

BOOKS RECEIVED

PROBLEMS IN HUMAN BIOLOGY — A Study of Brazilian Populations

By Francisco M. Salzano and Newton Freire-Maia (Pôrto Alegre and Curitiba, Brazil). Wayne State University Press, Detroit 1970. Bound volume with cover; 15×23.5 cm; XX+180 pages; 9 figures and 24 tables. Glossary and subject index. Price: US \$ 8.95.

When, on 22 April 1500, the Brazilian coast was first seen by Alvarez Cabral's Portuguese fleet, there probably were no more the one million "Indians" unevenly distributed through the eight-and-a-half million square kilometers that form today the Brazilian territory. Today, after only four centuries and a half, Brazil's population has increased over eighty times.

The eighty-five million people who live in Brazil today include: the original Indian element, reduced to approximately one-tenth; the Portuguese element of the original colonization and subsequent migration; the Negro element, introduced with the slave wave from Africa, along with Portuguese immigration, over three centuries (estimates go from three to eighteen million African Negro slaves imported); and the recent immigrant element from most European countries (Germany, Italy, Spain, England, France, Switzerland, Poland, Russia, etc.), as well as Japan, Arabian countries, etc. This extremely heterogeneous population, matched with a very large territory with extremely variable ecologic conditions, provided an ideal, yet challenging in its complexity, object of study for any student in both biological and social sciences.

On account of extensive bibliographic research and of a large amount of original data, Francisco Salzano and Newton Freire-Maia have successfully undertaken the heavy

task of giving a relatively clear and complete picture of the Brazilian population today.

The various elements that enter into the present composition of the Brazilian population are first defined by means of a historical introduction, centered on the Portuguese, the Indian, the Negro, and the other, especially recent, immigrant element, and supplemented by available demographic figures and estimates.

The main aspects of the population's genetic structure and characteristic are then dealt with, such as vital statistics, consanguinity and isolates, genetic load and congenital malformations, chromosomal aberrations, hereditary diseases, twinning, general morphology, and genetic polymorphisms.

As Charles Wagley writes in his foreward, "...This is an important book. It is of general interest to students in human biology and population genetics and of specific interest to all students of Brazil."

Giancarlo Alciati

CONTEMPORARY PERSPECTIVES IN BIOLOGY

By Robert W. Korn and Ellen O. Korn (Louisville, Kentucky). John Wiley & Sons, Inc., New York-London-Sydney-Toronto 1971. Bound volume; 21.5×23.5 cm; X+606 pages; numerous tables, graphs, and black-and-white and two-color illustrations. Glossary and subject index. Price: £ 5.50 (approximately, US \$ 15.00).

This is a nontraditional textbook of general biology. It is centered on a number of basic perspectives dealt with, not only individually, but also and mainly in their interconnections. These are, essentially: (1) Chemical energy and biological systems; (2)

The cell; (3) Growth and cellular differentiation; (4) Evolution; (5) Ecology and biosystematics. Special-interest chapters are moreover scattered here and there: drugs, radiation, viruses, cancer, human heredity, human ecology, extraterrestrial biology.

The book is brilliantly written and beautifully illustrated, with an approach that includes both discursive parts, with general ideas and scientific concepts, and specific technical information. It not only assembles and summarizes a large amount of information scattered here and there in the literature, but provides a good deal of original work as well.

The book is also beautifully produced. Unfortunately, however, something has apparently not worked, at some level, since misprints and inconsistencies are found throughout the text as one would hardly expect to find in a book of such a high standard. Just one example: inconsistencies may even be found in the title of the book, as well as in the initials of the second author's name, spelled differently on the cover and the title page.

DAS MENSCHENBILD DER BIOLOGIE — Zweite neubearbeitete Auflage
The Human Picture of Biology — Second edition, revised

By Ilse Schwidetzky (Mainz, Germany). Gustav Fischer Verlag, Stuttgart 1971. Bound volume with cover; 15.5×23 cm; VIII+226 pages; 83 figures. Subject index. Price: DM 38 (approximately, US \$ 12.00).

In the last few years, important advances have been made in practically every field of anthropology, largely implemented by the development of human population genetics. The revised, second edition of Professor Schwidetzky's book — a general introduction to the basic problems of anthropology with some emphasis on the nature of man, his place and different types,

and on human population dynamics and evolution — undoubtedly comes very welcome. Students may find in it a large source of specialized and largely up-to-date information, while the layman may also be attracted by the general appeal of most subjects and the easy style. It is quite unfortunate that, being written in German, this book shall fail to have the larger circulation it might deserve.

THE PRE-COLUMBIAN MIND

By Francisco Guerra. Seminar Press, London and New York 1971. Bound volume with cover; 15.5×23 cm; XVI+336 pages; 40 figures including many color plates. Ethnographic index; index of pre-Columbian proper names; index of pre-Columbian words; topographic index; name index; subject index. Price: £ 4.50 (approximately, US \$ 12.00).

This is a deep analysis, in which the viewpoint of cultural and social anthropology is largely integrated and supplemented by a more biological, even medical approach.

On the basis of a very careful search and analysis of recorded commentaries of colonial writers, a behavioral study of American Indians is attempted. Peculiar behaviors are examined, such as abnormal sexual drives including sodomy and incest, or inebriation and allucination through the common use of drugs, or an attitude towards life and death including the practice of human sacrifice, cannibalism, and suicide. In the author's approach these characteristics of the pre-Columbian mind and society are viewed under a psychological perspective, rather than as ethical problems. The book includes an interesting survey of pre-Columbian methods of psychotherapy.

It is of wide interest and appeal to scientists — especially anthropologists and psychologists — as well as to the layman.

Giancarlo Alciati

GÉNÉTIQUE ET POPULATIONS — Hommage
à Jean Sutter
Genetics and Populations — Homage to Jean
Sutter

By *Institut National d'Études Démographiques*. Travaux et Documents - Cahier n° 60. Presses Universitaires de France 1971. Paperback; 15.5×24 cm; X+286 pages; tables and graphs. Price: 30 NF (approximately, US \$ 6.00).

This book has been published a few months after that Dr. Jean Sutter died, while he was completing a population study he had been carrying out for almost ten years on the hip-joint congenital malformation. Dr. Sutter was a pioneer in population genetic studies. Two of his most significant works, one on the impact of consanguinity on mortality and the other on the evolution of stature, have been reprinted in this book, preceded by a general introduction and followed by a number of contributions by different authors on various aspects of population studies, with some emphasis on the problems of isolates, consanguineous marriages, and their effects on the population's structure.

EVOLUTION BY GENE DUPLICATION

By Susumu Ohno (Duarte, California). Springer-Verlag, Berlin-Heidelberg-New York 1970. Bound volume with cover; 16.5×24.5 cm; XVI+160 pages; 28 figures and 8 plates. Subject index. Price: DM 36 (approximately, US \$ 10.00).

This book is an extension of the author's previous works stressing the role that gene duplication presumably played in vertebrate evolution. An attempt is made to reconstruct the evolutionary process which, from primitive fishes of 300 and more million years ago, eventually produced mammals and man. The basic assumption is that, natural selection being largely conservative

in nature, "only the cistron which became redundant was able to escape from the relentless pressure of natural selection"; allelic mutations of already existing gene loci could not account for major evolutionary changes: only redundant gene loci, created by duplication, would permit the accumulation of formerly *forbidden* mutations and emerge as new gene loci with hitherto unknown functions. Gene duplication is thus described as the major force of evolution.

HUMAN CHROMOSOMES DNA SYNTHESIS

By F. Giannelli (London). S. Karger, Basel-München-New York 1970. Volume 5 in the series, Monographs in Human Genetics, edited by L. Beckmann and M. Hauge. Bound volume; 17×24 cm; VIII+156 pages; 31 figures and 28 tables. Subject index. Price: SFr 39.50 (approximately, US \$ 9.50).

This Volume 5 in Karger's series, Monographs in Human Genetics, edited by Beckmann and Hauge, presents, in Giannelli's words, a personal view of the autoradiographic study of human chromosome DNA synthesis.

This book is organically subdivided into (1) an introductory part, dealing with basic cytological phenomena, from cell life cycle in general to DNA synthesis in particular; (2) a central part devoted to (a) DNA synthesis of sex chromosomes and (b) DNA synthesis of autosomes; and (3) a conclusive part with remarks on the kind of information so far provided by chromosome autoradiography and its limitations in clinical cytogenetics, mainly due to lack of uniformity of data. Preliminary considerations on the state of confusion towards the application of autoradiographic techniques to human chromosomes identification have led the author to focus his attention on the various aspects of experimental design and methodology.

THE PRINCIPLES OF HUMAN BIOCHEMICAL GENETICS

By Harry Harris (London). North-Holland Publishing Company, Amsterdam-London 1970. Second printing, 1971. Paperback; 15×22.5 cm; X+328 pages, including tables and figures. Subject index. Price: fl 22.50 (approximately, US \$ 6.30).

Since Garrod's times, in the early years of the century, but particularly with the advent of molecular biology and especially in very recent years, our understanding of human biochemistry, its diversity among individuals, its fundamental importance as the basis of normality or pathology, and its largely direct genetic control, has made impressive advances. The present book, intended for students and research workers in various fields, from human genetics to biochemistry, biology and medicine, provides a general review of the subject by dealing with the following topics: (1) Gene mutations and single aminoacid substitutions; (2) One gene-one polypeptide chain; (3) Duplications and deletions, and their effects on protein structure; (4) Gene mutations affecting rates of protein synthesis; (5) Quantitative and qualitative variations of enzymes; (6) The inborn errors of metabolism; (7) The blood groups substances; (8) Enzyme and protein diversity in human populations; (9) Gene mutations and inherited disease; (10) Disorders due to specific enzyme deficiencies (inborn errors of metabolism); (11) Enzyme and protein polymorphisms.

At the same time an useful general introduction and a fundamental research tool and reference point, this book may have only one disadvantage: due to the extremely fast accumulation of information and data, that particularly characterizes the field of human and medical biochemistry, a new edition might become necessary every new year.

DIAGNOSIS OF METABOLIC EYE DISEASES

By Mette Warburg. Scandinavian University Books. Munksgaard, Copenhagen 1972. Bound volume; 17.5×24 cm; VI+112 pages. Author index and subject index. Price: Dan. Kr. 115 (approximately, US \$ 6.00).

Metabolic eye diseases are dealt with under general headings, such as: (1) Eye as a whole; (2) Eyelids; (3) Conjunctiva; (4) Cornea; (5) Sclera; (6) Iris; (7) Lens; (8) Vitreous; (9) Retina; (10) Optic nerve. As a rule, one or two pages are devoted to each disease, with a first indication of the topography of the main ophthalmological features and the main biochemical groups involved, followed by standardized schematic entries on ocular signs, general clinical signs, metabolic deficiency or error, laboratory findings, genetics, treatment, and references. The manual proves extremely useful both for the clinician and the geneticist.

ENVIRONMENTAL HEALTH

Edited by P. Walton Purdom (Philadelphia). Academic Press, New York and London 1971. Bound volume with cover; 16×24 cm; XIV+584 pages, including numerous figures and tables. Subject index. Price: US \$ 19.50.

This book provides a comprehensive approach on the relationships between health and environment, i.e., the interactions of man and his environment as it affects his physical, mental, and social health. More specifically, an environmental system is examined based on the interconnections of man's activities respectively with life support (air, water, food, and shelter), residues and wastes, and environmental hazards (biological, chemical, physical, psychological, and sociological).

The book includes the following sections:

- (1) Environment and health (by P. Walton)

Purdon); (2) Disease vectors (by Eldon P. Savage); (3) Food (by Stanley Segall); (4) Water and waste water (by William L. Zemaitis); (5) Air — A priceless resource (by Henry C. Wohlers); (6) Solid waste — The third pollution (by Robert J. Schoenberger); (7) Ionizing radiation (by Jack C. Rogers); (8) Environmental control (by Walter E. Jackson); (9) The occupational environment (by Karl L. Gabriel); (10) Housing and the residential environment (by Charles L. Senn); (11) Accident prevention (by Carl Silver); (12) Environmental planning and management (by P. Walton Purdom). The book, a fundamental reference tool, will be of interest to different kinds of specialists and partly also to the laymen.

HANDBUCH DER ALLGEMEINEN PATHOLOGIE
— Zweiter Band/Zweiter Teil: Der
Zellkern
Handbook of General Pathology — Part Two/
Section Two: *The Nucleus*

Edited by H.-W. Altmann (Würzburg, Germany).
Springer-Verlag, Berlin-Heidelberg-New York 1971.

Board of editors of the handbook: H.-W. Altmann, F. Büchner, H. Cottier, E. Grundmann, G. Holle, E. Letterer, W. Masshoff, H. Meessen, F. Roulet, G. Seifert, G. Siebert. Bound volume with cover; 16.5 × 24.5 cm; XII + 766 pages; 335 figures. Author index and subject index. Price: DM 386 (approximately, US \$ 111.50).

This volume in Springer-Verlag's monumental handbook of general pathology is a monument by itself. With its eight-hundred pages and over three-hundred illustrations, it only represents volume 2.2.1 of the handbook, that is, the first volume of the second section, devoted to the nucleus, within the second part of the handbook, devoted to the cell.

This fundamental reference work for any student in cell biology includes the following main chapters: (1) General biology of the chromosome (by H. Marquardt); (2) Structure and function of interphase chromosomes: research on giant chromosomes (by W. Beermann); (3) Lampbrush chromosomes (by O. Hess); (4) The mitotic cell cycle (by E. Grundmann); (5) The biochemistry of mitosis (by F. Duspiva); (6) Endomitosis (by E. Tschermak-Woess); (7) Amitosis (by O. Bucher).