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assessed but on the whole rejected; a aspiration was still abjured a century or so later, coming into more general favour only in the latter half of the nineteenth century.

Dr. Jarcho has made available an admirable review, critical and well documented, of the state of knowledge at the time. Since the understanding of hydrothorax requires an integrated appreciation of the physiology and pathology of the respiratory and circulatory systems, any contemporary account affords insight into the degree of assimilation into clinical concepts and practice of new developments in these areas; in the present treatise, the circulation of the blood, for example, emerges as having had little impact. It is therefore to be hoped that Dr. Jarcho will continue his series of studies on this theme, perhaps through the widely quoted but relatively inaccessible observations of Vieussens and Albertini, to the emergence of modern concepts. Indeed, since Dr. Jarcho himself has so clearly indicated the historical potential of hydrothorax, he has little alternative!

BRYAN GANDEVIA

Addison and the White Corpuscles: an Aspect of Nineteenth-century Biology, by L. J. RATHER, London, Wellcome Institute of the History of Medicine, 1972, pp. x, 236, illus., £3.00.

This remarkable book, Professor Rather relates in his preface, took origin in a lecture given at the Wellcome Institute of the History of Medicine in London. In this he discussed the work of William Addison, particularly in relation to the migration of white blood cells through the intact walls of small blood-vessels into inflamed tissues.

Clearly Professor Rather has now in this book presented some of the fascinating and complex background upon which his lecture was based. However, in doing so the emphasis of the subject has in fact shifted from its focal point of William Addison to a study of an important aspect of the micropathology of inflammation as it evolved during the first half of the nineteenth century. The multitudinous conflicting views of the pathology of inflammation at that time comprise so unwieldy a subject that the ingenious technique of dissecting, isolating and presenting one aspect of it justifies itself by giving a thread upon which to crystallise the story. Told with verve and zest, the story holds our attention to the end and is more reminiscent of the feeling derived from fiction than from a meticulous, carefully balanced account of a complex micropathological evolution of events such as that here presented. This feeling arises from a factor which might at first sight be thought to produce the very opposite effect—Professor Rather's conscientious avoidance of one of 'the besetting sins' of historians of medicine and science in studying, 'past science not on its own terms, but rather as if our present body of knowledge had absolute value.' The avoidance of this sin can only be achieved by the historian's saturation in the ideas of the period about which he is writing. Such saturation, though a joyful experience to a dedicated historian, unhappily but rarely communicates as much joyful appreciation to his readers. Professor Rather has been indubitably successful in leaping this difficult hurdle with his fluent narrative skill. It is significant that he should have chosen to preface his book with a passage from George Eliot's *Middlemarch*. For his book illustrates one of those revisions of explanations 'already vibrating along many currents of the European mind' with which Lydgate was enamoured.

Although the name of Addison is understandably included in the title of the work, it

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is unfortunately open to misunderstanding. For many this name is attached securely to Thomas Addison, William Addison's more famous contemporary at Guy's Hospital, who in fact showed remarkably little interest in white blood corpuscles. More unfortunate perhaps, is the omission of any reference in the title to the theme of inflammation. Though Professor Rather goes to some pains to justify this in his text, nevertheless inflammation does form the main theme of the events described.

Most descriptions of the pathology of inflammation in the first half of the nineteenth century have a very different structure and content from the picture given here. Such studies all made as their point of departure the pain, redness, heat and swelling which had provided its cardinal features since the days of Celsus. Accordingly, the different concepts stressed the importance of the nervous, vascular, chemical or nutritional aspects of the process. These factors in their turn were differently emphasized according to the mechanistic or vitalistic bias of the observers. Theories emphasizing the 'dolor' involved the nervous system, stressing the importance of 'irritability' of the tissues or vessels involved producing pain in the syndrome. They received short shrift in favour of the 'rubor' induced by blood flow, a phenomenon more accessible to the microscope. The whole problem took on a new look after 1830 when the achromatic microscope focussed observations on to the cellular aspects of the process. But until Ehrlich produced in 1877 his specific methods of staining, the part played by different varieties of leucocytes presented a confused insoluble problem. William Addison was concerned with this confused interim period before staining techniques were available for identifying leucocytes.

Professor Rather traces the sequence of Addison's publications from 1840 when he found increased numbers of leucocytes in the inflammatory crust or buffy coat of blood taken from patients with inflammatory diseases. Microscopic examination of the capillary vessels led him to suggest that leucocytes emerged with inflammatory exudate, so exaggerating the normal nutritive function of such fluid. Such a suggestion opposed the concept of the origin of pus cells extravascularly either from blastema fluid, or from other cells. Addison's concept suffered contemporary criticism both at the hands of the supporters of the blastema theory, and later from Virchow. Virchow's pupil Cohnheim, in 1867 produced convincing evidence of the emigration of white blood cells in inflammation through the walls of small blood vessels. His acknowledgement of Addison's work however, depended on a misunderstanding which is neatly clarified by Professor Rather. Nobody noticed Augustus Waller's description in 1846 of extravasated white corpuscles lying near capillary vessels walls and his note that, 'some of the corpuscles were protruding half out of the vessel'; from which observations Waller inferred that the white corpuscles in inflammation passed through the live capillary wall, immediately after which the aperture was closed. This extraordinary neglect of Waller's clear publication provides a good example of 'forgotten contributions'; its fate was in marked contrast with that of William Addison.

Pursuit of the leucocyte theme leads inevitably to early descriptions of leukaemia and the colourful controversy between John Hughes Bennett and Rudolf Virchow on the priority of the description of this disease. This dispute was reinforced by Bennett's persistent belief in the origin of cells from granules of blastema fluid at the time when Virchow was establishing the theme of *omnis cellula e cellula*.

The book ends with a fascinating chapter on Metchnikov's biological theory of

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inflammation centred round the phagocyte. Appendices on Ehrlich's application of aniline dyes to the identification of the different leucocyte series are capped by a sketch of the subsequent fate of the Blastema Theory in England, France, Germany and the U.S.S.R. which brings the story up into a surprisingly modern context.

This book brings to the reader a bright colourful section of early nineteenth century investigations of inflammation and the white blood cells. The interpretation of its features is skilled and balanced; it well reflects the maturity of the pathologist and historian who produced it.

KENNETH D. KEELE

The History and Literature of Surgery, by JOHN S. BILLINGS, New York, Argosy-Antiquarian, 1970, pp. 132, \$10.00.

Dr. John Shaw Billings was a man of many parts—surgeon, medical historian, librarian, hospital planner—who did nothing badly and most things excellently well. His literary output was large and can never be quite superseded since he always wrote with style and from a close knowledge of his sources. Hence our pleasure at seeing once more in print his very useful guide to the history of surgery which originally appeared as the first chapter to vol. 1 of the *System of Surgery* edited by F. S. Dennis in 1895 (Philadelphia, Lea Bros.). The pity of it is that the new publisher fails to acknowledge this provenance!

Even today there are few works on the history of surgery which cover the literature freshly and systematically (as this one does) without drowning themselves in a welter of words. In his introduction, which is now unaccountably (purposely?) left out of Argosy's reprint, Billings modestly says that 'the most I can hope to accomplish in this paper is to furnish to the physician who has little time, taste, or opportunity for consulting the original documents the means of ascertaining the periods and places in which the leading surgeons of the world have done their work'. No-one has ever done the job better.

There is no use carping about the few mistakes in the text, such as the description of Henry Hickman as 'a London surgeon' and the failure to mention Liston in connection with ether anaesthesia. Far better to stress its virtue as a concise compendium of basic useful information some of it in the form of throwaway remarks from which modern historians may still occasionally profit. As an example of the latter we might cite the passage on J. C. Crosse where we learn that his library 'came into the possession of Professor S. D. Gross and was destroyed by fire in Louisville'—a point which has been overlooked in Mary Crosse's recent biography of her great-grandfather.

A surprise of another kind is Billings' observation, perfectly true in 1895 but no longer today, that 'operative surgery is now, as it probably always has been, practically unknown among the Chinese'. Statements like this make one realize what the twentieth century is all about.

E. GASKELL

Hypochondrie, Melancholie bis Neurose. Krankheiten und Zustandsbilder, by ESTHER FISCHER-HOMBERGER, Berne, Stuttgart, Vienna, H. Huber, 1970, pp. 152, *front.*, SFr. 25, DM 23.

'Fashionable diseases' are the subject of this penetrating study. Each age has its fashionable disease, and similar symptoms are explained by whatever disease is