

QUANTITATIVE GENETIK. Gunnar, E. Hiorth. Springer Verlag. Berlin. Pp. 467 + viii. DM86. In German.

*Quantitative Genetik* consists largely of an account of the observations and conclusions derived from breeding studies and population studies of the quantitative characteristics of plants and animals. It contains extensively illustrated accounts of inbreeding, backcrossing, heterosis, selection, competition and cooperation, homeostasis, correlations between characters and systems of variation. It also includes some less conventional material for a book of this kind, for example, the biochemical aspects of gene action and interaction, gene conversion, cytoplasmic inheritance and environmentally induced changes.

While more than adequate from the observational viewpoint the analytical and interpretative aspects receive scant treatment. They consist of little more than a brief account of the statistical analysis of simple experiments, the development of mathematical models for the more elementary population situations and an outline of the estimation of heritability.

Since the emphasis throughout the book is on observations and conclusions rather than on principles and analytical procedures, the value of *Quantitative Genetik* lies solely in its comprehensive collection of illustrative material. As a reference source for such material it probably has no equal. There are too many important omissions, however, for it to be regarded as a balanced account of Quantitative Genetics. J. L. JINKS.

PAPERS ON BACTERIAL GENETICS. Edited by Edward A. Adelberg. 1964. Methuen & Co. Ltd., London. Pp. 450 + xlv. 50s.

PAPERS ON BACTERIAL VIRUSES. Edited by Gunther S. Stent. 1964. Methuen & Co. Ltd., London. Pp. 365 + xxx. 50s.

Both of these collections of papers along with introductory reviews and bibliographies provided by the editors, were published as paper backs in 1960 by Little, Brown & Co. Inc. The need for these collections of twenty-five papers on Bacterial Viruses and twenty-seven papers on Bacterial Genetics has eased considerably since they first appeared. At that time Adelberg was able to claim that no comprehensive, up-to-date textbook on Bacterial Genetics existed. Although this claim is repeated in the new, hard back edition it is no longer true. To-day, there is a choice of good text books (one of which is written by the editor of Bacterial Viruses) covering the same fields in a more comprehensive and in a more readable form. These collections, while being useful supplements, are no substitute for a good text, for teaching purposes. They are, however, convenient sources of original papers and references and Bacterial Viruses contains a number of early papers on the nature of bacteriophages that are not readily available. But these advantages hardly justify the price. J. L. JINKS.

HERMANN ARNOLD. 1964. Soziale Isolate im Mosel-Saar-Nahe-Raum. Ver. Inst. Landesk, Saarlande, 10. 125 pp. Saarbrücken. 18 DM.

In the Hunsrück district, west of the Rhine, an iron industry existed long before the Thirty Years War. It was, like that in Sussex, based on wood-firing. It disintegrated in the industrial revolution in face of competition with coal firing. The most enterprising workers moved into the

new industries or migrated to America. Less industrious individuals found their way into urban slums, as in Trier. A residue left by these genetically selective movements remained under primitive conditions in the depopulated countryside. Dr Arnold is concerned to make out what happened to these people and how they are connected with the present population of Hunsrück.

Arnold has made two earlier studies of the language and customs of the vagrant groups in this area (cf. *Heredity*, 13, 533). In these he combined linguistic, and literary evidence with that from church and police records. He does the same in his new study. Again he concludes that a selective process, the choice of occupation, has split up the original shifting population into many groups which have diverged in location and have probably also diverged by hybridisation. For example poachers have sometimes moved into thorough-going banditry, notably in the Napoleonic period; pedlars, having to mix with Jewish traders, picked up Yiddish speech; tinkers picked up Romany words. So "Rotwelsch" the secret alternative language or thieves' speech, developed with innumerable local variations.

To-day apparently this primitive population survives as shack dwellers living, by occupations similar to those of gypsies, on the outskirts of villages of the Hunsrück. Like the untouchables of India they live on the outskirts of the peasant settlements but they do not interbreed with the peasants nor even with the travellers. They form a distinct caste at the bottom of the social scale, sometimes harmless, sometimes difficult, occasionally dangerous.

Dr Arnold's opportunities for the study of evolution in isolated human societies have been extremely favourable for disclosing the interaction of genetic, environmental and selective processes. If he continues to exploit them as thoroughly in the future as he has done here we may look forward to the early publication of the more comprehensive volume which he promises us on vagrants and migrants in the larger field of Central Europe as a whole.

C. D. DARLINGTON.

PSYCHIATRIE DER GEGENWART. Ed. H. W. Gruhle, R. Jung, W. Meyer-Gross and M. Müller. 1, 1B, Grundlagenforschung, Springer, Berlin, 1964. 85 figs. 529 pp. DM84.

This book sets out to deal with fundamental research in psychiatry and five of the six articles come close to expounding some genetics. Waelsch and Weil-Malherbe refer to Garrod but they do not quote his book. Ploog deals with Lorenz and Tinbergen and refers to Jacob von Uexküll with his environmental distinction (which we ought not to forget) between *Merkwelt* and *Wirkwelt*. Riebeling, less happily, thinks that Mongolism is due to having an extra X chromosome. And Bleuler describes the Klinefelter type as having two "female" and one "male" sex chromosome. Giljarowsky (of Moscow) pays the expected large tribute to Pavlov and adds a smaller one to Michurin and the inheritance of acquired characters. Other kinds of inheritance, he notes, are not now thought to be important in Soviet—or, he might have added, Western—psychiatry. Twin research is not referred to by anyone.

It is perhaps fortunate that the writers of these articles do not come any closer to expounding genetics for the result could only have been distressing to all parties.

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