

Book Reviews

CHARLES WEBSTER, *From Paracelsus to Newton. Magic and the making of modern science*, (The Eddington Memorial Lectures delivered at Cambridge University, November 1980), Cambridge University Press, 1982, 8vo, pp. xii, 107, illus., £12.50.

Charles Webster has managed to put an astonishing amount of information into these four lectures, and without any loss of clarity or readability. There can be few historians nowadays who would not accept his main thesis, resumed at the end of the first lecture: "there is a risk that science is bearing too much of the explanatory burden with respect to the important issue of the decline of the magical worldview. The dominance of the mechanical philosophy is exaggerated and this construct is handled too simplistically. . . . the worldview of the Scientific Revolution should be viewed as a diverse phenomenon, the result of a dynamic interplay of forces which emanated from many different directions. All of these forces contributed to the process of creativity and change, and none of them deserves to be written off *a priori* as a useless intellectual encumbrance from a discredited magical past."

On the same page (p. 12) Webster acknowledges that many other historians have in recent years adopted this approach to the history of seventeenth-century natural philosophy, and refers the reader to the modern works cited in his footnotes. It is, nevertheless, extremely valuable to have this panorama of the survival of the magical tradition in the seventeenth century written by a historian who is thoroughly at home with the technical details of both applied and theoretical science. For most of those who, during the last twenty years or so, have tried to tackle these problems, such as, for example, some members of the Warburg Institute, have been familiar with one end of the story, the magical worldview, but have been aware of their own ignorance of the history of the exact sciences and of their inability to deal with, especially, the mathematical aspect of scientific thought. In consequence, their accounts of the coexistence and interactions of magical and scientific thought have been vague and uncertain, sometimes too bold and sometimes too timid.

I am doubtful about the wisdom of choosing Paracelsus as the focus of the magical tradition. He is such a difficult writer to understand, so obscure, verbose, and incoherent, that it is impossible to back up an interpretation of his views by quoting him verbatim, and Webster, quite rightly, does not do so. But I do find Webster's account of these views suspiciously reasonable and orderly (the same applies to a brief account of Guillaume Postel as a prophet, pp. 60–61). On the other hand, there can be no doubt about Paracelsus' enormous historical importance, especially as an iconoclastic agent of change, in particular by attacking the orthodox Galenic establishment; and he was above all influential in England, the focus of most of these lectures – here there is an unaccountable gap in the footnotes: the works of Allen G. Debus, the leading authority on the English Paracelsians, are not cited.

Apart from these minor criticisms, I wholeheartedly recommend this remarkably compendious and intelligent book to everyone interested in the history of science. The pages (31–36) on the very gradual decline of astrology are especially valuable, as is the suggestion (p. 60) of making a division within the magical tradition between esoteric and exoteric writers, which culminates in Francis Bacon's attack on the former and his establishment of natural magic or philosophy as a collective, public, and cumulative enterprise.

D. P. Walker
The Warburg Institute

MARK M. RAVITCH, *A century of surgery. The history of the American Surgical Association*, Philadelphia and Toronto, J. B. Lippincott; London, Harper & Row, 1981, 2 vols., 4to, pp. xliii, 817; viii, 818–1613, £135.00 per set.

When examining these two substantial volumes, the reader sympathizes with the author's candid admission in the preface that the work is four times longer than was planned and that it missed the centenary for which it was commissioned. The considerable size of this work is the result of the author's unusual plan in constructing his book. Being fearful of imposing his own judgement on his subject – the history of the American Surgical Association from its origins