

The corresponding Edinburgh text is *Introduction to Quantitative Genetics* (D. S. Falconer, 1960, 1981, 1989). This is also a popular book in which mathematical derivations take second place to examples and verbal explanations, but these explanations are amazingly lucid and deep, and the book has won a well-deserved reputation as an outstanding introduction to the subject. The main features of the new edition, written in collaboration with T. F. C. Mackay, are a new chapter on quantitative trait loci and an extensive revision of the chapter on natural selection, with fuller treatment of mutation and the maintenance of genetic variability.

MICHAEL BULMER

Discovering Molecular Genetics: A Case Study Course with Problems & Scenarios. By JEFFREY H. MILLER. Cold Spring Harbor. 1995. 700 pages. Price \$59.00 cloth. ISBN 0-87969-475-0.

This book, as anticipated from a cover picture of Gregor Mendel in his garden reading a sequencing gel, is an innovative text. It is based on the syllabus for an imaginative course in molecular genetics given by the author at UCLA. Those teachers who were privileged to share the excitement of the early days of molecular genetics are likely to welcome it and hope that it will both enthuse and train contemporary students.

The book begins with an excellent selection of photographs of molecular geneticists and an historical perspective including the papers by Watson and Crick on the 'Molecular Structure of Nucleic Acids' and the 'Genetical Implications of the Structure of DNA'. The author then selects 'classic' papers to illustrate ten topics. Each topic, or unit, is prefaced by an anecdotal introduction to the key scientist(s), and an appropriate introduction to the relevant background material. The latter provide the essential information and concepts not only for reading the relevant papers, but for the general understanding and appreciation of molecular genetics. For example, the first unit entitled the 'Fine Structure of the Gene' introduces Seymour Benzer and the concepts of genetic selection in the isolation of recombinant progeny, the distinction between complementation and recombination tests, and the use of the Poisson distribution. The reader may then turn to the original papers armed with an understanding how the T4rII system may be used in the analysis of the fine structure of a gene by deletion mapping and in the elucidation by recombination frequencies of the topographical distribution of mutations within a gene.

All topics are provided with an ample supply of problems (with answers), some of which are set within contemporary scenarios that should stimulate student thinking.

Despite being limited to 10 topics, the course introduces most of the concepts basic to molecular genetics, other than those dependent on the 'Recom-

binant DNA Revolution'. The topics are not entirely molecular genetics; one features the studies of haemoglobin in the elucidation of structure-function relationships in proteins. While some of the topics and papers covered are inevitable choices for molecular genetics, including the paper by Crick *et al.* proving the triplet nature of the genetic code, others reflect the impact of the environment in which the author received his training. Most contemporaries of the author would have favourites that were not included. My own list would include papers on bacterial restriction and modification, particularly the classic of Arber and Dussoix demonstrating that modification was a DNA-based phenomenon maintained in semi-conserved DNA, but lost when both strands were new.

I very much appreciated this book and hope that it will be well and widely used. Unfortunately, I can't see it as a general text for large classes, but even in the context of large classes, teachers might find that some topics would form the basis of tutorials. I think it would also make a useful contribution to postgraduate education, particularly where students may be deficient in the basic discipline of molecular genetics.

The book is amply illustrated with entertaining photographs.

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Reinventing Darwin: The Great Evolutionary Debate.

By NILES ELDRIDGE. Phoenix Giant, Paperback Edition 1996. 244 pages. Price £9.99. ISBN 1 85799 508 2.

Some authors possessed by ideas seek agreement, while others reveal in controversy. Niles Eldredge comes very much into the second group. This book now reissued in paperback is, as one might expect, largely concerned with the debate about punctuated equilibrium which he and Steven Jay Gould have done so much to promote. But he makes it clear that, to him, this is only one aspect of a broader disagreement between 'naturalists' and 'ultra-darwinians'. In the former camp Eldredge includes himself, Gould and (by posthumous co-option) Sewall Wright. The opposition are exemplified by Richard Dawkins, John Maynard Smith and George Williams, a hostile lot apparently, much given to 'howls of outrage'. The odd thing is that both sides believe in the primacy of natural selection; there is no discussion here of Kimura and neutral theory nor, for that matter, any insights from molecular sequencing.

The evidence in favour of punctuated equilibrium – long periods of species constancy ('stasis') interrupted by short periods of speciation – comes, of course, from the fossil record. The examples of stasis