drawings. In some instances a lone specimen is positioned on a corner of a page, while other pages are dense with multiple views of one or more plants.

Most of the drawings were made in the 1620s, a period when Cesi and the Lincei pursued their investigations of the plant world with the aid of microscopes and magnifying lenses. Cesi was deeply interested in questions of order and classification. Reproduction and generation emerged as key factors in his ideas for ordering plants, and magnification aided him in exploring these aspects of plant anatomy. The drawings provide many examples of seeds, pistils, and stamens drawn in enlarged views. The artists experimented with novel illustrative techniques, such as peeling back petals to expose inner parts or using a dark blue background to make lighter-colored specimens more visible. In many of the drawings, there is a sense of being pulled closer into the plant through each successive stage of observation.

Every item on each page is precisely described in the catalogue entries, expertly written by Brent Elliott and David Pegler, and each annotation is transcribed and translated. These meticulously researched catalogue entries provide modern scientific names for every item and contextual information regarding habitat and taxonomical history that is essential for understanding the drawings. Many of the enlarged views of the reproductive organs of plants appear at first glance as colorful flowers; similarly, some minuscule parts could be mistaken for cut stems of full plants were it not for the identifications provided in the accompanying texts.

Cesi's intentions for these drawings remain unclear, owing, it seems, to the problems posed by the materials that remained unresolved for Cesi himself. Guerrini's essay shows that Cesi's work on a publication concerning plants dated to the 1610s. By 1622, he stated in a letter that he had "almost totally overcome" the "great chaos" of plants, but only a portion of this research was published during his lifetime. Cesi's texts and images remained separate bodies of work, either by intention or through circumstance.

Because the drawings remained unpublished and lack the complete scholarly apparatus that might have thus accompanied them, their place in the history of science remains somewhat ambiguous. In Guerrini's opinion, Cesi's greatest achievement as a botanist was in using the microscope to show the existence of seeds in plants that had not previously been thought to have them; on the other hand, Elliott points out that the eighty-five drawings of algae represent "one of the great missed opportunities in the history of science" (Vol. 1, p. 54), since, although they predate nineteenth-century publications, they lack documentation, names, and comments. Indeed, the importance of the drawings seems to lie more in the insights they provide about ideas and practices in the process of formation—or, as Guerrini aptly describes it, "Cesi's drawings are the raw material of an ongoing botanical research project" (Vol. 1, p. 19).

Janice Neri

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Dmitri Levitin. *Ancient Wisdom in the Age of the New Science: Histories of Philosophy in England, c. 1640–1700.* (Ideas in Context.) xxi + 670 pp., tables, bibl., index. Cambridge: Cambridge University Press, 2015. £89.99 (cloth).

In this impressive book, Dmitri Levitin examines the ways in which seventeenth-century English theologians, clerics, philosophers, scholars, and scientists looked at Egyptian, Hebrew, Greek, and Roman thought. Without engaging with these historical debates, one is sure to misunderstand exactly what scientists of the period thought they were *doing*. Levitin has taken up the challenge of plowing through an incredibly rich body of rebarbative primary Latin sources from all those fields. Levitin is clearly the product of what we might start calling a "school": a type of historiographical analysis practiced to varying extents by Anthony Grafton, Jean-Louis Quantin, Scott Mandelbrote, Jill Kraye, Richard Serjeantson, Kristine Haugen, Henk Jan de Jonge, Nick Hardy, Moti Feingold,

Joanna Weinberg, Wilhelm Schmidt-Biggemann, Martin Mulsow, Noel Malcolm, William Poole, and Eric Jorink, in addition to Christoph Lüthy and Hiro Hirai. Many of these are household names in the history of scholarship rather than the history of science. Building on their approaches, Levitin attempts—with success—to rewrite commonly accepted narratives by some of the most respected doyens in the history of science. At various levels of explicitness, he demolishes claims of such luminaries as Harold Cook, Luc Deitz, Stephen Gaukroger, Jonathan Israel, J. G. A. Pocock, Andrew Pyle, and Adam Sutcliffe. It might irk some readers that Levitin regularly points out that previous commentators "surprisingly" overlooked evidence or have "all misunderstood Cudworth's case," but his confidence is entirely justified.

The more traditional historian of science might most feel on unfamiliar ground in Chapters 2, 3, and 6: why should *Isis* review a book that deals with seventeenth-century discussions about Zoroaster, the rabbinic setting of the Chaldean Oracles, and such questions as whether Pythagoras read the Books of Moses and whether the Egyptians instructed Moses or the other way around? What do histories of the religion of the old Persians and the Platonism of the ante-Nicene Fathers of the Church have to do with science in England during the period under discussion? Levitin hammers home in reply that around 1600 a "Scaliger-Casaubon turn" occurred, placing all seventeenth-century thinkers (clerics and scientists alike) in a "post-Scaligerian" paradigm, infused by the "continental" scholarship of Isaac Casaubon, G. J. Vossius, and Hugo Grotius: a critical philology that was thoroughly historicist, the outcomes of which were accepted by opposing stakeholders.

But what do Boyle and Newton have to do with that? The short answer is: everything. The longer answer is found in Levitin's densely textured paraphrases of dozens of seventeenth-century English thinkers and in his reconstructions of their explicit and, more important, their tacit pedigrees, contextualizing them within the often poorly referenced debates in which they took part. These analyses allow Levitin, for example, to demolish any sense that we can speak of an "early Enlightenment," to argue convincingly that the existence of a group of so-called Cambridge Platonists is a figment of the historiographical imagination, to insist that to conflate Bacon with the empirical Hippocratism of Restoration physicians is to miss out on the rationalist reconfiguration of Hippocrates by learned physicians of the time, to show that the influence of such diverse figures as Daniel Sennert and Denys Petau has hitherto been overlooked, and to assert that an increased popularity in translations of Lucretius was far less significant as a symptom of engagement with ancient matter theory than the often silent exploitation (usually overlooked) of Pierre Gassendi's work. Levitin's thorough contextualization of Restoration natural philosophy even allows him to present a new interpretation of Newton's General Scholium (p. 436).

Levitin demonstrates that a history of "science" is not a particularly helpful point of departure if one wants to understand the intellectual debates conducted by learned men in the seventeenth century. The replacement of theology with the history of theology took place not around 1700, but around 1600. The seventeenth century, therefore, is as much an age of new science as it was of philological historicism and erudite antiquarianism that was not, in fact, "antiquated" but utterly pertinent to the discussions of the day. To fail to recognize this is to fail to understand why Newton invested so much of his time in subjects for which he is not remembered in histories of the "scientific revolution."

There are, of course, downsides to *Ancient Wisdom in the Age of the New Science*. Readers who are unfamiliar with the dozens of less well known figures who played a part in intellectual debates about ecclesiastical history in England will often be disoriented by the twists and turns of the labyrinthine historical constructions, deconstructions, and reconstructions undertaken by seventeenth-century intellectuals, by their biographies and institutional situations, and by Levitin's own fleshing out of both these and the existing historiographical discourses about them. At times, I felt overwhelmed, my energies exhausted. But perhaps that is inevitable if an author attempts to transform the history of science into the history of knowledge: an ambitious revisionist must come to the battlefield heavily armed to have any impact. And impact Levitin has: this *tour de force* blew me away.

Dirk van Miert

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Richard Yeo. *Notebooks, English Virtuosi, and Early Modern Science.* xviii + 398 pp., illus., bibl., index. Chicago/London: University of Chicago Press, 2014. $45 (cloth).

Protagonists of early modern science, such as Francis Bacon, Galileo Galilei, and René Descartes, famously warned against reading books as a way to acquire knowledge. The only book worth reading, they argued, was the book of nature. In spite of this well-known antibookish rhetoric, historians of the book and of early modern science, following the lead of the work of Ann Blair, have pointed out the importance of bookish, humanist methods of reading and knowing for the "new science" of the early modern period. Notebooks and practices of note-taking have been proven essential to the information and knowledge management of states (Jacob Soll) as well as households (Elaine Leong). Precisely for the management of empirical information by physicians (Michael Stolberg) and practical mathematicians and engineers (Alexander Marr), practices of annotating and note-taking have been shown to be important, supplementing earlier work on annotating and note-taking in less empirically minded contexts of learning by, for example, university students.

In the book under review Richard Yeo zooms in on the practices of note-taking in the context of the early Royal Society of London. The historical records of the first members of the Royal Society also allow Yeo to connect their practices of note-taking to their reflections on their practices, especially on the role of memory. The early Royal Society is a particularly significant context to establish the importance of practices of note-taking for the new sciences, given that the English virtuosi in the first decades of the Royal Society attempted to institutionalize a Baconian program. Yeo argues that they consciously adapted earlier practices of commonplacing in order to manage empirical information and knowledge (originating in observation and experiment, but often gained through reading). Given that Bacon and his followers considered notes stable and exact records, observations and experiments had to be recorded in order to compare, evaluate, and test them over the long periods of time required for undertaking Baconian natural history. Moreover, since empirical information consisted of (lots of) particulars and particularities, all this was impossible to memorize but instead had to be noted down. Yeo argues that by the end of the seventeenth century the function of notebooks had changed: "once repositories of the material that individuals sought to memorize, or recollect, they came to be seen as ways of securing and retrieving information that could never be memorized" (p. 68).

The individual chapters analyze the practices of note-taking of prominent members of the early Royal Society. Chapter 2 appropriately, opens with Bacon, who (Yeo argues) became the guide in matters of note-taking for early Royal Society members. Bacon showed them that notebooks could be put in the service of discovery, an essential part of the new empirical sciences. Yeo shows that all the English virtuosi discussed in the book agreed that empirical information could be taken from texts and processed. Samuel Hartlib is the focus of Chapter 4, Robert Boyle of Chapters 5 and 6, John Locke of Chapter 7, and Robert Hooke of Chapter 8. Yeo convincingly argues that Boyle's "empirical attitude" particularly shows in his fear of a premature systematizing of empirical information. The absence of such a system made the problem of memory even more pertinent. In fact, Boyle preferred to make notes on loose sheets of paper. Although this increased the risk that notes would get lost, it also made it easier to move them around and to compare them, a process that was considered a touchstone in the necessarily collaborative and long-term process of writing Baconian natural history. In the two last chapters Yeo moves from Locke's personal note-taking to collective note-taking and Hooke's creation of a dynamic archive for the Royal Society. An institutional archive was a way keeping information that the individual could not memorize, but at the same time members of the early Royal Society did not view institutional archives as a replacement for