

his astronomy and medicine in the Renaissance. The other contributions range from general assessments of the problems posed by the translation, composition and structure of the *Natural history* (Rottländer and the German “Pliny Translation Group”, Locher), to more specific questions raised by particular areas of research (pharmacy by Scarborough, botany by Morton, zoology by Bodson, mineralogy by Healy, “chemistry” by Greenaway, and astronomy by Pedersen). A paper by Nutton explores Pliny’s often negative attitudes towards doctors and medicine.

The contributions vary in quality, but on the whole the standard is high. Nutton’s piece on Pliny and the doctors is a good account of a difficult and important problem; his endnotes form a valuable bibliographical starting-point for further work. The papers on Pliny’s mineralogy, pharmacology, “chemistry”, zoology, and astronomy, too, are useful and well documented. Casting Pliny in the role of “mineralogist” or “chemist” brings with it certain problems, but put together in one volume, these papers do give a good idea of the tremendous breadth of vision and erudition behind the “twenty thousand facts” which make up the *Natural history*.

It was a little disappointing, given the symposium’s stated pro-Roman bias, that none of the contributors seemed specifically concerned with the problem of Pliny’s place in the Roman encyclopaedic tradition, and what this might have to tell us about the basic motivations behind the *Natural history*. (Several of the papers, notably that of Pedersen on astronomy, give clear but all too brief accounts of the background to the problem.) Pliny’s importance for our knowledge of much of ancient science is undoubted, yet as a source he is exceptionally difficult to use. There is still room for a thorough critical evaluation of his prejudices and practices in adapting the work of his predecessors.

An epigraph from the typographer likens his own job to Pliny’s; a job which involves the laborious, sometimes inaccurate reproduction of the fruits of another’s labour. It is conceivable that the typographer did a better job than Pliny. Certainly, the typographer, Pliny, and all the contributors have done a better job than Croom Helm: the book is poorly produced and overpriced.

J. T. Vallance  
Gonville and Caius College, Cambridge

**BILL LUCKIN**, *Pollution and control: a social history of the Thames in the nineteenth century*, Bristol and Boston, Adam Hilger, 1986, 8vo, pp. x, 198, £22.50.

This is a gallant attempt by Bill Luckin at a new kind of history—the social history of the environment. His book deals with three related areas: the state of the nineteenth-century Thames, water analysis and the debates which surrounded it; the diseases transmitted by Thames water (cholera, diarrhoea, and typhoid); and the legislative and administrative muddles associated with efforts to improve the condition of the river. It is an interesting work. Here for the first time in book form we are taken through the maze of Victorian sanitary and scientific thinking on the subject of polluted water, its treatment, its remedial administration, and its relation to disease.

*Pollution and control* is a pioneering work, and perhaps as a result is not without flaws. The nineteenth-century material on water supply and pollution is vast, and much of it, including many of the scientific debates, is set about with political disagreements and personality clashes, and exceedingly indigestible. Luckin must be congratulated on the determination with which he has worked his way through this material, and reduced it to order. Most pioneering authors have their difficulties, however, and Bill Luckin has his share. Continual methodological reminders suggest methodological insecurity; and his politics also seem confused: he shares the traditional unfavourable view of the water companies and is sympathetic to municipalization, but is nevertheless anxious to avoid being thought Whiggish.

On one level, the book appears intended for an informed audience (the nature of the “traumatic crisis” of the Thames in 1858, for instance, is never explained), on another for the beginner: the biographical appendix includes such celebrities as William Budd and John Simon, but does not include a number of persons who appear regularly in the text but who are less well known to social historians—among them Shirley Murphy, the “eminent” James Dewar, Percy

Frankland, Sims Woodhead, and Edward Klein. Not surprisingly, the attempt to reduce the Victorian ideological maze to order results in omissions: the moral dimension, considered elsewhere by Christopher Hamlin, is lacking; as also is reference to the wider scientific context. Neither Justus von Liebig nor Robert Koch, both influential figures in this context, receives a mention. Part Two, which deals with the main diseases transmitted by the Thames is, says the blurb, "highly original", but, inevitably, much here is predictable; and Luckin's conclusions often simply reinforce points already made by Margaret Pelling in *Cholera, fever and English medicine*. The chapter on diarrhoea does not reduce confusion about the identity of the disease (was it a disease rather than a symptom?), its causation, and path of transmission, which is very far from being exclusively water-related. The third section of the book is the most novel, containing an account of the Thames Conservancy, which Luckin reveals as a wonderfully exclusive and self-sufficient body, and an analysis of why national legislation failed to control river pollution in the nineteenth century.

Despite this book's weaknesses, it should provide a valuable stimulus to debate. Bill Luckin has not been well served by his publisher, however. The index is so perfunctory as to be virtually useless; the print is grey; the lines are too long and too close together; the jacket design is hideous.

Anne Hardy  
Nuffield College, Oxford

W. F. BYNUM, C. LAWRENCE and V. NUTTON, (editors), *The emergence of modern cardiology (Medical History, Supplement no. 5)*, London, Wellcome Institute for the History of Medicine, 1985, 8vo, pp. x, 178, illus., £12.00 (UK)/£16.00 (overseas).

The volume under review deals with the genesis of the cardiologic discipline during the late nineteenth and early twentieth centuries. It examines also, as a subordinate and illustrative theme, a few aspects of present cardiological practice and research. The discussions of physics and physiology are based on work done in almost every country of western Europe and North America, whereas the sociological problems are almost entirely those of Great Britain. Whoever reads each article carefully will find himself well rewarded.

The opening article, the longest in the collection, was written by Christopher Lawrence and considers the "new cardiology" in Britain, 1880–1930. It describes the way in which late-nineteenth-century research in experimental physiology effected a reconstruction of the clinical conceptions of the heart that were held in British medicine during the first three decades of the twentieth century, the new concept being that of the living organ, which was not merely a mechanic's pump but a live muscle. Disease of the heart was not only an alteration in structure but a variable change in function. This led to the recognition of new syndromes, especially in the realm of arrhythmia. The new outlook encountered resistance, and was responsible for important institutional changes. Lawrence's article is an example of excellent historical analysis in the modern style. The developments, arranged in intelligible sequence, repeatedly demonstrate the relation between technical innovations and their social and institutional background.

An essay on "soldier's heart" by J. D. Howell describes the way in which evolving concepts of disease may influence the formation of medical specialties. Soldier's heart, a condition that is now difficult to define satisfactorily, was of high importance to the British Army in World War I. Howell explains the changes from early mechanical concepts of this disease to its redefinition as effort syndrome; this change, from anatomical to dynamic, was consonant with the trends examined by Lawrence.

In discussing the electrocardiograph as a clinical instrument, John Burnett concentrates on the conditions which made the invention possible, emphasis being directed not toward the physician but toward the instrument-maker. He shows that most of the components of the apparatus were recent, and he describes in turn the development of each. He observes that the electrocardiograph is in the category of instruments that were first devised for use in the physical sciences and were applied later to biology. Burnett describes a close and productive relation between industry and science.