

uninspiring to geneticists and may leave psychologists wondering whether genetics contributes anything really useful to the understanding of behaviour. Finally, I was disturbed by the impression that, whatever Jensen may say to the contrary, he still believes that generalisations from conclusions within populations to the differences between populations are helpful and justified. He alludes twice, in footnotes to unpublished algebra which is claimed to show an monotonic increasing relationship between the heritabilities of a trait "within" and "between" populations. For analytical purposes this can be little more than wishful thinking. Nowhere does Jensen specify the very restrictive genetical and environmental assumptions upon which the model is based. We may conceive, with equal justification, of models which would predict the reverse relationship, and indeed, the real world may behave as if there were no relationship at all. Since there are no means for discriminating between such models at the moment the choice still remains a matter of opinion rather than knowledge.

LINDON EAVES

Department of Genetics, University of Birmingham

CHROMOSOMES TODAY, Vol. 3. Edited by C. D. Darlington and K. R. Lewis. Longman, 1972. Pp. 320; plates, 36; figs, 105; tables, 62. Price not given.

This volume gives an account of the proceedings of the third Oxford Chromosome Conference held in 1970. There is an opening address on the "Future of the Chromosomes" by Professor Darlington, and this is followed by thirty-three contributed papers arranged in three sections—Chromosome Structure and Synthesis, Chromosome Mechanics and Mutation and Chromosomes in Natural Populations. At the beginning of the book is a useful list of names and addresses of all the Conference Members and at the end there are abstracts of all the papers and of the demonstrations given at the Conference.

Papers in the first section are largely concerned with work resulting from the use of cytochemical and autoradiographic techniques. Nagl, for example, presents a thorough analysis of molecular and structural aspects of the endomitotic chromosome cycle in Angiosperms. This is followed by a paper on the mitotic cycle proper (Evans, Rees, Snell and Sun), which reports the results of a wide survey of mitotic cycle times in monocotyledons and dicotyledons. One of the interesting findings is that for comparable amounts of DNA the duration of the cycle differs between monocotyledons and dicotyledons. Pardue and Gall are responsible for an excellent contribution on "chromosome structure studied by nucleic acid hybridisation in cytological preparations".

Section two contains an assemblage of papers ranging over the problems of chromosome movement, pairing, and breakage. The paper by Bajer on anaphase chromosome movements in *Haemanthus* is particularly interesting. The work described combined electron microscopy, phase contrast observations of dividing cells using time lapse photography and microslit U.V. irradiation of the spindle. Clowes' autoradiographic analysis of the cell cycles of different cell types in the meristems of *Zea mays* should be compulsory reading for anyone engaged in the determination of the duration of mitotic cycles in plants. There are a number of papers dealing with radiation induced breakage. The one by Savage indicating preferential chromosome

exchanges in certain regions of the arms in *Campelia zanonina*, is particularly well presented.

The third section deals with autosomal, B-chromosome and sex-chromosome polymorphisms in natural populations. Detailed descriptions of the role of chromosomal re-arrangements in the differentiation of populations, species and races are given for the morabine grasshoppers of Australia (White and Cheney), spiny mice in Israel (Wahrman) and the flowering plant *Clarkia speciosa* (Bloom and Lewis), to mention just three. There is also new and important information on the B-chromosome system in the mottled grasshopper, by Hewitt, who described the isolation and characterisation of B-chromosome DNA from several populations. In addition, he presents detailed analyses of some zones of transition between B-containing and non-B populations in an attempt to establish the evolutionary forces at work in the system.

The volume contains many excellent papers besides the few mentioned here, and it undoubtedly merits a place in the library of all those interested in teaching and research in cytogenetics.

R. N. JONES

Department of Agricultural Botany, University College of Wales, Aberystwyth

TAXONOMIC ATLAS OF LIVING PRIMATES. A. B. Chiarelli. Academic Press, 1972. Pp. 363, 6 figures, 33 maps, 160 plates. £6.00.

With the rapid increase, during the past 15 years, in the use of many species of Primates for experimental enquiry, a need has developed for handbooks in which information about each taxonomic group is summarised and the principal references to up-to-date literature are made concisely available. *A Handbook of Living Primates*, published by Napier and Napier in 1967, and much welcomed by students of Primate evolution, did much to provide this need for taxonomic groups down to the generic level, but left to other workers the production of an up-to-date list and definition of individual species. Much information about these is contained in modern monographic works, but little synoptic information about the names, distribution and characteristics of the species of each genus—recognised as natural groups and compounding, in many cases, earlier artificial subdivisions that had resulted from lack of appreciation of the significance and extent of variability—is available.

Although possibly less prominent in studies of comparative anatomy than is the corresponding information at the generic and higher taxonomic levels, such definition at the specific level is significant to those concerned with Primates as experimental laboratory animals, as also to those whose interest is in possible interrelationships of lower taxonomic groups as revealed by, for instance, studies of chromosome number and configuration. The present volume is a worthy attempt to fill this need.

After an initial key (occupying some 35 pages) to the genera and species, the remainder of the text gives, for each of the 176 species recognised, a photograph of consistently good quality, followed by an indication of geographical distribution, approximate body weight and major overall dimensions, together with characteristics of pelage. This is, in turn, followed by a carefully compiled list of synonyms—seemingly well documented by references, but reduced in systematic usefulness by the lack of a bibliography.