

the authors take the plunge and tell us how the meaning of these chromosomes was discovered. Even so they do not tell us the part played in this by Heitz and Bauer who arrive on the scene a year late.

Such discontinuities of style and arrangement are not unrelated to the theoretical character of the book. "Natural Selection" appears (p. 264) as a sub-heading between, and on an equal footing with, "Gene Homologies" and "Genic Balance". "Genetic system" is equated with "genome" (p. 112): whether the same equation holds later (on p. 537) is doubtful. But perhaps most serious of all is the authors' inevitable failure to take advantage of the specific opportunities of discovering fundamental principles from these very experiments with *Drosophila*.

Of the 121 diagrams which illustrate types of chromosome complement in the male, about 30 per cent. reveal no difference between X and Y chromosomes. In some instances as an afterthought the authors call attention to this apparent identity, e.g. "The largest V is the X chromosome; and the Y is also a V, which is indistinguishable from the X" (p. 147). Now evolution in the sex chromosomes is clearly rapid in *Drosophila*: four species are represented as having no Y at all in the male; others have two X's. Certain questions therefore arise. Are the two apparently identical sex chromosomes a newly arisen system with a single gene difference? Or are there large but equal-sized differential segments in X and Y? Or has the female become the heterozygous sex in these races or species?

To all these questions the salivary gland chromosomes and the distribution of heterochromatin might provide answers. But these matters are not brought into relation. Indeed, in the enormous index, sex chromosomes, or chromosomes: sex, or crossing-over, or linkage, or differential segments, do not appear.

This book, it is to be feared, will not be attractive to the general student: at least not so attractive as the importance of its theme suggests or deserves. Nevertheless it should fulfil a special purpose. For one who knows what he wants to find out from *Drosophila*, one who is already familiar with its genetical history and uses, and with the problems of evolutionary genetics in general, for such a one the references, tables, figures, diagrams and maps will suggest any number of new enquiries.

C. D. D.

GENETICS FOR SCHOOLS. By Prof. K. Mather, F.R.S. Modern Science Memoirs, No. 31. London: Published for the Science Masters' Association by John Murray. Pp. 36. 1s. 6d.

A valuable first year's course in all aspects of genetics: plant and animal, cytological and physiological, practical and theoretical.

THE BIOLOGY OF MENTAL HEALTH AND DISEASE. With 108 Contributors. Foreword by Stanley Cobb, M.D. London: Cassell. Pp. i-xvii + 654. 75s.

This book contains 38 articles, two of which, by F. J. Kallmann and R. R. Gates, and a discussion of mongolism, are of genetic interest.

#### NEW JOURNALS

JOURNAL DE GÉNÉTIQUE HUMAINE. No. 1 of Vol. 1 published June 1952. Genève: Médecine et Hygiène. (4 numbers per annum: Fr. fr. 3000 p.a.)

ACTA GENETICAE MEDICAE ET GEMELLOLOGIAE. No. 1 of Vol. 1 published January 1952. Rome: Largo Dell'Amba Aradam, 1. £5 p.a.