ISBN 9783110563658.

This book collects a number of research papers of interest to historians of mathematics and Greek mathematics, as well as scholars of ancient philosophy, that were originally presented at an eponymous conference that took place at Brubeck College, University of London, in May 2014, as well as some essays that were invited by the editor following the conference. The idea of the book, following the conference, is to explore the theme of scientific revolutions, as introduced by Thomas Kuhn, both in the historiography of Greek mathematics and also in the history of Greek mathematics itself. Although not all of the papers directly address the topic of Kuhnian revolutions, many of them treat issues of continuity and discontinuity in the history of mathematics, and others apply various methodologies that might be regarded as revolutionary.

After an introduction by Michalis Sialaros, in which he sets out the historiographic background and raises the question of whether there has been a Kuhnian revolution in the historiography of Greek mathematics, the opening paper by Sabetai Unguru returns to the topic of his famous 1975 essay and argues that we can distinguish between a sort of Platonist-mathematician's view of the history of mathematics, in which there cannot be Kuhnian revolutions, and a historian's view, in which there are such revolutions.

This is followed by an important paper by Jean Christianidis that programmatically sets out a recently developed understanding of Diophantus's *Arithmetica* as a text in premodern algebra—a mathematical tradition identified by Jeffrey Oaks as characteristic of algebraic texts before François Vieté. This paper provides the details for how we can understand Diophantus's work as belonging securely to the early period of this tradition and reflects on the differences in problem-solving practices in premodern and modern, sixteenth- to eighteenth-century, algebra. Courtney Roby gives a linguistic analysis of the registers of discourse in Heron's *Dioptric*, which she shows uses canonical, abstract mathematical expressions blended with an immediate, material terminology that points toward actual surveying practices. Sialaros uses tools of digital humanities to identify a number of parallel passages for the few anecdotes concerning Euclid that allow us to place these stories in a broader narrative context. Claas Lattmann uses Charles Sanders Peirce's semiotic model theory to investigate the function of the diagram in *Elements* I.1—to construct an equilateral triangle.

A valuable paper by Fabio Acerbi addresses, in nearly sixty pages, a seemingly trivial topic, which it would probably not occur to many historians of mathematics even to raise—namely, how Greek mathematicians performed the operation of removing one ratio from another and its relation to the notion of a ratio composed of ratios. What we find is that Greek mathematicians proceeded in ways that we would not have expected—and which no one guessed—without a careful examination of the sources. This is a striking example of the fact—well known to historians of the mathematics of other ancient cultures—that it is impossible to give an accurate or certain account of mathematical practice without access to detailed documentary evidence.

Henry Mendell examines the meager evidence for the types of numbers with which Greeks of the fifth to fourth century B.C.E. were working to argue that the development of the number science that eventually became *Elements* VII–IX arose in a context in which the Greco-Italic numeral system, which lacked fractions, dominated. He then argues that in *Elements* VII we see the later usage of "part" and "parts" developed into proportion theory and, moreover, that the books of number science provide tools for solving certain arithmetic problems. A highly speculative paper by Geoff Lehman and Michael Weinmann seeks to relate mathematical ideas that the authors have (re)constructed based on ratios found in the Parthenon to similar (re)constructions in previous scholarship. Jeffrey Oaks argues, convincingly, that an algebraic method attributed by al-Karahi to Diophantus goes back to a lost book of the latter's *Arithmetica* that had been translated into Arabic but has now been lost from both the Greek and the Arabic transmissions of the text. Gabriele Galluzzo discusses Aristotle's theory of natural numbers in terms of his analysis of matter and form. Vassilis Karasmanis argues that the theory of knowledge that Plato presents in the *Republic* was inspired by mathematical texts—reported to have been written by Plato's contemporaries but which have been lost and about which we have no certain knowledge—that may have derived propositions from assumed starting points. Stelios Negrepontis gives a new reading of Plato's *Theaetetus* 147d3–148b4, using also an anonymous commentary of the Hellenistic period, to arrive at an elaborate (re)construction of a proof, which he attributes to Theaetetus, that the anthyphairesis of two lines commensurable in square only is periodic and then argues that Plato used this mathematical work as a model of epistemology in his *Sophist* and *Statesman*.

Nathan Sidoli

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Adrienne Mayor. *Gods and Robots: Myths, Machines, and Ancient Dreams of Technology*.
304 pp., illus., bibl., index. Princeton, N.J./Oxford: Princeton University Press, 2018.
$29.95 (cloth). ISBN 9780691183510.

Adrienne Mayor has well-nigh written the complete guide to artificial life in Greek mythology. *Gods and Robots* is an original contribution to both the literature on Greek mythology and the history of technology. It is thoroughly researched and well written, valuable for the specialist but definitely interesting for a wide audience.

Artifacts built by the lame god Hephaestus are omnipresent in classical mythology, and the stories in which they play a role enjoyed immense popularity in antiquity. As divine blacksmith, Hephaestus did for the gods everything that a human blacksmith did for humans. Usually the examples appear in isolation,