

irritating not to find 'thalassemia' or 'hemoglobinopathy', though 'globinopathies' appears.

The defects are relatively minor and the book as a whole succeeds admirably in its object. There can be few geneticists who would not find it of the utmost value in understanding the very stuff of their science. The book is produced to the very high standard one has come to expect of this publisher.

L. I. WOOLF

Pseudocholinesterasen Pharmakgenetik; Biochemie; Klinik. By H. W. Goedde, A. Doenicke, and K. Altland. (Pp. x+271; 141 figures+55 tables. DM 58; \$ 14.50.) Berlin, Heidelberg, New York: Springer-Verlag. 1967.

Pseudocholinesterase is an extraordinary enzyme which has diverse functions. The activity in the serum is measured to determine liver function and is also investigated to assess the degree of poisoning by anticholinesterases. It is of importance for the anaesthetist and the surgeon because it attacks succinylcholine. It is for this reason that this muscle relaxant is short acting and has become most useful in anaesthetics. In psychiatry, suxamethonium is used to prevent the side-effects of electro-convulsion therapy. The physiological function of pseudocholinesterase is still under discussion. It is of particular interest in this connexion that pseudocholinesterase in the brain, in the intestines, and in the nerve endplates of muscle is always found side by side with true cholinesterase which is the truly physiological enzyme hydrolysing acetylcholine. High substrate concentrations of acetylcholine inhibit the true cholinesterase, whereas pseudocholinesterase can act even on unphysiologically high concentrations of acetylcholine. Possibly the function of pseudocholinesterase is the protection of the vital cholinesterase against accumulation of acetylcholine at high concentration. Pseudocholinesterase was the first serum protein for which a genetic control was reported. It exists in several allelic forms, and one of them, the so-called 'silent' gene variant, is of interest because its gene expresses itself by producing no enzyme activity at all *in vivo*. However, the authors of this book suggest that there is in fact some small residual activity present.

The volume deals with these many aspects of pseudocholinesterase in detail. In its introduction, it discusses the biochemical interpretation of pharmacogenetic phenomena as a whole, and then describes the biochemistry of pseudocholinesterase by defining that of the enzyme itself and differentiating it from the biochemistry of arylesterases, carboxylesterases, lipases, atropinesterases, and other cholinesterases. It then discusses the usual common variant of the enzyme, its inhibition, reactivation, and different techniques of measuring activity. Other chapters deal with the dibucaine resistant variant, the fluoride resistant variant, and the silent gene, giving a number of hypotheses for their inheritance. In addition to the usual pseudocholinesterase and its variants, there is found associated with them a

so-called C₅ component which is related to pseudocholinesterase rather than haemoglobin A₂ is related to normal haemoglobin A. Enzyme kinetics are discussed in detail, as is the connexion between the structure of substrates and enzyme action. One chapter is devoted to the use of pseudocholinesterase estimation as a liver function test and another is given over to the role of pseudocholinesterase in anaesthetics, the management of apnoeas, and the occurrence of apnoeas in different context. There is a useful section on techniques at the end. This book is to be highly recommended.

H. LEHMANN

Mendelian Inheritance in Man. Catalogs of Autosomal Dominant, Autosomal Recessive, and X-linked Phenotypes. By Victor A. McKusick. (Pp. xvii+344. 60s.) London: William Heinemann Medical Books. 1967.

This book is a continuation of McKusick's catalogue of X-linked traits, patented in 1962. A similar catalogue on autosomal recessives was begun in 1962, and a year later computer methods were initiated, making it possible to begin a catalogue of dominant phenotypes in 1964. This resultant volume deals with 837 dominants, 531 recessive, and 119 X-linked traits. Each entry carries a brief description of the phenotype, a summary of genetic information available, and key references. A scholarly introduction indicates the value of this formidable undertaking as a contribution to genetics and to the clarification of the specific significance of hereditary affections. An authors' index of some 6000 entries and a surgical index with about 3000 entries add to the value of this unique encyclopaedia. Because of its comprehensiveness and accuracy, this book is assured of a place in every medical genetics department.

ARNOLD SORSBY

Humangenetik: Ein kurzes Handbuch in fünf Bänden. Edited by P. E. Becker. Band V, 2. Psychiatrische Krankheiten. (Pp. xv+613; 105 figures+60 tables. DM 190. Subscription price DM 152.) Stuttgart: Georg Thieme. 1967.

This beautifully organized volume breaks radically with the purely descriptive accounts of mental disorders. This is seen at its best in the 4th and 5th of the eight sections into which this book is divided, and these deal with the hereditary mental defects induced by metabolic disorders and those associated with chromosomal anomalies. Both these sections, the one contributed by H. Bickel and H. Cleve and the other by W. Lenz, have the further merit of covering critically a scattered literature not readily available in summary form. Over 40 metabolic disorders and almost as many chromosomal defects are discussed. Mental deficiency is dealt with on a more clinical basis in two further sections, idiopathic disorders being considered by E. Zerbin-Rüdin, while