

Book Reviews

literature, but also on a detailed survey of the objects on which the literature was based, by a practised histologist familiar with the longer-lasting techniques.

The result is an attractively-produced book containing a wealth of illustrations from a wide range of sources, including pictures of old preparations made through the microscope as well as microtomes in use. Over a thousand literature references are included, making the book a gold-mine for all interested in microscopical history. A full survey of microtechnique before 1830 is given, and the development of the slide from the slider is followed. The technique of mounting in canada balsam was introduced then, providing an enormous potential for the preservation of specimens and their inspection in a cleared state offering enormously enhanced detail.

Works on microtechnique published between 1830 and 1910 are next considered, followed by a long chapter on substances used in the same period. In this chapter the development of infiltration methods is dealt with in detail, including hitherto unreported papers giving much more light on this important process. The author deals not only with the first use of a particular stain or fixing agent, but also with the usage which was to establish the agent's popularity: this treatment extends to the use of particular mixtures and procedures.

Instruments used between 1830 and 1910 are also treated fully. In addition to the microtome itself (for which a thorough, evaluated, survey is provided) slides, covers, and a host of small apparatus are dealt with, giving information on much that has hitherto been quite ignored.

A chapter on commercial mounters from 1800 to 1910 includes much that will interest the collector as well as those having museum collections of preparations in their charge. Specimen preparations are well illustrated so that details of labels can be checked. The development of histology during the nineteenth century is outlined, and there are two detailed indexes.

If a criticism might be made of the book it would be that the final chapter on the inter-relationships of microscopy, microtomy, histology, and medicine is too short: it whets the appetite for more. To have dealt thoroughly with this aspect would have made the book very long, and the whole point of the volume is that it provides the basis from which others will be able to work for a long time to come.

STANLEY JOEL REISER, *Medicine and the reign of technology*, Cambridge University Press, 1978, 8vo, pp. xi, 317, illus., £8.50.

Reviewed by Christopher Lawrence, M.B., Ch.B., M.Sc., Medical Historian to the Wellcome Museum at the Science Museum, London SW7 2DD.

The history of technology as it relates to medicine languishes in an appallingly neglected state. This fact is all the more surprising considering the frequently expressed desire of medical historians to demonstrate the relevance of their discipline. It can hardly be said that the "technological malaise" has circumvented medicine. The profound ethical questions surrounding birth, life, death, and public and private rights, that plague a pluralist society clearly implicate medical technology either as the force that spotlights such issues or the monster that devours them.

In *Medicine and the reign of technology* Stanley Reiser has begun to look at the

Book Reviews

historical dimensions of one of these questions; the implications of instrumental diagnosis. He charts the rise of the major diagnostic instruments of the nineteenth and early twentieth centuries, and chronicles their gradual and not always enthusiastic adoption by the medical profession. He vividly illustrates both the profound diagnostic possibilities of such instruments and the more constant and frighteningly large factor of human fallibility. This latter he does not regard as being circumvented; he makes no plea for bigger and better instruments. What the work lacks is a slightly more suspicious approach to group interests. He makes, for instance, no reference whatsoever to the market relations of medical technology. Who are the manufacturers, and retailers? How is medical technology "sold" to the profession? He sees an obvious relation between technology and medical specialization, yet he does not investigate the possibility that specialists might pursue complex technology to advance their claims. Rather he portrays technology as passively calling forth special skills. Nor does Reiser place his findings in the broader context of industrial society. How important, for instance, is medical technology in removing responsibility and insight from the patient? What is the relation of this to the profession's putative role as a channel of social control? These however are methodological questions. Reiser's work has gone a long way to providing the material that makes it possible to ask them.

GERALD L. GEISON, *Michael Foster and the Cambridge School of Physiology: The scientific enterprise in late Victorian society*, Princeton University Press, 1978, 8vo, pp. xxi, 401, £18.40.

Reviewed by Christopher Lawrence, M.B., Ch.B., M.Sc., Medical Historian to the Wellcome Museum at the Science Museum, London SW7 2DD.

After a slow start in the mid-nineteenth century, English experimental physiology drew level with its continental competitors and perhaps in the photo-finish can be judged to have won. Aspects of this familiar but neglected race have recently received detailed attention from two historians, Richard French and Gerald Geison. French's superb study was, amongst other things, a sympathetic account of the effectual disappearance of the moral issue surrounding vivisection in the face of the interests of the scientific community and such contingencies as the entropic allegations and increasingly crank image of the antivivisectionist lobby.¹ Geison's account of the rise of the Cambridge school sounds a rather different note. His initial chapters are a splendidly lucid narrative of the relations between the institutional framework and substantive content of mid-century physiology with its hinterland of natural theology. The singularity of English medicine appeared to the protagonists of the nascent science of experimental physiology as a check on their prodigy's growth. It is their perspective which Geison adopts, and this is what makes his history both cogent and partial.

Taking his cue from Ravetz's work, and Morrell's study of Liebig's laboratory,²

¹ Richard D. French, *Antivivisection and medical science in Victorian society*, Princeton University Press, 1975.

² Jerome R. Ravetz, *Scientific knowledge and its social problems*, Oxford, Clarendon Press, 1971. J. B. Morrell, 'The chemist breeders: the research schools of Liebig and Thomas Thomson', *Ambix*, 1972, 19: 1-46.