

and summarises important facts and advice not easily available, *e.g.*, the spine in achondroplasia is unusually "needle proof".

Two omissions are the sporadic infantile fragilitas ossium, which is more common than the recessive, and the need to avoid episiotomy in the Ehlers-Danlos' syndromes.

The chapters on clotting, haemoglobinopathies, and endocrine disorders are useful, but largely eclipsed by more extensive treatments in books on these subjects.

There is no chapter on the foetal hazards of maternal treatment, and, even though various diseases of limited claims to be more genetic than others are included (such as gout, diabetes and peptic ulcer), the foetal hazards of common and effective oral medication are not discussed. This book does not succeed in its objective, and deserves purchase only by the larger libraries used by obstetricians and orthopaedic surgeons.

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INTRODUCTION TO QUANTITATIVE GENETICS. Second Edition. D. S. Falconer. 1981. Longman, London and New York. Pp. viii + 340. Price: £9.95.

The first edition of this book appeared in 1960 and proved to be a much respected, widely used and frequently quoted text throughout the period until the publication of the second edition. The characteristics of the original book which gave rise to its success were the simple, lucid yet comprehensive style of writing, the minimal amount of previous mathematical understanding required to master basic quantitative genetic concepts and the coverage of the subject. It was perhaps hardly surprising, in view of Dr Falconer's laboratory experience, that much of the experimental work mentioned in the first edition was on laboratory animals especially mice and *Drosophila*. This aspect gave rise to the only major criticism of the book of which I am aware. The narrowness of the experimental evidence referred to did not appeal to students who were primarily interested in botanical research, as well as plant and large animal breeding. For those who could sensibly overcome the narrowness of their interests, Dr Falconer's first edition was to provide an excellent introduction to all aspects of quantitative genetics.

The merits of the first edition are at least as well displayed in the second. The structure, chapter headings and length of text are very similar in the two editions. The book covers a basic and straightforward presentation of gene frequency changes in populations, the structure of populations, variance, heritability, selection, inbreeding, crossbreeding, threshold and correlated characters, and a final discussion of metric characters under natural selection. The treatment is comprehensive but does not embrace all approaches that have been adopted to solving quantitative genetic problems. For this reason it is an admirable teacher's text whilst also being an invaluable support to more advanced research workers in this and related subjects.

Some may think that their favourite approach to an aspect of quantitative genetics has been omitted unnecessarily but perhaps they should recognise that the simplicity of explanation is a boon to the novice. In saying this I should emphasise that the book does reach the limits of

understanding in quantitative genetics and the outstanding interesting areas of ignorance requiring further research are carefully delineated.

The second edition includes a much wider reference to experimental research on laboratory animals, plants and farm species. The reference list has been extensively revised and provides a good entrée to a wider literature in quantitative genetics. I would have wished that Dr Falconer had been encouraged to include a final chapter giving his views on further developments in the subject and on links with other aspects of genetics such as physiological, developmental and molecular genetics. Perhaps such an addition would have given the book a more limited life than it will deservedly enjoy.

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GENETIC VARIABILITY. Christopher Wills. Clarendon Press, Oxford, 1981. Pp. xiii + 312. Price: £24.00.

This is a puzzling book. In places, it seems impossible to discover precisely what the author thinks. For example, early in the book it is stated that observers of natural populations "tend to work with large phenotypic differences in which the influence of selection is so overwhelming as to be detectable by the observer". Yet three pages later he says, in referring to the situation in many populations of *Cepaea*, "the selection operating in these populations appears to be neither constant nor overwhelmingly strong" (and he does not take the view that the situation in *Cepaea* is exceptional). On page 21, we are told that the Duffy blood group polymorphism "has been shown to be involved with resistance to *vivax* malaria" and are referred to pages 132–133. Yet when we turn to these pages, the evidence presented is very tenuous and the whole idea is described as a "fascinating conjecture". In view of such infelicities of style, apparent overstatements such as "the  $\beta$ -thalassemias provide another undoubted case of conditional heterozygote advantage" or "it has been demonstrated quite unequivocally that RBC's are more likely to be parasitized by *P. falciparum* if they are normal than if they are G6PD-deficient" are not perhaps intended to be taken quite literally. This atmosphere of confusion and uncertainty pervades the book. For example, the discussion of ABO incompatibility between mother and foetus is misleading, since the author does not point out that naturally occurring anti-A and anti-B are IgM antibodies, which cannot pass the placenta; the IgG antibodies in this blood group system, which can pass the placenta and occasionally cause serious clinical symptoms, arise from immunisation of the mother by the foetus. Further, the account of self-incompatibility polymorphisms in flowering plants (page 131), in which frequency-dependent selection is not mentioned (although this type of selection is discussed in other contexts), is altogether baffling.

All of this is a pity, since the author's main intention is quite clear. He wishes to advocate the widespread adoption into population genetics of models of truncation selection; he discusses such models at considerable length. Indeed, he defends himself against a possible impression that he is, as he calls it, "fixated on" truncation selection and its consequences (presumably he means "obsessed with"—"fixation", in its psychological