

action of inhibitors of wall synthesis, such as penicillin, and with recent microscopical studies using fluorescent antibody to demonstrate the sites of wall formation; illustrations are reproduced which show that Gram-positive organisms form new wall substance in a limited equatorial zone at the site of cross-wall formation and that Gram-negative bacilli form it at a multiplicity of sites throughout the old wall.

The book is attractively written. It contains many useful references at the end of each chapter and has an appendix consisting of 67 tables of illustrative experimental findings and summaries of findings. It can be highly recommended to all bacteriologists and biochemists interested in this important subject.

J. P. DUGUID

**THE CYTOLOGY AND CYTOCHEMISTRY OF ACUTE LEUKAEMIAS**  
By F. G. J. Hayhoe, Dennis Quaglino, and Richard Doll. Medical Research Council Special Report Series No. 304 (Pp. ix + 105; 74 figures. 63s.) London: H.M. Stationery Office. 1964.

Dr. Hayhoe's studies on the cytochemistry of leukaemic cells are well known. This book represents the result of an enormous amount of painstaking work on the cytology and cytochemistry of 140 cases of acute leukaemia investigated in the M.R.C. leukaemia trial. The object of the study was to find accurate criteria to differentiate the various types of primitive cells. Blood and marrow films were stained by Romanowski and four cytochemical methods. A large number of morphological and staining characteristics were recorded, and the results analysed by computer. Four groups appeared which are shown to correspond with the conventional type of acute leukaemia, and these are further compared with the biological characteristics of the cases. A most interesting chapter considers the significance of the cytochemical findings and speculates on the nature of the leukaemic change. Evidence is brought forward to support the view that there are two types of haemopoietic stem cell, accounting for the clear separation of lymphoblastic leukaemias from the other types. Full details are given of the various staining techniques employed, and there is a useful summary of the features most helpful in differentiating the various types of acute leukaemia. A large number of excellent photomicrographs are included.

This small book contains a wealth of stimulating ideas, and must be considered essential reading for all interested in leukaemia.

D. ROBERTSON SMITH

**METABOLIC DISORDERS OF DOMESTIC ANIMALS** By D. E. Stevenson and A. A. Wilson. (Pp. xiii + 198. 35s.) Oxford: Blackwell Scientific Publications. 1963.

This book is a short review of some of the biochemical changes that occur in metabolic disease of domestic animals. Though the subject is of most concern to veterinary surgeons and pathologists it makes fascinating reading for the clinical pathologist. The discussion of salt and water metabolism and disorders of calcium, magnesium, and phosphate metabolism are of particular interest. The section concerned with bovine ketosis will attract the attention of those interested in diabetic

ketosis. There are a number of tables with comparative inter-species data such as blood and plasma volume, plasma proteins, and plasma glucose. M. G. RINSLER

**ALLERGY AND TISSUE METABOLISM** By W. G. Smith. (Pp. 110; 19 figures. 25s.) London: Heinemann Medical Books. 1964.

Much of the most useful information in modern research comes from workers engaged in what are sometimes called 'fringe subjects'. Therefore, it happens that publications in journals of disciplines other than his own make it difficult for the general worker to keep abreast of the latest advances. This applies particularly to a complex subject such as allergy, where substantial contributions have come from such basic medical sciences as physiology, pharmacology, biochemistry, bacteriology, and experimental pathology. Dr. Smith and his publishers deserve much congratulation for attempting to synthesize these various aspects of research.

The book commences with a general account of the immunological basis of allergy and a detailed consideration of anaphylactic shock. A discussion of the part played by the cellular elements, such as mast cells and eosinophils, is followed by the prospectus and functional significance of histamine, bradykinin, serotonin, and the 'slow-reaching' substances in anaphylaxis. The concluding chapters deal with anaphylaxis, intermediary metabolism, and therapeutic control of allergic disease. The account of this large field is very readable and very concise, comprising only 94 pages of text. This fact, together with a very adequate list of references, makes it most suitable to recommend to general pathologists as well as to students of research.

G. J. CUNNINGHAM

**ELECTRONIC AND COMPUTER-ASSISTED STUDIES OF BIOMEDICAL PROBLEMS** Edited by Otto H. Schmitt and Cesar A. Caceres. (Pp. xxix + 314; \$12.50.) Springfield, Illinois: Charles C. Thomas. 1964.

This book is a transcript of a three-day meeting sponsored by the National Institute of Health and the U.S. Public Health Service to look into the prospects for developing electronic computers and related equipment to aid the life sciences. Regrettably the date of the meeting is not stated but presumably it was held in the latter half of 1963. Thirty-four experts drawn from industry, applied electronics, basic science, and medicine took part in the proceedings but no formal papers were read. The text consists largely of spontaneous and often spirited and revealing discussion, skilfully guided by Otto Schmitt, Professor of Biophysics in the University of Minnesota. Topics discussed include the data which should be recorded and electronically extracted for computer input, the electronic and computer techniques which should be utilized, the characteristics of magnetic tape recorders which are of importance, and the features which are desirable in an electronic computer designed specially to serve the needs of research in the life sciences.

Within the space of a decade computers have made a remarkable impact on certain branches of science and industry and are about to break into everyday medicine. This book, however, will not provide suitable reading for

doctors anxious to grasp the implications of this development, but it could be helpful to the few already grappling with bio-medical electronics and familiar with computer jargon. It should be of great value to those scientists engaged in the engineering of computers and related equipment. Most of the discussion is orientated around the application of computer techniques to the problem of automatically recording and interpreting electrocardiograms. This is a particularly difficult field but it serves well to illustrate that all those contemplating making use of a computer must formulate their problems in very exact terms.

This book is well produced and has an adequate index. Whether the verbatim presentation is preferable to a conventional report is a matter of opinion but the reviewer found the text stimulating and easy to assimilate. This is a book to be bought by the progressive medical library rather than by the individual pathologist.

F. V. FLYNN

A SYNOPSIS OF SURGICAL PATHOLOGY By Wilfred Kark. (Pp. 426; 26 figures. 45s.) Bristol: John Wright. 1964.

This pocket-sized book of lecture notes on surgical pathology contains unavoidable simplifications and omissions. Pathologists will regret these, but know how difficult it is to report pathological changes succinctly and completely, and will realize that Mr. Wilfred Kark often succeeds brilliantly with his brief descriptions of the morbid anatomy and histopathology of surgical diseases. The didactic annotated text can be read quickly and a lot of uncontroversial information obtained in a short time.

In this country the teaching of pathology is becoming more closely integrated with that of clinical practice, and few students should find this book essential. Pathologists are more likely to recommend it to their senior technician who helps with the surgical specimens than to medical students, and the fate of this new synopsis will depend upon the amount of goodwill it can generate among students who read this at the eleventh hour before their final examinations.

R. A. B. DRURY

#### PROTIDES OF THE BIOLOGICAL FLUIDS

The 13th annual colloquium on the Protides of the Biological Fluids will be held in Bruges on 29-30 April and 1-2 May 1965. Topics to be discussed are lipoproteins, proteins of the nervous system, and impedance measurements of the proteins. At 'round tables' the subjects to be discussed are the physical, chemical, and clinical method of lipoprotein analysis, and the proteins of the nervous system.

All information may be obtained from:—COLLOQUIUM, Protides of the Biological Fluids, P.B. 71, Bruges, Belgium.

## Letter to the Editor

Sir,

The report on exertional haemoglobinuria in the September 1964 issue of the Journal adds substance to an hypothesis proposed many years ago. In 1903 in the *Transactions of the Royal Medical and Chirurgical Society of London* (volume 86, page 165), C. W. Ensor and J. O. W. Barratt presented a case of 'Paroxysmal haemoglobinuria of traumatic origin'. The patient, a young man with schizophrenia, would lie on his hospital bed violently slapping his forehead for an hour or two, and haemoglobinuria would appear thereafter. The loss of haemoglobin was equivalent to that in 2 or 3 ml. of blood. This is, I believe, the only reported case of exertional haemoglobinuria associated with exercise of the upper extremities only. Ensor and Barratt proposed that the haemolysis occurred with the injuring of red cells by the violent slapping, a suggestion which anticipates Dr. Davidson's that exertional haemoglobinuria in runners results from mechanical damage to red cells in the soles of the feet.

Sincerely yours,

WILLIAM H. CROSBY,

Colonel, M.C.

Chief, Department of Hematology,  
Walter Reed Army Medical Center,  
Washington, D.C.

#### CORRECTIONS

Professor I. Friedmann (*J. clin. Path.*, 18, 63-68) writes that his attention has been drawn to another case of rhabdomyosarcoma of the ear in a girl of 4 years which was described by Professor Dorothy Russell in her book written jointly with L. J. Rubenstein ('Pathology of tumours of the nervous system', 1st ed., 1959, page 215). This case has not been described separately in any journal.

In the note on page 134 (*J. clin. Path.*, 18, 1965) it is stated that at the Midland Centre for Neurosurgery determinations of creatine kinase are being regularly carried out by Dr. D. A. Ellis with the support of the Muscular Dystrophy Group. While it is quite true that the Muscular Dystrophy Group have most generously supported Dr. Ellis in research on muscular dystrophy, the determinations of creatine kinase are carried out by Dr. R. A. Westhead in the Centre's biochemistry laboratory without assistance from the Muscular Dystrophy Group.

In the September issue of the paper by A. G. Baikie and E. M. Gillis (*J. clin. Path.*, 17, 573-574) we regret that Figures 2 and 3 have been transposed.