
In this important monograph Woolf classifies the genetically determined dysfunctions into three main groups. In the first there is a decreased reabsorption of a single substance or a group of related substances: typical examples are renal glucosuria, glycinuria, cystinuria, and Hartnup disease. This group of affections he regards as a failure in transport caused by the absence of activity of a specific macromolecular substance in the cells of the proximal renal tubules. In a second group there is a deficiency in more than one transport mechanism: this results in aminoaciduria (often generalized), glucosuria, 'tubular' proteinuria, renal acidosis, and phosphaturia. In a third group errors of intermediate metabolism cause the accumulation of abnormal amounts of some nephrotoxic substance, giving much the same reactions as in the second group, in that there is aminoaciduria, proteinuria, and other disturbances, caused however by enzyme deficiencies induced by toxic action. Thus, in Wilson's disease with abnormal transport of copper, the copper deposited in the tubule cells inhibits enzyme action, causing generalized aminoaciduria and, often, other signs of renal tubular dysfunction. Galactosaemia and cystinosis act in a similar manner, though in other affections (such as oculo-cerebro-renal syndrome) which may well belong to this group nephrotoxic substances have been isolated.

The text is devoted to a clear and critical assessment of the considerable literature that has accumulated in recent years. Woolf stresses the confusion caused by the free use of terms like Fanconi's syndrome as if they stood for clinical, genetic, and biochemical entities and not merely for collections of symptoms resulting from different causes. In contrast to the confusion of the purely clinical approach is the recognition that the same biochemical anomaly—phosphoglucu-aminoaciduria—appears as vitamin-resistant renal rickets in children and as osteomalacia in middle-life. A concluding chapter deals with some abnormal renal tubular responses to hormones and helps to clarify the status of such affections as diabetes insipidus and Albright's disease.

This book, which is beautifully produced, contributes substantially towards a clearer understanding of a rather confused literature. It is particularly gratifying that Woolf has given adequate consideration to the carriers of these affections, mostly recessive. Possibilities for both better diagnosis and treatment are implicit throughout the text.


H. L. K. Whitehouse has written a textbook on genetics which achieves the unusual distinction of being fresh—fresh in approach and exposition. The text can be read as a history of genetics, for each of the 16 chapters deals in logical and historical sequence with views advanced at different stages in the history of the subject. The opening chapter begins with Hippocrates and ends with the immediate precursors of Mendel, while the succeeding eight chapters are step-by-step discussions on the assumptions and proofs of the particulate and chromosomal data on inheritance. The three succeeding chapters are devoted to the biochemistry of genetics and the concluding chapter deals with the genetic code and the theory of the operon. An immense field is covered in this book, and even expert geneticists may read this text with advantage, both for the facts it brings forward and the unforced interpretations. The uninitiated will find the clear arrangement of each of the chapters into distinct sections a great help. The publishers have given this excellent text a worthy format.

In The Molecular Basis of Heredity, A. R. Peacocke, as a physical chemist, and R. B. Drysdale, as a microbiologist, have presented an integrated summary of the current knowledge of the physical and functional aspects of what may perhaps be called the infrastructure of heredity. Their text consists essentially of two sections, one devoted to the structural basis of the nucleic acids, the nucleoproteins, and the chromosomes, and the other to the biological processes in which they are concerned, particularly protein synthesis and the transmission of genetic information. Though intended for the Honours