Considered as a whole, however, the book is a straightforward account written by an obviously experienced teacher, who explains the elements of biochemistry simply and clearly. It does well what it is intended to do: to put over the essentials of biochemistry in a concise but readily comprehensible way. It covers some plant biochemistry, for example, photosynthesis, and, like all biochemistry textbooks, has to rely for some of its evidence on micro-organisms, but it is written in general terms with a leaning towards mammalian biochemistry.

It can be recommended as a readable account with few frills which would serve as a good basis for more specialist studies.

G. A. J. PITT

Lecture Notes on Endocrinology, 2nd edition. By Ronald F. Fletcher. (Pp. iv + 219; illustrated; £3.80.) Oxford, Edinburgh, Melbourne: Blackwell Scientific Publications. 1978.

This slim book is intended as a guide, primarily for medical students. It covers the field of clinical endocrinology, more space being devoted to the more common diseases than to the less common conditions. It is not laboratory orientated and must therefore be looked upon as an accompanying volume, in which the more clinical aspects of endocrinology are described, rather than a book of direct use to the laboratory worker.

In a book of this size much has of necessity been omitted, and some of the approaches to investigation are limited in scope—for example, the investigation of infertility and the investigation of fetal well-being throughout pregnancy.

It is, however, logical in its approach to the subject and has an easily readable text. It will undoubtedly contribute to the student's understanding of endocrine disease.

G. W. PENNINGTON

Isozymes: Current Topics in Biological and Medical Research. Volume 1 and Volume 2. Edited by Mario C. Rattazzi, John G. Scandalios, and Gregory S. Whitt. (Volume 1—Pp. 202; \$16.00. Volume 2—Pp. 176; \$14.00.) New York. Alan R. Liss, 1978.

These two volumes are the first of a series which is aimed at keeping readers up to date with new concepts and technologies in the area of isoenzyme research. Since their

first clear identification in the late 1950s and early 1960s, isoenzymes and other multiple forms of enzymes have come to occupy an increasingly important place in biochemistry and clinical medicine. Although the most obvious practical impact of isoenzymes on medicine has been in the extension of the value of diagnostic enzymology, important fundamental advances in the understanding of genetically determined disease have also resulted from isoenzyme characterisation. The constantly growing literature on isoenzymes has made it very difficult even for the specialist enzymologist to maintain a comprehensive view of the subject, while this becomes an impossibility for the practising clinician. Therefore, selective and authoritative reviews, such as those presented in the present volumes, are potentially capable of filling an important gap in the scientific and medical literature.

The relevance to clinical medicine of the reviews in volumes such as these is clearly likely to be variable. However, several of the chapters in volumes 1 and 2 of this series are of considerable clinical interest. A review of developmental changes in the electrophoretic patterns of enzymes and other human proteins by Y. H. Edwards and D. A. Hopkinson, of the Galton Laboratory at University College, London, is one such, and, like all contributions from that laboratory, it is amply documented with up-to-date references and lists of isoenzymes for which developmental changes have been reported. The isoenzyme complement of testes and spermatozoa is surveyed by E. Goldberg, and this provides a useful summary of what is often a neglected subject. Articles concerned with more fundamental aspects of isoenzymes deal with structural constraints on enzyme polymorphism (G. B. Johnson), intracellular turnover of isoenzymes (P. J. Fritz and P. R. Pruitt), and evolution and regulation of carbonic anhydrase isoenzymes (R. E. Tashian). The development of knowledge of isoenzymes has been critically dependent on the availability of appropriate experimental techniques, and new advances in this area include the separation of isoenzymes using affinity electrophoresis (described by D. M. Swallow) and genetic and structural dissection of human isoenzymes and enzyme defects using somatic cell hybrids (T. B. Shows). The latter of these two chapters, in particular, brings together much information which otherwise is scattered throughout the scientific literature.

Although the papers in these two volumes will differ in their appeal to clinicians and others interested in isoenzymes, their standard is such as to encourage the hope that this series will provide a valuable source of up-to-date reviews in this still expanding field.

D. W. MOSS

1978 Year Book of Pathology and Clinical Pathology. Edited by Frank A. Carone and Rex B. Conn (Pp. 446; illustrated; £22.50.) Chicago, London: Year Book Publishers. 1978.

This volume is a review of the literature up to May 1977. Those familiar with the series will not expect any dramatic change in the long-established format and style.

The editors have repeated last year's experiment and started the volume with a quiz of 50 questions which can be answered from the abstracts. Then follows an editorial exhorting pathologists to accept greater clinical involvement and increasing subspecialisation as requirements for survival. The editors demonstrate these precepts by trebling the number of associate editors involved in the next 60 pages covering General Pathology and the 155 pages reviewing Systematic Pathology. The last section of 160 pages is devoted to the various subdivisions of Clinical Pathology.

Most of the articles abstracted are from American and British journals, with a small number from other European sources. The final product is the usual interesting potpourri, enlivened by editorial comments. The individual volume can hardly be considered a useful investment, being little more than a tempting glance at a variety of selected aspects of the specialty. It is, however, part of a series devoted to the continuing education of pathologists, and our libraries should be encouraged to continue their subscriptions despite yet another modest rise in price.

G. BIRCHALL

Reproductive Endocrinology: Physiology, Pathophysiology and Clinical Management. By Samuel S. C. Yen and Robert B. Jaffe. (Pp. xiii + 579; illustrated; £28.00.) Philadelphia, London, Toronto: W. B. Saunders. 1978.

It is not often that a textbook can be recommended without equivocation or hesitation but this is such a book. As the reviewer I have derived considerable pleasure from a book which is destined to become a 'must' for every scientific worker

in the field of reproductive endocrinology.

In this area there has been an explosion of new knowledge and understanding during the past decade. This book provides contemporary factual information in an easy assimilable manner.

It is divided into three sections, the first dealing with the endocrine regulation of the reproductive system, the second with its pathophysiology, and the third with the endocrinology of pregnancy. Of the 23 chapters, nine have been contributed by the editors, Drs Yen and Jaffe. It is clear, however, that in all the chapters only recognised American experts in their own field have been asked to contribute, and this, coupled with the excellent quality of both the illustrations and the paper, make this an outstanding book. It is a pleasure to recommend it.

G. W. PENNINGTON

Founders of Medical Laboratory Science. By John Hatcher. (Pp. 175; illustrated; £2.00.) London: Institute of Medical Laboratory Sciences. 1978.

The Gazette of the Institute of Medical Laboratory Sciences is normally devoted entirely to Institute affairs, but it has been adorned since 1971 by 'potted biographies' of the famous written by W. J. Hatcher, FIMLS. These are now re-published in book form embellished with portraits of most of their 53 subjects. Until they appeared how many junior or perhaps more senior medical laboratory workers could have told one anything about the owners of names on their lips almost daily, from Abbe, Bordet, and Bunsen to Wassermann, Weigert, and Widal? All branches of pathology are represented, notably the early bacteriologists and immunologists, with malaria and other tropical diseases not forgotten; Virchow heads the histologists and Landsteiner the haematologists, and a few subjects, such as Gowers and Lister, were primarily clinicians. Their biographies are full of interesting information, some of which must be new to almost any reader: for instance, that Calmette in Lille during the German occupation in 1914-18 was saved from a possible death sentence by the intervention of Pfeiffer, or that Abbe not only invented a condenser but introduced cedar wood oil as an objective immersant, developed the apochromatic lens, and succeeded Zeiss as the proprietor of the famous firm in Jena. There are few errors apart from attributing the identification of goat's milk as the source of Malta fever to Bruce and the notorious Mediterranean

Fever Commission; this discovery was due solely to the work of Zammit. The only disappointing biography is, alas, that of Pasteur: anthrax and rabies are only just mentioned, with no hint of the nature of his studies of them. A good account of the dramatic field experiment on anthrax immunisation at Pouilly-le-Fort would have been in keeping with the rest of the book. It might have been added that Joseph Meister, the boy whose life was the first to be saved from rabies by Pasteur's method, later became *concierge* of the Institut Pasteur in Paris and remained there well into modern times. Reading this book is a 'must' for medical laboratory workers. I hope future printings will be better bound; my copy has fallen to pieces.

L. P. GARROD

Malignant Lymphomas other than Hodgkin's Disease: Histology, Cytology, Ultrastructure, Immunology. By K. Lennert in collaboration with N. Mohri, H. Stein, E. Kaiserling, and H. K. Muller-Hermelink (Pp. xx + 833; illustrated; Dm 295 US\$ 147.50.) Berlin: Springer-Verlag. 1978.

The contribution of Professor Lennert and his colleagues to the study of tumours of the lymphoreticular system over the past two decades has been prodigious. This book forms a compendium of their observations on the non-Hodgkin's lymphomas during this period using histochemical, immunological, and immunohistochemical techniques, together with ultrastructural studies to provide a scientific foundation for their interpretation of the nature and histogenesis of this controversial group of neoplasms. Part 1 consists of an account of the cells and the structure of the lymphoreticular system in relation to their function. A useful summary of some of the staining and cytochemical reactions used in the Kiel laboratories is given in Part 2. Parts 3 and 4 give an account of the classification of the non-Hodgkin's lymphomas with emphasis on the Kiel classification and its clinical relevance, followed by a detailed account of the histopathology and diagnosis of the non-Hodgkin's lymphomas. The ultrastructure of the non-Hodgkin's lymphomas is described and illustrated by E. Kaiserling in Part 5, and the immunological and immunochemical basis for the Kiel classification is described and discussed by H. Stein in Part 6.

This book is a work of scholarship. It is beautifully illustrated and contains an exhaustive bibliography. The time period

over which the vast amount of information included in this text was accumulated and the multiple authorship are reflected in a certain lack of cohesion in the book as a whole and some repetition of information. Pathologists with a special interest in the lymphoreticular system will find this volume compulsive reading and an essential reference text. Every medical library should own a copy, though the non-specialist diagnostic pathologist will probably find it too restricted and detailed and probably too expensive for use as a bench book.

D. H. WRIGHT

Handbook of Medical Parasitology and Clinical Pathology. By S. K. Sarkar (Pp. viii + 337; illustrated; Rs 35.00.) Calcutta: Current Books International. 1978.

This book covers aspects of clinical pathology relevant to junior medical staff and students in less developed countries. The author adopts a concise and informative approach to the clinical use and interpretation of pathological investigations. The subject matter is fairly comprehensive, and the style simple, condensed, yet easily readable.

The first section deals with parasites of medical importance, describing very well their life cycles and identification and illustrating them with some quite good drawings. The rest of the book deals with clinical chemistry, haematology, cavity fluids, and faecal examination. A clever use of 'flow' diagrams and charts helps to describe the development of blood cells and pathological states. Descriptions of manual techniques for some of the less complex investigations are included, but reference to less useful techniques such as the culture of malaria parasites would be better omitted. Some of the terminology and units are dated. In the absence of separate chapters, the headings are apt to become confusing, and there are some errors in the index.

D. S. RIDLEY