
Book Reviews

Geist, V.: Life Strategies, Human Evolution, Environmental Design. Toward a Biological Theory of Health.

Berlin-Heidelberg-New York: Springer 1978. 495 pp., 9 figs., 3 tabs. Hard bound DM 66,—.

This book deals with the evolutionary relationship between environments and large mammals, especially man. Emphasis is placed on the study of those environmental factors and adaptations which maximized the health and reproductive fitness of populations. ('Health is maximized when diagnostic features of a species are maximized phenotypically.'). The book represents an attempt at an interdisciplinary synthesis written as an attempt to answer the question of which environment will maximize health. In the preface (8p) the author writes: 'I must point out that to get to a theory of health I had to develop a number of new perspectives on the following matters: the basic rules organisms live by, as deduced from the concept of reproductive fitness; a new conception of animal communication; a comprehensive theory of aggression, based on individual selection; a theory on the biology of art and culture; a theory of phenotype development through communication between genes and environment; a theory of mammalian origins explaining those features we share with other mammals; and a theory about how glaciers shaped the ecology in their vicinity to form the rich periglacial ecosystems, our final evolutionary home.' From this point of view this book will provoke evolutionary biologists, ethologists, mammalogists, and anthropologists to discussion.

F.H. Herrmann, Erfurt

Bier, O.G.; Götze, D.; Mota, I.; Dias da Silva, W.: Experimentelle und klinische Immunologie.

Berlin-Heidelberg-New York: Springer 1979. VI, 368 pp., 146 figs., 76 tabs. Soft bound DM 58,—.

Immunology is a discipline in which many others meet. For that reason, modern textbooks on immunology are written by a great number of authors. This book, however, is written by only four authors and as a consequence is consistent in style and easy-to-read. The text is well-documented with figures. The disadvantage of the book is that its first edition was in 1977. Therefore, monoclonal antibodies and the enzyme-linked immunosorbent assay (ELISA) are not mentioned, while certain parts are not really up-to-date. Among them are the role of the macrophages in antigen recognition and the cooperation of T and B lymphocytes in the synthesis of antibodies and tolerance. However, this can probably be said of every introductory textbook on immunology, since its development is extremely fast. Much emphasis is laid on applied immunology: laboratory test, immunodiagnosis, immune diseases, immunosuppression and immunoprophylaxis. These parts provide a wealth of information. The book is also a good introduction to the genetical aspects of the immune response. Both, classi-

cal and molecular genetics are treated in the chapters dealing with transplantation, immunodeficiencies and autoimmune diseases on the one hand and with antibody diversity and allotypes on the other. Also, the correlation between the genes coding for the histocompatibility antigens and the genes that regulate the immune response (Ir-genes) is discussed extensively. The part of this book dealing with genetics very much reflects its increasingly important role in the study of immunology. In conclusion, the book provides excellent introductory information for those (geneticists) who want to use immunological parameters for their study. At the end of the text, more specialised books and journals are given for further reading.

H. van der Donk, Utrecht

Ellenberg, H.; Esser, K.; Kubitzki, K.; Schnepf, E.; Ziegler, H. (eds.): Progress in Botany. Vol. 41: Morphology Physiology Genetics Taxonomy Geobotany.

Berlin-Heidelberg-New York: Springer 1979. 356 pp., 23 figs., 4 tabs. Hard bound DM 119,—.

The section on Genetics in this Progress Report, once again carefully edited by Charles Esser, comprises 6 chapters. Under the title of 'Replication of the eucaryotic chromosome' the initiation of DNA replication and the unit of replication in plants, the replicon, are discussed: some selected aspects of the pattern of replication and its regulation as well as differential replication, are further briefly discussed by W. Nagl. Main features of protoplast fusion, including regeneration, isolation, selection and characterization of the fusion products are summarized in the chapter on recombination by H. Binding and R. Nehls: the fate of extrakaryotic genophores and chromosomal behaviour in hybrid lines gets special attention. The survey of mutations is restricted to higher plants where antimutagenic substances, which are of particular interest in the case of repair synthesis (W. Gottschalk), are also mentioned. The article on the function of genetic material is also restricted to the organization of the eukaryotic genome (F. Herzfeld and M. Kiper): the new tools of recombinant DNA and of cloning eukaryotic DNA fragments within bacteria determine this branch of molecular plant genetics. A short review of extracellular inheritance concentrates on the morphology of extracellular units during life cycles (C.G. Arnold and K.P. Gaffal). Although since 1976 when the last survey of population genetics was conducted in this series no spectacular advances have been made R. Lichter presents a solid report on gene frequencies, gene flow, selection, competition and breeding systems. Additional genetics information is hidden in the chapters on cytology and evolution. Once again 'Progress in Botany' proves the integrating power of botany as an integrated branch of biology. No need for a re-allotment of biology!

H.F. Linskens, Nijmegen