

Book reviews

HEREDITARY DISORDERS OF ERYTHROCYTE METABOLISM
Edited by E. Beutler. (Pp. xii + 343; illustrated.
\$9.00) New York and London: Grune & Stratton.
1968.

The present volume consists of 19 chapters, each being a paper given at a symposium held in February 1967 at the City of Hope Medical Center, Duarte, California. It was attended by 85 participants, all but eight being from the United States. Each paper was presented by an expert or group of experts and together they dealt with almost all of the rapidly expanding number of genetically determined disorders of red-cell metabolism which had been recognized at the time of the symposium. Practically all the work described had been carried out within the last decade. Knowledge of red-cell metabolism is advancing extremely rapidly, and, reading the lengthy and interesting discussions at the end of each chapter, the reader becomes aware that he is being presented with a record of the very edge of expanding knowledge. Most of the disorders described are rare, some very rare. Nevertheless, once again it is obvious that the study of rare freaks of nature has provided new information on normal physiology. Each paper is provided with a valuable summary and an extensive bibliography, and is well illustrated.

As well as describing the clinical and laboratory results of red-cell enzyme deficiencies, much information is given on genetic variation of the enzymes themselves. Thus Harry Harris and his co-workers deal with polymorphism of acid phosphatase, phosphoglucomutase and adenylate kinase, S. Takahara and H. Aebi and co-workers with catalase in Japan and Switzerland, respectively, E. Beutler and C. K. Mathai with galactose-1-phosphate uridyl transferase and F. M. Huennekens and co-workers with methaemoglobin reductase. There are, too, three chapters on the genetics and variants of G-6-PD. Glutathione deficiency and glutathione reductase deficiency are also described in separate chapters. Of particular interest to clinical haematologists is the chapter by J. H. Jandl on hereditary spherocytosis, the molecular basis of which still eludes definition, and that on pyruvate-kinase deficiency by K. R. Tanaka and W. N. Valentine.

An interesting feature of the inherited disorders of red-cell metabolism is that the genetic defect seems in most instances to be confined apparently to the red cells. In pyruvate-kinase deficiency, this can be explained by the red-cell enzyme being an isozyme distinctly different from the leucocyte enzyme with respect to genetic control and physicochemical, antigenic and kinetic characteristics. Triosephosphate isomerase deficiency is, on the other hand, a 'multi-system' disease, with the chronic non-spherocytic haemolytic anaemia being only a minor component of a syndrome the major component of which is progressive neuromuscular dysfunction.

The pros and cons of publishing papers and dis-

cussions given at symposia can be debated, but in the present instance, although it is true that much of the information contained within can be found in medical journals or will no doubt be published elsewhere, the bringing together of so much scattered information in such a new field seems ample justification for publishing this book. Most haematologists would look upon it as a welcome addition to their bookshelf, although for a full appreciation of its contents a good deal of biochemical and genetical knowledge is required.

J. V. DACIE

THE BALKAN NEPHROPATHY Ciba Foundation Study
Group No. 30. (Pp. 123; 29 figures. 15s.) London:
J. and A. Churchill Ltd. 1967.

It is unusual to have an opportunity to focus the tools of modern science on what appears to be a completely new common disease. For the last decade or more numbers of cases of chronic renal failure of a distinctive clinical pattern have appeared in some Balkan countries. This little book reports the findings of numerous investigations into the pathology and pathogenesis of this condition. The papers presented at the Ciba Foundation Study Group covered epidemiological studies in Rumania, Bulgaria, and Yugoslavia, studies of urinary proteins, possible nephrotoxic agents, and the structural changes in the kidneys and related organs. A full account of the discussion by the speakers and distinguished guests makes very interesting reading.

M. G. RINSLER

INSULIN, MEMBRANES AND METABOLISM By Peter Rieser.
(Pp. xii + 156; illustrated. 77s. 6d.) Edinburgh:
E. and S. Livingstone Ltd. 1967.

This book could equally well—and perhaps more descriptively—have been subtitled the 'Continuing biography of insulin'. The author has succeeded in his objective, which appears to have been to attempt to update Krahl's classic monograph on the 'Action of insulin on cells', by bringing together in book form the enormous mass of information about insulin that has appeared in the world literature in the past five years.

The book is at its best in those parts which impinge most heavily on the author's own sphere of interest, which is the mechanism and mode of action of insulin at the cellular level. Other parts of the book, which deal with the biology and chemistry of insulin, provide a thorough and readable, if not exhaustive, review of the literature. The clinical aspects of insulin, on the other hand, are dealt with perfunctorily and somewhat superficially. Consequently this little book, though invaluable to the research worker in endocrinology and metabolism both as a manual and source of references, has little to offer the practising clinical pathologist, except as an example of the enormous amount of information that

is accumulating at an ever increasing rate about one single protein—albeit an important one.

VINCENT MARKS

INTERFERENCE MICROSCOPY FOR THE BIOLOGIST By S. Tolansky (Pp. xii + 166; 130 figures. \$11.75) Springfield, Illinois: Charles C. Thomas. 1968.

A rather specialized form of interferometry (phase contrast) is already well known to the biologist, but the commercial interference microscopes are mainly designed for the study of the surfaces of opaque objects, *eg* in metallurgy. Yet the principles of interferometry can be applied to the study of living material as a non-destructive tool in various ingenious ways. Some of these are quantitative methods, others qualitative, and Professor Tolansky explains with his usual lucidity the merits and shortcomings of different technical solutions. The essential advantage of interferometry lies in the quite surprising magnification in the 'up-and-down' direction, a magnification which can actually rival that of the electron microscope. This is possible since the method uses the wavelength of light as the measuring rod. Unfortunately, however, across the object only the ordinary performance of the light microscope operates. Even so, different optical thicknesses due to refractive index changes, or different physical thicknesses in biological objects, can be shown up and measured. The medical reader will be struck by the realization of the shortcomings of our senses. A diffracted wave may be full of structural information about the object through which it passes, without disclosing any of this information to the eye—unless interference with a structureless beam occurs. This information can then be accepted in the form of contrast and colour. In short the capabilities of the light microscope are by no means exhausted and people engaged in microscopy in the biological field will find much useful information in this book.

S. D. ELEK

TEXTBOOK OF GYNECOLOGIC ENDOCRINOLOGY Edited by Jay Gold. (Pp. 704; 240 figures. \$23.50.) New York: Hoeber Medical Division, Harper & Row. 1968.

This is a 'multi-authored' book written by 36 specialists in various fields of medicine and the basic sciences. Consequently, the subject is analysed and discussed from various wildly different aspects which gives the book a unique, though in parts controversial, character. Each major chapter, and there are eight in all, is subdivided into three to six subsections; each of these is written by individual authors, who are all authorities in their respective fields, so that the end result is more in the nature of a symposium than a textbook. Each chapter, and indeed each subsection, merits more detailed discussion than the space allotted to the reviewer permits.

The first chapter, under the heading 'Hypothalamo-

pituitary axis', deals with new concepts of the control of the central nervous system over the gonadotrophic secretion of the pituitary gland and gives a fascinating account of the experimental work that led to these concepts; it includes an admirably written section on steroid feedback control mechanisms with an excellent explanatory diagram. Finally, in the subsection on pituitary diseases, the clinical application of the physiological data is discussed.

The second chapter on the pharmacology and physiology of hormones presents a detailed account of ovarian function, the physiology and hormonal activity of the placenta, and the interaction of the thyroid and the gonads. The chapter on menstrual disorders includes a theoretical part with an excellent critical evaluation of the role of exfoliative cytology in the assessment of endocrine function, and this is followed by a lucid and concise account of the histological assessment of hormone effects. The clinical aspects of menstrual disorders are represented by subsections on amenorrhoea, menstrual dysfunction, and the radiological aspects of gynaecological endocrinopathies.

Chapter 4 discusses the therapeutic approach to menstrual disorders with excellent up-to-date information on the ovulation-inducing drugs. The chapter on abnormalities of sexual development and function includes a subsection on the sex chromosomes and short discussions and summaries of hermaphroditism, virilism, polycystic disease of the ovaries, precocious puberty, and the hormone-producing tumours of the ovary and placenta.

Special mention must be made of the chapter dealing with infertility which, although remarkably concise, not only presents a survey of the problems familiar to all workers in subfertility clinics, but also offers valuable advice on the management of the infertile couple. Diabetes and its special implications in the female is discussed in a separate chapter subdivided into sections dealing with pre-diabetes, insulin and insulin antagonism, and diabetes in pregnancy with special reference to the physiological basis of the diabetogenicity of pregnancy; there is also an excellent subsection on how to treat the pregnant diabetic and her baby. The last chapter, dealing with endocrine laboratory procedures and available tests, does not do justice to its heading; its sketchiness and lack of depth contrast sadly with the high standard of the rest of this volume and it is hoped that future editions will contain a larger and more detailed review of the role of the laboratory in the diagnosis and assessment of the gynaecological endocrinopathies.

In summary, this volume, which claims to be a textbook and which I consider to be a reference work, will prove of enormous value to established and budding specialists in endocrinology as well as in gynaecology as a unique source of information coordinating research and clinical application.

ERICA WACHTAL