

However, the authors have tried to provide a guide to metabolic biochemistry, and also a selected textbook of metabolic diseases. Because of the limited space available this has led to over-simplification, and such topics as liver function tests, plasma protein synthesis, and acid-base balance would better be studied from more specialized texts. On acid-based balance, for example, the sole use of the Astrup nomenclature and derivations may be found jarring by those more familiar with other ways of considering the controversial problems of acid-base calculations and terminology.

If the surgeons buy a copy for the hospital library then chemical pathologists will find it useful to study if they are called in consultation on the surgical wards: it cannot be recommended for the pathology department library. The many Americanisms, such as mg. per cent, urinalysis, unit (of transfusion fluid) are surprising from authors working in England. For so high a price the reader has a right to expect graphs of universally high quality and no printing errors.

D. N. BARON

BILE SALTS By G. A. D. Haslewood. (Pp. xi + 116; illustrated. 27s. 6d.) London: Methuen and Co. Ltd. 1967.

The primary bile acids are formed in the liver as degradation products of cholesterol and are excreted in the bile as peptide conjugates of glycine and taurine. These conjugates are metabolized during enterohepatic circulation to secondary bile acids which are re-excreted in the bile and are predominant in faeces. Their determination in body fluids is difficult, and, since in man 95% of these acids are re-absorbed from the gut and are altered during this passage and re-passage through the liver, the clinical importance of their measurement in disease is limited. The vagaries of the concentrations in blood and urine have been attributed to deficiencies of the analytical methods, to the role of liver in metabolism as well as in synthesis of bile acids, and to the effect of the bacterial flora in the gut.

There are now no such excuses in further delaying a proper re-examination of the whole field, for Professor Haslewood's book provides an excellent up-to-date account of the chemistry and biochemistry of the bile acids and analytical methods for their determination in seven chapters, of which two are concerned with the enterohepatic circulation and with the bile salts in man. Although many pathologists will find the nomenclature and the wide variety of bile acids in different animal species somewhat formidable, this inexpensive book of only 81 pages also has a useful 26-page appendix of lists of the bile salts so far identified in many species, and an eight-page index. It is, therefore, both a book of reference and of ideas that will stimulate those seeking a subject for investigation. The only minor criticism is that the approach tends to be that of an organic chemist, the question of pool sizes and kinetics of bile acid turnover receiving little mention. Such problems are likely to be difficult but the information in this book and the possibility of making use of computers should make possible such a study in man.

C. H. GRAY

BILIRUBIN METABOLISM Edited by I. A. D. Bouchier and Barbara H. Billing. (Pp. xii + 294; illustrated. 63.) Oxford and Edinburgh: Blackwell Scientific Publications. 1967.

Progress in the study of bilirubin metabolism has been rapid in the last 10 years though limited by the very difficult analytical and other techniques. Thus routine measurement of unlabelled bilirubin still depends upon modifications of the Van den Bergh diazo reaction with the conjugated and unconjugated pigment and the capriciousness of the reaction has only recently been appreciated. Moreover, the interpretation of the results of isotope experiments depends frequently upon the isolation and purification of minute amounts of bile pigment—often a particularly difficult task.

This book, therefore, opportunely brings together the papers read at the Symposium on Bilirubin Metabolism in July 1966 at the Royal Free Hospital, London, attended by 50 participants. Here is now a useful summary of the most recent work from Europe and America. The book is well edited into six sections, these covering the origin of bile pigments and including work on the increasingly complex early labelled peak of bilirubin in the bile; the structure of bile pigments and their protein binding; transport, including hepatic uptake and excretion of bilirubin; and the effect of complete biliary obstruction. Several studies have shown that in this last situation bile pigments are excreted mainly in the urine, while in unconjugated hyperbilirubinaemia faecal excretion predominates. The difficulties of measuring urine diazo compounds and the variability of urobilinogen output are clear in the section on the renal excretion of bile pigments, and the last two papers describe the staining of bilirubin in tissues.

Useful summaries and discussions follow many of the papers, and supply extra information and differences of viewpoint. The book is well produced and edited and has a good index. It would alone be valuable to the biochemist in this field for its details of recent methods, especially the work with carbon 14 and tritiated bilirubin, but is also (though sometimes less obviously) full of information for the pathologist and clinician, for much of this work will soon lead to advances in therapeutics.

C. H. GRAY

SERUM PROTEINS IN HEALTH AND DISEASE By G. Sandor. Translated by E. Kawerau. (Pp. xiii + 768; illustrated. £12 12s.) London: Chapman and Hall. 1966.

The translation of Dr. Sandor's book by Einhart Kawerau is a considerable achievement, for it transmits the extraordinary range of the original author's ideas.

Protein chemistry is moving at such a pace that no book can be up to date. One of the most valuable features of this compilation is the extensive list of references given at the end of each chapter. This in itself will give the book value when the contents are totally dated.

At 12 gns., it would be too expensive for many laboratories, but it should certainly find a place in the larger laboratories of chemical pathology and in all reference libraries.

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