

genotypes is not relevant to the decision as to what constitutes a realistic sample size. In fact, as Bruell showed in the "Roots of Behavior" symposium employing formulae from Mather's *Biometrical Genetics* whether or not segregation is observed in the F_2 will depend on the heritability, the difference between the extreme homozygotes and the number of genes. Much simpler explanations of this F_2 phenomenon, in terms of differential stability between F_2 and non-segregating generations, or inadequate scales are not discussed. There is a similar misconception concerning the size of a diallel cross necessary for valid statistical inference. Hirsch agrees with Bruell that this must be very large indeed. In fact, for a fixed sample analysis there is no requirement as regards the size of the sample. The question is irrelevant. In the analysis of a random sample Hayman suggests that from 8 to 10 lines is a reasonable minimum. Certainly there are problems concerning the interpretation of diallel crosses but this is not one of them.

The arguments concerning genotype-environment interaction are similarly exaggerated as are those concerning the importance of the assumptions underlying the analysis of variance which, in fact, relate, more to the problems of significance testing than to those of estimation, which are of more importance in quantitative genetics. While there is much good sense, too, in this chapter, Hirsch arouses concern lest confusion in an already confused area be increased. Perhaps some measure of exaggeration is the price one pays in striving for a compelling style.

The book is extremely well indexed and contains a bibliography apparently complete up until 1964-65. It can be thoroughly recommended to those wishing to familiarise themselves with a goodly part of recent behaviour genetics.

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REPRODUCTION AND MAN. R. J. Harrison. CHEMICAL EXCHANGES IN MAN, A PHYSIOLOGICAL ESSAY. B. F. Mathews. Volumes 3 and 10 in the "Contemporary Science Paperback" Series. Oliver and Boyd: Edinburgh and London. Each pp. vii+134. 7s. 6d.

These volumes form part of a new series which is intended for first and second year undergraduates, and for scientists reading outside their own fields. Both books are short and readable. The first one gives a clear description of the anatomy and physiology of reproduction in man and other mammals, and relates them to the world's population problems. The second book is a lucid account of how the body regulates its pH and the concentrations of oxygen, carbon dioxide, water and electrolytes in its tissues. The chemical exchanges involved in the digestion and absorption of food from the gut are not included. Both books have indexes and suggestions for further reading and are illustrated with many line drawings. In addition, Professor Harrison's book contains 16 pages of excellent photographs. It is a pity that these completely lack any indications of scale.

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