

Evolution (2nd edn). Colin Patterson. The Natural History Museum, London. 1998. Pp. 166. Price £14.99, paperback. ISBN 0 565 09133 6.

As a sixth former about to embark on Oxford entrance exams (this must have been 1988), my biology teacher handed me a slim, smart volume on evolution to take away and digest over the half-term holiday. I don't recall who wrote it (at the time I knew the names of few biologists other than David Attenborough), but I do remember being impressed by a clear writing style, the ability to make complex subjects simple, usually with a single impressive example, and a wide coverage of evolutionary topics, including the philosophy of science (the only coverage of this topic I had ever read). I now believe this volume to have been the first edition of Colin Patterson's *Evolution*. The fact that two of the essays I wrote in the Oxford biology paper were on evolution probably says much for Colin's ability to impress young minds with the elegance of natural selection theory.

Ten years later, on the verge of delivering my first undergraduate lecture course on evolution, I was asked to review the second edition of this book, and the memories came flooding back. Colin had done it again! This is a great little book. It is funny how similar the educational needs of school leavers and university lecturers can be: both want simple clear explanations which catch the imagination and stick. Colin is a master at achieving this. Instead of an exhaustive coverage of each topic, he has gone out to impress minds and get the message across, and it works. The book is well illustrated, easy to handle, and readable in a weekend. It contains 16 sections covering most of what a first-year undergraduate should need to know about evolutionary biology. Many of these sections are only a couple of sides, such as that on species concepts, but others are more extensive, such as those on heredity and phylogeny. The examples are very up-to-date — there is, for instance, discussion of speciation processes in Galapagos finches, polymorphisms in scarlet tiger moths, and the genetic evidence for human ancestry. There are excellent sections on the neutral theory of evolution, and gene families, containing the most lucid descriptions of these topics that I have read. Other sections contain well-worked and trusted examples, such as peppered moths and sickle-cell anaemia. They make their point well. The only topic I could see lacking is a discussion of the levels-of-selection debate — but then one can always reach for a Dawkins book. The discussions of the origin of life, of eukaryotes, and of sex seemed at first rather thin, but then I reflected that Colin is only impressed by well-worked and trusted facts, and there are remarkably few to go on in such areas. Perhaps the gaps were meant to impress.

Above all, what comes across from this book is that Colin really loved both nature, science, and people. If you are in any doubt, two facts will convince. The first is the final closing section with photographs of great evolutionary biologists. In one caption he describes Wallace as 'something of a crank' but also 'a modest, kindly, and most humane and civilized person'. The most recent photograph is of Motoo Kimura (the first I have seen) — Colin was obviously a Kimura fan. Second, the book is studded with memorable

quotes. For instance, on heredity Darwin tells us that 'any variation which is not inherited is unimportant for us', whilst on neoteny Little Richard pronounces 'you've got the sweetest little baby face'.

My guess is that if you are looking for an evolutionary text for 17–18-year-olds, Colin's book is hard to beat, and if you are looking, like me, to get back to evolutionary basics, this is something worth owning. Both editions of Colin Patterson's *Evolution* have influenced the intellectual thinking of myself and no doubt many others, and I was greatly saddened to read in the Foreword of his untimely death upon completing the manuscript. I was already looking forward to what he would have to say about the next 20 years of evolutionary biology.

PETER J. MAYHEW
Department of Biology
University of York
PO Box 373
York YO10 5YW
U.K.

Genetic Engineering — Principles and Methods (Vol. 20). Jane K. Setlow (ed.). Plenum Press, New York. 1998. Pp. 292. Price \$95.00, hardback. ISBN 0 306 45911 6.

In medical circles, there is an old adage that runs something to the effect that: 'The specialist is at the risk of being everything to nobody; whereas the general practitioner runs the risk of being nothing to everybody.' Unfortunately, this text comes dreadfully close to falling into the latter category. *Genetic Engineering: Principles and Methods* is a collection of reviews that strives to provide something for everyone and, in doing so, ends up in being of limited use to most people, be they specialists or generalists.

The central problem with this collection is not in the quality of the reviews themselves. The reviews are, on the whole, well-written and highly informative. The problem lies in the fact that apparently there has been an editorial decision to collect reviews from many diverse fields. Consequently, the subject matter ranges from starch synthesis, to signal transduction of motion and antigen recognition, to the use of antisense in *Dictyostelium*, to the cloning and expression of large cDNAs from mammals. While all of these reviews are quite good, the consequence of combining them all in one volume is that there is really no focus to the collection as a whole.

The problem with the volume is not just that it is a disparate collection of reviews. It also lies in the fact that the reviews are actually quite specific and detailed. They are obviously intended for specialists in the same field as the authors who wrote them. The problem that this creates is obvious. For example, although not beyond the realm of possibility, it is unlikely that someone interested in gleaned information about monoterpene biosynthesis from this collection will also be intent on possessing a review on retroviral cDNA integration.