
Book review

Vogel, F.; Motulsky, A. G.: Human Genetics: Problems and Approaches. Berlin, Heidelberg, New York: Springer 1982. xxviii, 700 pp., 420 figs., 210 tabs. Hard bound DM 98,-/ \$ 45.70.

The publication of a second edition of all 700 pages of "Human Genetics" three years after the first edition is proof enough of the high quality of this work. In my opinion, it is one of the best and most up-to-date book on human genetics.

Starting with a short history of human genetics, present day knowledge of human chromosomes, including banding techniques, numeric and structural aberrations of chromosomes, gene localization and dosage compensation are discussed. The third chapter is devoted to formal genetics of man: the application of Mendel's modes of inheritance to humans, the Hardy-Weinberg law, gene frequencies, statistical methods in formal genetics, linkage analysis, gene localizations, multifactorial inheritance, genetic polymorphism and disease, and twin methods. The chapter on gene action deals with biochemical genetics, gene interaction, gene expression, molecular genetics of hemoglobinopathies, immunogenetics, pharmacogenetics and ecogenetics, genetics of embryonic development and the organization of genetic material in human chromosomes. The problems of mutations include the estimation of the genetic risk due to radiation; other environmental mutagens are also discussed in chapter 5. Gene frequencies, genetic polymorphism, mutation and selection, the concept of genetic load and genetic

drift are covered in the chapter on population genetics. The seventh chapter focuses on the problems and perspectives of human evolution. One chapter is devoted to behavior genetics. Finally, the practical applications of human genetics and the biological future of mankind is discussed: genetic counseling, genetic screening, genetic engineering. In the appendix special methods of human genetics are described: methods for the estimation of gene frequencies, testing of segregation ratios, statistical problems, general treatment of the model of multifactorial inheritance with a threshold effect, diagnosis of zygosity, heritability estimates from twin data, methods of path coefficients and linkage calculation as well as genetic counseling. This book has extensive bibliographies (1,760), an author and a subject index.

This book represents a fairly thorough and up-to-date treatise on the conceptual basis of the entire field of human genetics and its practical applications. The text reflects the author's experience of more than 25 years in the field of human genetics and medical genetics as well as in genetic counseling. This book is an excellent textbook for students of medicine and biology, but also for scientists and clinicians who work in the field of human genetics and medical genetics. I am sure it will become the standard work on human genetics.

F. H. Herrmann, Erfurt