

mortality many of the essential functions of life were carried on. “[E]conomic survival outweighed the risk of death,” as the authors say (p. 168).

The phrase “London’s most deadly year” in the sub-title may raise some eyebrows, since other writers have argued that the plague epidemics of 1563, 1603, and 1625 exacted higher mortality rates than that of 1665. The Mootes argue not only that the total mortality of 1665 was higher and so more “deadly,” but that the official 1665 toll was seriously undercounted, and the large numbers of people who fled (perhaps as many as 200,000) should be taken into account when calculating the mortality rate. They estimate that the mortality rate (“officially” about 19 per cent) might have in fact been upwards of 30 per cent of those who remained.

Some responses were widely agreed on. Flight was perhaps the surest, especially for those who could afford it. Many people in both Londons persisted in denial of the presence of plague, a fact that certainly skews contemporary mortality statistics. Isolation and its applications, especially the shutting-up of infected houses, remained a major official response, in addition to religious services and succour. Fumigation, fires, and smoke all combated the fatal “miasma.” Dogs and cats, thought likely contagious agents, were massively slaughtered. But many uncertainties remained as well: the causal roles of miasma and contagion, the efficacy of Galenic, chemical, or mechanical theories and remedies, the uneasy coexistence of beliefs in divine providence and “scientific” explanations, and (perhaps most painful) the doctrine of individual responsibility versus the practical difficulties of life faced by the poor.

The authors deliberately choose narration over analysis, but they at least notice some larger underlying issues. They mediate sensibly between optimistic (largely demographic) and pessimistic views of the epidemic’s effects: their concentration on individuals’ experiences certainly reinforces a pessimistic view of a catastrophe, but that is tempered by their celebration of individual

and collective heroism. Similarly sensible is their discussion, in the epilogue, of the now-contentious identity of the disease itself; they hold with *Yersinia pestis* as the probable causative organism, but present some of the current objections raised against it.

Some other large questions would benefit from further discussion. How—for example—are the higher mortality rates suffered by women to be explained, apart from reference to pregnancy? Why did no further plague epidemics occur in London? (This point is discussed, but rather cursorily.) And what accounts for the 1665 epidemic’s persistent hold on the folk memories and literary traditions of England? Lloyd and Dorothy Moote, by refocusing our attention on the everyday lives and deaths of Londoners in 1665, have, however, provided at least a partial answer to “why did it matter?”

J N Hays,

Loyola University, Chicago

Bruce T Moran, *Andreas Libavius and the transformation of alchemy: separating chemical cultures with polemical fire*, Sagamore Beach, MA, Science History Publications/USA, 2007, pp. viii, 344, \$49.95 (hardback 978-0-88135-395-2).

Andreas Libavius will be familiar to many through the exposition of his views given in Owen Hannaway’s *The chemists and the word: the didactic origins of chemistry* (1975). In that book, Hannaway tellingly juxtaposed the Paracelsian world-view put forward by Oswald Croll with that of Libavius in his *Alchemia* and other writings, and illustrated the extent to which it was Libavius who laid the foundations of academic chemistry in the seventeenth century. In pursuit of his overall theme, Hannaway was necessarily selective in his account of Libavius’ voluminous polemical writings, but Bruce Moran has now provided a much more systematic account of these. Indeed, this book represents something of a labour of love in terms of reconstructing

the erudite Latinate polemical culture of late sixteenth- and early-seventeenth-century Europe: the author deserves considerable gratitude simply for ploughing through these turgid volumes—some of them nearly a thousand pages long—and giving lengthy summaries of them. Moran also quotes from them sufficiently profusely to convey a sense of their vituperative, sometimes downright defamatory, tone; often, he helpfully intersperses his translation with key words from the original. “Oh Hartmann”, Libavius wrote in a characteristic assault on one of his enemies, Johann Hartmann, Professor of *Chymiatría* at the University of Marburg: “yours is a mental darkness [*caligo*] stitched together from falsehoods, deceptions, parables and obscure enigmas ... The schools of the entire world and the new and old wisdom alike are a disgrace to you because they will not be gulped down with your Paracelsian muck [*stercora tua Paracelsica*]” (p. 233).

In the course of the book, Moran gives a helpful account of Libavius’ career and he well brings out his intellectual agenda, particularly his insistence on the need for logical precepts and principles and sound method in chemistry as in other disciplines, and his lifelong ambition to bring together the best of old and new knowledge. Libavius believed strongly in humanist linguistic proficiency and analysis, while equally significant is the strong moral dimension that he perceived in the pursuit of true knowledge: such traits are evidence in all the topics on which he wrote so profusely. The coverage of the book extends even to include the religious polemics in which Libavius engaged, though the bulk of it deals with controversies concerning chemistry, medicine and related fields. In these, Libavius’ appetite for syncretism combined with his polemical zeal sometimes led him to some slightly precarious compromises on which his opponents were able to capitalize. Thus in his wish to ensure that the best of all traditions was incorporated into the chemical discipline to which he aspired, he was happy to accept a good deal of the substance of Paracelsian doctrine, though

not its interpretative superstructure, and he had to indulge in similar convolutions when he intervened in the Parisian medical debates of the early years of the seventeenth century. Moran divides his subject up into a series of chapters of manageable length, and in each he does justice to the complexities of Libavius’ position on the various issues that he confronted, from the role of transmutation to the validity of the weapon salve. He also comments perceptively on the mutual incomprehension of the two sides in some of the disputes in which Libavius was involved. Occasionally his language and vocabulary betray the influence of his subject—as with the strange usage of “paedagogiarch” on p. 35—and the relentless appetite for polemic on the part of his subject at times becomes almost overbearing. But this is nevertheless a valuable book which throws much light on a significant episode in the evolution of ideas on chemistry and related subjects.

Michael Hunter,
Birkbeck, University of London

Lawrence M Principe (ed.), *Chymists and chymistry: studies in the history of alchemy and early modern chemistry*, Philadelphia, Chemical Heritage Foundation and Sagamore Beach, MA, Science History Publications/USA, 2007, pp. xiii, 274, \$45.00 (hardback 978-0-88135-396-9).

This collection of twenty-two essays is based upon a conference held at the Chemical Heritage Foundation in Philadelphia in July 2006, an event featured in the *New York Times*. It covers medieval alchemy to mid-eighteenth century metallurgy, a discipline classified as “chymistry”. “Chymistry” is consciously used by Lawrence Principe to assert that it is an anachronism to make clear distinctions between alchemy and chemistry in this period. For instance, early modern “chymists” attempted to transmute metals into gold, considered an “alchemical” practice, yet additionally performed experiments involving