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existence of Hermes Trismegistus in his *De hermetica Aegyptiorum vetere et Paracelsicorum nova medicina* of 1648. Borrichius pointed to early evidence of chemical processes through biblical citations. Neither did he doubt that Hermes had lived or that he could rightly be called the originator of chemistry. Conring replied to Borrichius in a greatly expanded version of the *De hermetica . . . medicina* in 1669, and Borrichius was to answer this work five years later.

This debate was followed by European scholars through extended reviews both in the *Philosophical Transactions of the Royal Society of London* and the *Journal des Scavans*. Borrichius' *De ortu et progressu chemiae* was chosen by J. J. Manget to open his massive two-volume folio collection of alchemical treatises, the *Bibliotheca chemica curiosa* (1702), and it became a primary source of information for the many eighteenth-century chemists interested in the early history of their science.

Professor Schepelern's lengthy introduction presents the reader with a discussion of the manuscript and previous research based on it. He translates Borrichius' own short autobiography and expands on this to discuss in more detail his teaching and his travels. He has a special interest in the relationship of Borrichius to Steno, who was one of his students, but the point seems somewhat laboured because Steno does not feature prominently in the manuscript. Schepelern is admittedly less interested in the all-pervasive chemical and alchemical references. He believes that it is difficult to grasp their importance and that Borrichius risked his reputation by associating with alchemists. He suggests further that Borrichius was only collecting the raw material of science and that he did not really believe that the base metals could be transmuted to gold. Perhaps Schepelern is correct, but I do not think he is. Rather, I believe that the *Itinerarium* may best be understood in light of the author's ardent interest in chemistry, an interest that is borne out by his defence of the alchemical position on the antiquity of chemistry published shortly after his return to Copenhagen. Thus, while this journal may serve in a larger sense as a valuable source for all those interested in mid-seventeenth-century science, it serves chemical and medical historians best and gives us further documentation of the important role played by the Chemical Philosophy in the period of the Scientific Revolution.

Allen G. Debus
University of Chicago

DONALD R. HOPKINS, *Princes and peasants. Smallpox in history*, Chicago and London, University of Chicago Press, 1983, 8vo, pp. xx, 380, illus., £21.25.

In 1979, the World Health Organization was able to declare the world free of smallpox. It was the first time in history that a major infectious disease had been deliberately eradicated, and the WHO's ten-year campaign had been triumphantly successful, thanks to their powers of organization and to the individual dedication of large numbers of lay and medical staff. One of the physicians closely involved in the programme and still very active in other areas of infectious disease control, Dr Donald R. Hopkins, has managed to find the time to chart the influence of the disease on the history of the world – no mean achievement in any case, and all the more admirable in someone involved in full-time public health work.

Over the years, smallpox has had its share of attention from historians of medicine but, not surprisingly in view of the vastness of the subject, most authors have confined themselves to limited aspects of its complex history. Demographers have been preoccupied with the effects of the major epidemics on population densities, a difficult exercise at the best of times in view of the paucity of reliable mortality statistics available from previous centuries. Although Dr Hopkins takes some account of the impact of smallpox on populations in general, his main concern has been with the results of the ravages of the disease among the rulers of the world, across five continents and more than two millennia. And a very impressive catalogue of devastation and catastrophe it is. Although Queen Elizabeth I of England in 1562 and President Lincoln of the United States three centuries later, fresh from giving his Gettysburg address, both survived with faculties unimpaired, many others did not. Among the reasons for the Hanoverian succession to the throne of England were the inroads made by smallpox among the legitimate Stuart heirs prior to the death of Queen Anne. Elsewhere in Europe the toll of smallpox deaths among the royal families in the seventeenth and eighteenth centuries was equally

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impressive. Spain, Italy, France, Germany, and Sweden all lost reigning monarchs, in the days when monarchs really reigned, to the disease.

Dr Hopkins has not been satisfied with tracing the European history or even the Western history of the disease; he takes in the Asian dimension, and the African one, and details the effects of smallpox on the ruling houses of China and Japan, and among the South American Incas. It is a very impressive compilation, although it inevitably suffers from a superfluity of royal – or ruling – name-dropping and the narrative breaks down slightly in the chapters on other continents when the unfamiliarity of many of the rapid progression of names makes it difficult for the reader to grasp fully the historical context.

It seems ungrateful in the circumstances to single out minor inaccuracies which have crept in, but for the sake of possible future editions an English reviewer cannot pass unopposed the casual comment that Edward Jenner was never “made a member of the Royal Society of Medicine” (p. 80). That Society did not, in fact, see the light of day until 1905 when it was established as an integration of a number of different London medical, pathological, obstetrical, and epidemiological societies. Its main parent body was Medical and Chirurgical Society of London, which was formed in 1805 and of which Jenner was a founder member. By then, he had long been a Fellow of the Royal Society of London; he was, however, never admitted to the Royal College of Physicians.

The present volume is an impressive guide to the influence of one major disease on the working and ruling classes of the world. Dr Hopkins' own close involvement in the eventual eradication of the disease gives him a special insight into many aspects of its history and makes for a very valuable comment on its chequered career. There is an excellent bibliography of nearly 900 books and papers, and Dr Hopkins has made good use of them all. How he ever found the time is hard to understand, but the result is a welcome addition to the smallpox literature.

Lise Wilkinson
Royal Postgraduate Medical School

PHILIP F. REHBOCK, *The philosophical naturalists. Themes in early nineteenth-century British biology*, Madison, Wis., and London, University of Wisconsin Press, 1983, 8vo, pp. xv, 281, illus., £25.50.

Rehbock divides his book into two parts, following the preDarwinians who themselves applied the epithet “philosophic” to two distinct groups – transcendental morphologists and biogeographers. The first part extends the work of Dov Ospovat and surveys the life and publications of a select group of morphologists, primarily Knox, but including also Carpenter, Barry, Roget, and Owen. The second portrays the quite different ecological concerns of Knox's pupil Edward Forbes, whose 1846 “Connexion” essay is the *raison d'être* of this section – an extraordinary essay which Forbes himself teasingly called “a coup d'oeil of the history of the British flora and fauna” (p. 184).

Rehbock gives good account of Knox and his Edinburgh students, Goodsir and the transcendental chemist J. G. MacVicar. He also tackles Knox's career problems and publishing decline, although his bafflement at Knox's waning influence and reliance on medical journals (pp. 54–55) might have been lessened if he had looked at Knox's “savage radicalism” and the primary medical context of higher anatomy in the 1830s. Similarly, Rehbock overstates Roget's and Forbes' roles as metropolitan innovators (pp. 56–57, 70); in fact, rival transcendental anatomies were well established by the mid-1830s among bourgeois reformers and conservative romantics. With his science disconnected from its medico-political base, one gets little feeling for the social functioning of higher anatomy. Yet it is precisely because morphological science was modified for different social ends that it is hazardous to treat British transcendentalism as a single movement “legitimized” by the writings of the Presbyterian minister James M'Cosh (p. 98).

Methodological quibbles aside, for me Rehbock's achievement lies in his elucidation of Forbes' “zoo-geology” and innovative use of palaeofaunal data. Still more did I delight in his investigation of claims that the reputable academic Forbes had actually appropriated part of