The above conversion factors have been rounded-off to facilitate conversion while retaining the degree of significance of the original results.

NOMENCLATURE OF ISOENZYMES

The discovery that a particular type of enzyme activity may apparently be associated with more than one protein and the diagnostic implications of this finding have resulted in an increasing number of references to these multiple molecular forms of enzymes (variously described as isoenzymes or isozymes) in the literature of chemical pathology. The lactate dehydrogenase (L.D.H.) activity of human tissues, for example, is made up of various proportions of five L.D.H. isoenzymes which are distinguishable by electrophoretic or other means.

In the absence of any officially agreed system of nomenclature, some degree of confusion has arisen in the numbering of these L.D.H. fractions; some workers designate the most rapidly anode-migrating isoenzyme $L.D._1$ and the electrophoretically slowest $L.D._5$, while the reverse convention is followed in other publications. The Standing Committee on Enzymes of the International Union of Biochemistry is now attempting to formulate a standard nomenclature which, it is hoped, will shortly be published. Until its report is available, authors should state clearly which convention of isoenzyme numbering they are following.

References to the methods and units discussed can be found in King, E. J., and Campbell, D. M. (1961). *Clin. chim. Acta*, **6**, 301. Report of Commission on Enzymes of International Union of Biochemistry (1961). Pergamon Press, Oxford.

The suggestions set out above for expressing enzymes in international units and on nomenclature for isoenzymes are recommended and approved by the Technical Methods Committee and the Committee on Chemical Pathology of the Association of Clinical Pathologists.

The late E. J. KING
D. W. MOSS

CORRECTION

In the Discussion in the paper 'Urea distribution in renal failure' by Blackmore *et al.* (*J. clin. Path.*, 1963, **16**, 235) the formula on efficiency index in the footnote should read:—

$$\text{Efficiency index} = 100\left[\frac{U_c - U_0}{U_c}\right]$$

Book reviews

INTERNATIONAL REVIEW OF EXPERIMENTAL PATHOLOGY, Vol. I. Edited by G. W. Richter and M. A. Epstein. (Pp. x + 453; illustrated. 107*s.* 6*d.*) New York and London: Academic Press. 1962.

Despite the current proliferation of scientific periodicals of all types, there has been a remarkable absence of any review, annual or otherwise, devoted to progress in pathology.

This serious deficiency has now been met by the Academic Press with an International Review of Experimental Pathology which is to appear annually. If the first volume is any guide, the series is likely to prove of the highest value. Volume I contains long articles on antibody production, arteriolar hyalinosis, the electron microscopy of damaged glomeruli, common cold viruses, radiation-induced bone disease, and cellular interactions in histogenesis. All these sections have been prepared with care by recognized authorities working actively in their field, and the standard is extremely high. The book is indeed worth reading from cover to cover and any comparisons between the authors seems uncalled for. The reviewer did, however, particularly enjoy the contributions of Nossal and Tyrrell on antibodies and coryzal viruses respectively. Some chapters, *e.g.*, on electron microscopy, are based entirely on recent observations. In others, *e.g.*, that on arteriolar hyalinosis, the discussion has its basis deep in the roots of pathology, in the controversies between Virchow and Rokitansky. It is this section by Pierre Dustin that reveals how heavily even an apparently well-defined morphological change relies upon experimentation to make it at all comprehensible. Almost everything that we understand, will understand, or think we understand in pathology is based on experimental observations.

The volume is well produced and is warmly recommended to all who have an interest in the study of disease.

W. G. SPECTOR

DISEASES OF PORPHYRIN METABOLISM By A. Goldberg and C. Rimington. (Pp. xvi + 231; 38 figures; 19 plates. 82*s.* 6*d.*) Springfield, Illinois: Charles C. Thomas. 1962.

This volume makes a welcome addition to the American Lecture Series. The two authors are both recognized authorities on the subject from their special aspects and the combination of clinical and scientific data has been presented in a most interesting and informative way. The important recent advances which have been made both in the classification and in the biochemistry of the porphyrias makes the book particularly welcome at the present time.

The outlook is unusually wide since chapters are included on subjects such as the history, classification, and geographical distribution of porphyria, and also on experimental and natural porphyria in animals. For the clinician or biochemist the information given on the

numerous manifestations of this group of diseases is very complete and an interesting biochemical hypothesis is advanced to explain the nature of the conditions. Perhaps the only thing lacking, which would have been appreciated by the laboratory workers, is an experimental section on technical methods, but ample references are given to this aspect of the subject.

The book is well illustrated and of a convenient size for a special monograph. It is certainly an essential work of reference for clinicians, biochemists, or pathologists who may be called upon to investigate or treat patients suffering from porphyria.

N. F. MACLAGAN

HUMAN BLOOD COAGULATION AND ITS DISORDERS 3rd ed. By Rosemary Biggs and R. G. Macfarlane. (Pp. xxiv + 474; 4 plates, 52 figures. 52*s*. 6*d*.) Oxford: Blackwell Scientific Publications. 1962.

'Biggs and Macfarlane' is now a classic in the field of blood coagulation. Three editions have appeared in nine years and the latest revision retains the general plan of its predecessors although the useful chapter summaries are lost. Commendably, there is no increase in size. Part I (11 chapters) deals with theory and academic experimentation and part II covers in nine chapters the diagnosis and treatment of clotting defects. Extrinsic and intrinsic thromboplastin formation and the contact systems are accorded recognition in their own right; diagnosis of disordered haemostasis is clarified and, indeed, simplified; anticoagulant therapy is discussed without bias; the chapter on fibrinolysis has been largely re-written and thrombolytic therapy commented upon; in 60 pages of appendices the technological methods have been enlarged upon and brought up to date, and some 45 pages of references are exhaustive. Appropriately, the final four pages of text discuss the 'complexity of the coagulation system'. With the clarification of extrinsic and intrinsic thromboplastin formation, the fields of major intellectual activity and research now occupy either end of the haemostatic sequence—the contact factors and the polymerization of fibrinogen—both of which are implicated in fibrinolysis. For further elucidation of the physiological factors influencing the beginning and the end of clotting, an important question remains to be answered. Does haemostasis represent an episodic event or local intensification of a continuous process? Does physiological integrity require a constant polymerization-lysis of the fibrinogen molecule? Dr. Biggs and Dr. Macfarlane only refer to this question. Perhaps they will provide a satisfying answer in their fourth edition.

No clinical haematology laboratory can afford to be without this monograph.

J. L. STAFFORD

CARCINOMA OF THE UTERINE CERVIX, ENDOMETRIUM AND OVARY Edited by Russell W. Cumley and others. (Pp. 362; illustrated. $8.50, 64*s*.) Chicago: Year Book Publishers Inc.; London: John Wiley and Sons. 1962.

This book is a collection of papers from the fifth annual conference on cancer held at the M.D. Anderson Hospital and Tumor Institute, the University of Texas, in 1960. Much of the information derives from the institution at which the congress took place; this is a cancer centre and deals with a large volume of cases, including many in the late stages of the disease. Invited speakers from other centres, including Dr. Kottmeier of Stockholm, contribute papers to the book and take part in the recorded discussions. The papers are concerned with the treatment of malignant disease of the uterine cervix, endometrium, and ovary. Irradiation, particularly supervoltage therapy, is discussed at length and including its complications. The role of surgery in the treatment of carcinoma occurring in the sites mentioned is not neglected and there are important contributions regarding pelvic lymphadenectomy. To a gynaecologist or radiotherapist this book offers a wealth of academic, clinical, and technical information.

There are chapters which will interest pathologists concerned in cancer therapy. The value of serial biopsies, histological grading, histochemistry, and cytology are discussed in relation to the assessment of radiosensitivity of tumours.

C. W. TAYLOR

THE DIAGNOSIS OF EARLY CARCINOMA OF THE CERVIX By Stanley Way (Pp. vii + 100; 90 figures. 30*s*.) London: J. & A. Churchill Ltd. 1963.

This handbook contains a wealth of practical investigative aids built around a much needed campaign for prevention of cancer of the uterine cervix. Intended for the pathologist and the gynaecologist and aiming to weld together the practical aspects of cytology, gynaecology, and histology, it remains a book mostly for clinicians by one who has himself learnt the vagaries of pathology and histological techniques as applied to the early diagnosis of intraepithelial carcinoma of the cervix.

Illustrations, including photomicrographs, are good and helpful; the repeated use of 'gland invasion' (pages 79, 91, 99, captions of plates 59(c), 60(c), 70, 71, 72) instead of gland involvement, can lead to misunderstanding.

MAGNUS HAINES

NÉPHROLOGIE Comptes Rendus du Premier Congrès International. Edited by G. Richet. (Pp. viii + 728; 340 figures; 48 Tables. S:Fr. 71.) Basel and New York: S. Karger. 1961.

The number of congresses and meetings is increasing and many of them publish their own proceedings. This work is another example. It comprises nearly a hundred communications in English and in French, some of which are of very great interest. Most of the work of value has been published in appropriate journals already. There is little else to say.

ARTHUR JORDAN

BOOK RECEIVED

(Review in a later issue is not precluded by notice here of books recently received.)

SOME ASPECTS OF INTERNAL IRRADIATION Edited by Thomas F. Dougherty, Webster S. S. Jee, Charles W. Mays, and Betsy J. Stover. (Pp. xviii + 529; illustrated. £5.) Oxford: Pergamon Press. 1962.