extent to which "adaptationist" ideas can explain the observed patterns. He concludes that "Appealing as may be the idea of adaptive evolution biased by the asymmetry of the conflict, this argument is likely to prove difficult to apply reliably and unambiguously when it comes to predicting the outcome of particular cases", and that starting off with the details of natural selection acting in an ecological framework is more productive in the long run. Turner emphasises, however, that adaptationist ideas can be a useful start: "[Miriam] Rothschild's argument connecting scarcity, sex-limitation and polymorphism in mimics, originally phrased in adaptationist terms, constitutes a profound insight into the evolutionary dynamics of Batesian mimics. ... high quality natural history is as indispensible for evolutionary theory now as it was in the days of Charles Darwin."

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Evolution of genes and proteins. Masatoshi Nei and Richard K. Koehn (editors). Sinauer Associates, Sunderland, Massachusetts. 1983. Pp. xiii+331. Price £15.80 PB (Distributed by Blackwell Scientific Publications, Oxford, in the U.K.)

The chapters in this book are based on papers presented at a symposium of The Society for the Study of Evolution at Stony Brook in 1982, but this is about the only resemblance that the book has to a conventional volume of conference proceedings. Over the last few years, Sinauer Associates have built up an enviable reputation for publishing collections of review essays in evolutionary biology, written by specialists but aimed at the advanced undergraduate or graduate student. "Evolution of Genes and Proteins" follows this pattern.

The editors, Masatoshi Nei and Richard Koehn, have produced a magnificent book, with topics drawn from almost the entire range of evolutionary aspects of molecular and biochemical genetics. It would be a little unfair to single out individual chapters for comment because they are uniformly well-written and informative. Some chapters review the minutiae of the molecular biology of individual systems, *e.g.* "Evolution of the Mouse β Globin Complex Locus" (Edgell *et al.*), "DNA Polymorphisms in the Human β Globin Gene Cluster" (Kazazian *et al.*), whilst others paint a broader canvas, *e.g.* "Evolution of Duplicate Genes and Pseudogenes" (Li), "Concerted Evolution of Multigene Families" (Arnheim), Virtually every type of study is represented; the empirical (*e.g.* "Protein Polymorphism and the Genetic Structure of Populations (Selander and Whittam)), the experimental (*e.g.*, "Evolution of New Metabolic Functions in Laboratory Organisms", (Hall)), the theoretical (*e.g.*, "Genetic Polymorphism and the Role of Mutations in Evolution" (Nei)) and the speculative (*e.g.*, "Evolution of the Amino Acid Code" (Jukes) and "Transposons and Their Evolutionary Significance" (Campbell)).

What really sets this book apart from many others is that the editors have obtained contributions from authors with alternative viewpoints or approaches, *e.g.*, Brown and Avise on animal mitochondrial DNA; Koehn, Zera and Hall and Kimura on the maintenance of biochemical variation. The editors have also done an excellent job in keeping the subject-specific jargon to a minimum, with the result that anyone with an interest in modern genetics will find each chapter eminently readable. My only criticism of the content of the book is the absence of any chapters devoted to plant genetics, but I am afraid that this must, to some extent, reflect the relative dearth of work in evolutionary aspects of plant molecular genetics.

It is rare that one comes across a book that can be recommended whole-heartedly, but "Evolution of Genes and Proteins" is one of those rarities. No-one involved in teaching genetics at Honours level, either teacher or student, or any graduate student in genetics can afford not to read this book.

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