polypeptide chain; Duplications, deletions, unequal crossovers, chain elongations and other rearrangements; Gene mutations affecting rates of protein synthesis; Quantitative and qualitative variations of enzymes; The inborn errors of metabolism; The blood group substances; Enzyme and protein diversity in human populations; Gene mutations and inherited disease; Disorders due to specific enzyme deficiencies (inborn errors of metabolism); Enzyme and protein polymorphisms.

MOLECULAR POPULATION GENETICS AND EVOLUTION

By Masatoshi Nei (Houston, Texas). North-Holland Publishing Company, Amsterdam-Oxford 1975. Distributed in the USA and Canada by American Elsevier Publishing Company, Inc., New York. Volume 40 in the series, Frontiers of Biology, edited by A. Neuberger and E.L. Tatum. Hard cover with jacket, 16.5 × 24 cm, XIII + 288 pp, numerous tables and illustrations. Price: Dfl. 82.00 (US $ 34.00).

The progress of molecular biology in the last few years influenced population genetics and evolutionary theories to such an extent that a new discipline has resulted, *molecular* population genetics and evolution. Whereas, until recently, only short-term changes in the genetic structure of populations could be taken into account and long-term evolution be simply the object of conjectures, the molecular approach, i.e., the direct study of the genetic material and/or of its immediate products, has brought about many more possibilities and new insights. The classic assumption of a relatively small number of allelic states per locus has come to be modified in favor of a much larger variability. The classic neo-Darwinian theory of evolution has also come to be modified in a number of aspects, and especially with respect to the role of mutation.
These and other fundamental subjects are dealt with by Dr. Nei, who is himself a leader in the development of the new formulations. The monograph devotes two chapters to the mathematical theory of population genetics: natural selection and its effects, and mutant genes in finite populations. Six more chapters discuss empirical data in a rather easy way, that does not necessarily require particular proficiency in mathematics: evolutionary history of life, mutation, genetic variability in natural populations, differentiation of population and speciation, and long-term evolution.

PATH ANALYSIS: A PRIMER

By C.C. Li (Pittsburgh, Pennsylvania, USA). Boxwood Press, Pacific Grove, California, 1975. Hard cover, 14.5 × 22 cm, 346 pp., illustrated. Price: US $ 10.00.

Although natural phenomena usually involve a large number of interconnected variables, physical scientists may usually control and isolate them, and thus apply experimentation on a few variables at a time. The same is true, though to a lesser extent, of biologists. Social scientists and economists also face phenomena where large numbers of variables may interact, but they may hardly control and isolate them, since they largely have to rely on observed events.
Now, a large number of standardized variables in a closed (and formally complete) system may be analyzed by a form of structured linear regression analysis known as the method of path coefficients. Though largely applied in genetics for now 40 years, having been formulated by Sewall Wright in the early twenties, the method is however poorly known in other fields.
The present book provides a comprehensive approach to the subject, in a plain and enjoyable style, without necessarily requiring a specific proficiency in population genetics nor even in statistics. Although especially directed to social scientists and economists, it will no doubt prove of interest to psychologists and of course to biologists and geneticists.

MEIOTIC CONFIGURATIONS

A Source of Information for Estimating Genetic Parameters

By J. Sybenga (Wageningen, The Netherlands). Springer-Verlag, Berlin-Heidelberg-New York 1975. Volume 1 in the series, Monographs on Theoretical and Applied Genetics, edited by R. Frankel, M. Grossmann, H.F. Linskens, D. de Zeeuw. Hard cover, 16.5 × 24.5 cm, X + 251 pp, 64 tables and 65 illustrations. Price: DM 68.00 (US $ 27.90).

https://doi.org/10.1017/S0001566000027434 Published online by Cambridge University Press

An analysis of meiotic configurations afforded in a strictly genetic perspective, i.e., with the specific purpose of deriving a network of systems to be applied, as generally as possible, in order to estimate genetic parameters of various nature. The book is subdivided into four main chapters. The first one introduces meiosis and the nature and quality of information that may be derived from its configurations, whereas chapter 2 is devoted to the analysis of crossingover, chapter 3 to the analysis of chromosome pairing, and chapter 4 to the analysis of distribution.

INHIBITORS OF NUCLEIC ACID SYNTHESIS

By H. Kersten and W. Kersten (Erlangen, GFR). Vol. 18 in the series, Molecular Biology, Biochemistry and Biophysics. Springer-Verlag, Berlin-Heidelberg-New York 1974. Hard cover, 17 × 25 cm, IX + 184 pp, 73 figures. Price: DM 68 / US $ 29.60.

A monograph dealing with those antibiotics which interfere with the biosynthesis of nucleic acids, namely: (1) inhibitors of DNA synthesis (mitomycin, streptonigrin, sibiromycin, phleomycin, bleomycin, neocarcinostatin, edeine, nalidixic acid); (2) inhibitors of RNA synthesis that interact with the DNA template (actinomycin, anthracyclines, chromomycin, olivomycin, mithramycin, kanchanomycin, distamycin and netropsin, anthramycin); (3) inhibitors of RNA synthesis interacting with RNA polymerases (rifamycins, streptovaricin, streptolydigin, amanitins); (4) inhibitors interfering at the precursor level or with regulatory processes of nucleic acid synthesis (nucleoside antibiotics, mycophenolic acid, aminoacid analogs, quinone antibiotics).

DIABETES MELLITUS. A

Edited by K. Oberdisse (Düsseldorf, GFR). Springer Verlag, Berlin-Heidelberg-New York 1975. Part 2A in Vol. 7, Errors of Metabolism (*Stoffwechselkrankheiten*), of the Handbook of Internal Medicine (*Handbuch der inneren Medizin*) edited by H. Schwiegk. Hard cover with jacket, 17 × 25 cm, XXIV + 907 pp. 113 figures. Price: DM 360 / US $ 147.60. Subscription price: DM 288 / US $ 118.10.

A new addition to Springer's monumental Handbook of Internal Medicine, fifth edition (in German), this is the first of two volumes devoted to diabetes mellitus, within part 7 of the handbook, Errors of Metabolism. The following aspects are dealt with in this first volume: morphology of the insular system; chemistry, secretion, metabolism, and immunology of insulin; relation between anterior lobe of hypophysis and diabetes mellitus in animal experimentation; metabolic action of glucagon, of thyroid hormone, of corticosteroids, and of catecholamins; experimental diabetes; animals with spontaneous diabetes; genetics of idiopathic diabetes; epidemiology and etiology and pathogenesis of diabetes; growth hormone and diabetic vascular disease; diagnostic and clinical aspects of diabetes; diabetes in childhood; gestation and diabetes.

GENETIC COUNSELING

Papers by A.G. Motulsky, C.O. Carter, A.E.H. Emery et al. MSS Information Corporation, New York 1974. Hard cover, 16 × 23 cm, 256 pp, illustrated. Price: US $ 19.50.

Reproduction of a number of selected papers, published in the past 5-8 years by Motulsky, Carter, Emery, Nadler, and others, on various theoretical and practical aspects of genetic counseling as well as on prenatal genetic diagnosis, with emphasis on the specific techniques and effectiveness of amniocenthesis.

GEMINI

The Psychology and Phenomena of Twins

By Judy W. Hagedorn and Janet W. Kizziar. Published by Droke House / Hallux (116 West Orr Street, Anderson, S.C. 29621, USA), 1974. Hard cover, 15 × 23 cm, 138 pp. Price not indicated.

A nice booklet, written by twin psychologists essentially for twins and their families and for the interested layman, but where scientists will also find useful information.

https://doi.org/10.1017/S0001566000027434 Published online by Cambridge University Press