level and beyond. On the whole the reviews are well written but at times the level of detail is somewhat off putting even to the interested layman. For example the article reviewing membrane ATPases gets down to the level of including the exact concentration of trypsin required to digest ATPases prior to amino acid sequencing. This is all very well if planning such experiments oneself but rather unnecessary in the context of a review. However, this is a minor quibble in what is an interesting article in a collection of useful reviews.

Although any volume that covers "state of the art" areas of research always runs the risk of becoming rapidly outdated, I feel that each of the articles in this particular collection will become a useful work of reference for anyone wishing to acquaint themselves with the various areas covered within.

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Evolutionary genetics. John Maynard Smith. Oxford University Press, Oxford. 1989. Pp. xii + 325. £16.95. ISBN 0 19 854215 1.

This book is intended as a text for advanced undergraduates and as such it will provide a useful platform for many undergraduate courses. Though the book does require some knowledge of basic genetics, mathematics and statistics, these requirements are minimal and should be consistent with most biologists' general training. It is an extremely well written and presented book with a suitable number of clear diagrams, some of which are comfortably familiar from the author's previous works.

The book is essentially divided into two sections. The first of these takes up the first nine chapters of the book and provides a wide coverage of most of the aspects of genetics and general biology which are necessary to understand the basic mechanism of evolution, ranging from simple models of population growth to aspects of complex structured populations. The chapters in the second section deal with a number of specialized topics ranging from plasmid evolution to speciation. All the topics are neatly and concisely covered with useful detailed examples. In addition there is a wide range of problems and computer projects at the end of each chapter.

If one were to look for specific criticisms it might be argued that the choice of topics covered appears on balance to reflect the author's interests rather than a completely unbiased account of what is admittedly a rather broad subject. In addition the topics are rather too neatly dealt with and are often presented as fairly complete solutions to specific problems. It might be argued that the Red Queen Hypothesis applies to the models themselves in evolutionary genetics and that this might have been made more apparent in the text.

However, within the constraints of a book of this size, some omission is inevitable.

Provided that readers realize that the story is not complete and that there are other views and approaches to the subject, I can strongly recommend this as a stimulating book which will be of interest to a wide range of biologists as well as a useful undergraduate text.

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Genome analysis. K. E. Davies. IRL Press, Oxford/Washington. 1988. Pp. xiv + 192 (with index). Price £27.00/$54.00 HB. £18.00/$36.00 PB, ISBN 1 85221 109 1 HB, ISBN 1 85221 110 5 PB.

This book is a collection of eight articles on techniques which are of increasing popularity in the analysis of eukaryotic genomes. These are: mammalian gene and chromosome transfer or whole cell fusion techniques, the generation of ordered libraries, double inhomogeneous field pulsed field gel electrophoresis, chromosome jumping, denaturing gradient gel electrophoresis in the detection of single base changes, PCR, DNA fingerprinting, and a description of the background to human genetic mapping. This is a diverse assortment, and while the articles are well written, the book as a whole is somewhat unfocused. However, this is probably an advantage; a definitive treatise on genome analysis would be fairly indigestible. As a collection of topical articles the book is a welcome addition to a good series, but needs to be regarded in that light. It is certainly a useful addition to a molecular biologist's bookshelf or library and is pretty good value for money. If you do decide to buy it I would recommend the soft back version; the hard back version is spiral bound and looks as though it won't stay together very long.

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Theory of Evolution and Dynamical Systems London Math. Soc. Student Texts No. 7. J. Hofbauer and K. Sigmund. Cambridge University Press, Cambridge, Pp 342. Price £10.95. ISBN 0 521 35838 8.

The authors of this book are well known for their contributions to the theory of dynamical systems in the biologi-

cal context, and for their clarity of exposition. They have brought that clarity to what is an excellent text. The reader will find here an exposition of the mathematics of dynamical systems (mainly differential) presented through the medium of various biological models. The areas of biology discussed are (i) population genetics, (ii) ecological models, (iii) hypercycles and (iv) evolutionary game theory. These areas are not, obviously, treated exhaustively but a good overview of each is given, and the mathematical theory is gradually built up. The reader should acquire a good grasp of the basic principles, and thus the book would be a useful text, or associated reading, for a course within a mathematics degree. The reviewer has only one complaint. The relegation of references to paragraph at the end of each chapter is irritating. Inadequate credit is thereby given, and there is sometimes confusion about which papers one should refer to. However, this is a minor point and only detracts slightly from the quality of this very valuable volume.

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