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.

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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

in 1880 – he instead decided to give extensive abstracts of the annual proceedings and scientific papers submitted to the Association and given at its meetings. Each of the one hundred meetings has been condensed into about fifteen pages, and not only is a précis of each paper given, but verbatim selections from the discussion are also printed. One interesting device has been used to enliven the layout and relieve the monotonous sequence of meeting after meeting. Each page has a vignette or two, such as an illustration of a surgical procedure or a biography, together with a likeness of one of the members. Taken together, these portraits are a remarkable record, especially as it was insisted that these likenesses should be taken during the man's prime. Such a vast work would be deficient without adequate indexing, and the author has not only given a conventional index of considerable quality but has produced an additional index giving all the references to the entries relevant to the main surgical themes and controversies over the last 100 years.

The result is a remarkable survey of the advance of surgery year by year over its most active century ever. The author's plan in drawing up the book results in the description of the advance of surgery as it really happened and not in the dramatic way it is commonly supposed to happen. New advances are cautiously described by the participants, and only slowly accepted, and major digressions from what is now regarded as orthodoxy were current for surprisingly long periods of time. Thus we read of the slow introduction of Listerism into America, the early days of transfusion, and the news of the new methods in chest or heart surgery or transplantation. The verbatim discussions at the meetings, valuably reported here, show the variety of the responses of the members to these new methods. Ths hostility to histology and pathological examination shown by the early twentieth-century surgeons particularly comes as a surprise, and the members' insistence that clinical assessment of lesions was more important than the histology is faithfully recorded. Neither were all the new ideas correct. The belief in now-discarded diagnoses, such as the "moveable kidney", is described, and the surgeons' preoccupation with the idea of surgical shock as resulting from nerve stimulation is a recurring early theme. New ideas are proposed and abandoned, including the attempt to diagnose perforation of the bowel by hydrogen inflation through the rectum and ignition of the vapour escaping from the wound. Too often the history of medicine and surgery is recorded as a steady progress and an orderly building on success. These volumes are a marvellous record of how change really occurs. The author suggests in the introduction that he may have imposed his own judgement in his selection from the papers presented. However, there is no evidence that he has attempted to rewrite the history from a late twentieth-century perspective and the extracts chosen have a convincing balance.

However, there are disappointments with this great work. The author's self-imposed limitation to restrict himself to displaying extracts from the records of the Association and allowing them to speak for themselves leads to some unfortunate gaps and mysteries. There is at the outset no indication of why the Association was founded at all, and the rather opaque minutes of the first meeting give no indication of why other societies were inadequate or if, indeed, other societies existed. Judging by the number of professors on the membership, it may have started as an academic society, and certainly there are many criticisms of "small town surgeons". The author could let us have a description of the place of the Association in American surgical life and an analysis of the relationship of the surgeons in the universities, teaching hospitals, and private practice. From which of these groups, for instance, did the main surgical innovation in America come from? Other matters in the text seem to invite a brief explanation. There are hints at exclusions of candidates for membership, which are quite rightly not explained in the records of the Association but surely are explicable now. Were there no disputes, feuds, resignations, or martyrdoms? If there were, the author does not pass on details of them. Lastly, there are hints that the Association fell away in popularity towards the centenary, and the reader's curiosity is again aroused but not satisfied.

This work will be the standard source for examining the changes in surgery during the period 1880–1980, a time when America came to dominate the world of surgery. In this period there were many advances that have been described vividly elsewhere. The strength of this book, apart from its minute cataloguing of the events and personalities in the Association, is the

demonstration that surgical innovation was slow and often uncertain when chronicled day by day. It is a pity that the author, having surveyed such vast information and having gained such insight into the realities of innovation, should not have attempted some analysis or synthesis of his material. Perhaps another volume is in preparation: let us hope it is a slimmer one.

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JEAN-PIERRE GOUBERT (editor), *La médicalisation de la société française 1770–1830*, Waterloo, Ontario, Historical Reflections Press, 1982, 8vo, pp. 304, $Cdn.19.00 ($8.00 paperback).

The attraction of this collection of sixteen essays looking chiefly, though not exclusively, at medical developments in France around the turn of the nineteenth century is that – unlike many similar volumes – this one is welded together by a powerful conceptual rivet: the concept of "medicalization". Goubert himself in his introduction clearly expresses his faith both in the historical reality of the phenomenon (the period constitutes for him "la première croisade médicale"), and in the explanatory power of the concept itself; and his collaborators take it up with equal enthusiasm, even in their titles (for example, W. R. Albury writes on 'J. N. Corvisart and the medicalization of life', an elegant essay on the fate of the "healing power of nature", and Jan Brügelmann on 'Observations on the process of medicalization in Germany, 1770–1830, based on medical topographies'). The dividend of the idea is, however, less clear.

We have long been aware, of course, through the work of scholars such as Ackerknecht and Foucault, of the internal transformations of French medicine in this epoch, relating to the "birth of the clinic", the rise of pathology, and the clinical extension of medical technology; and several of these essays elaborate these themes informatively. Lydie Boulle, for example, in her 'La médicalisation des hôpitaux parisiens dans la première moitié du XIX^{e} siècle' effectively charts the spread of the use of diagnostic techniques such as percussion, palpation, and interrogation, and the growing performance of delicate operations such as hysterectomy. Yet even this essay raises doubts about the degree of "medicalization" claimed. Thus the author asserts, as evidence for her case, that the sum total of hospital beds in Paris increased by fifty-four per cent in the first half of the nineteenth century, without noting that this did not greatly outstrip the rate of population rise (it also makes her contention that "mourir chez soi est un luxe de riche" a grotesque exaggeration).

Indeed, the problem with this collection as a whole is that too many authors take "the medicalization of society" as their remit and merely exemplify it with battalions of supporting facts; tables, histograms, charts, and maps, rather than using evidence to subject the concept to critical scrutiny. Yet the events depicted in several of them give us cause to ponder just how little "medicalization" was actually taking place, or enjoying success or having lasting effects. For example, the essay by Bénédicte Dehillerin and Jean-Pierre Goubert, 'A la conquête du monopole pharmaceutique: Le Collège Pharmacie de Paris (1777–1796)', reminds us of the role of the French Revolution precisely as iconoclast – as an anti-professional, anti-corporalist force. Evelyn Bernette Ackerman's 'The activities of a country doctor in New York state: Dr. Elias Cornelius of Somers, 1794–1803' shows that what patients wanted was a reliable fellow as practitioner (even if he also doubled as farmer and tradesman) rather than the man with an array of qualifications. Barbara Tunis's analysis of public vaccination in Canada shows the strength of public opposition to imposed medicalization (the programme lapsed after less than eight years); and Matthew Ramsay's subtle study of the regulation of secret remedies towards the end of the *ancien régime* demonstrates that medical supervision was counter-productive. Far from squashing the vogue for proprietary medicines, it only gave them the seal of approval.

Concepts such as "the medicalization of society" can prove illuminating; but they can easily become blinkers, which concentrate the vision and facilitate qualification only at the cost of blocking out most of the view. It is a pity that this collection misses the opportunity to put the concept to the test and to refine its use.

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