After all, eukaryotic molecular biologists do not yet know all of the characters, let alone their roles, and fundamental turns of the plot remain obscure. Yet, I think Ptashne is right to be partisan. We know that prokaryotic and eukaryotic transcription mechanisms share a family resemblance, so he's very unlikely to have gone far wrong. In addition, the pedagogic advantages of a bold and consistent point of view outweigh the dangers of being oversimple and incomplete.

I thoroughly enjoyed the book. Not only was it a delightful reminder of how research motivated by curiosity can lead to general principles that were quite unforeseen at the beginning, but it also renewed my interest in following a field in which a continuous surfeit of new results frequently leads to indigestion rather than understanding. I strongly recommend the new edition of *A Genetic Switch* to students of molecular biology from the advanced undergraduate level and beyond. The author and publishers are to be commended for supplying it at such a reasonable price.

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MOLECULAR PHYLOGENETICS AND EVOLUTION. *Volume 1, Numbers 1 through 4, March, June, September, and December 1992.*

Editor-in-Chief: Morris Goodman. Academic Press, Orlando (Florida). $148.00 (U.S. and Canada); $179.00 (all other countries). (1) ii + 86 p.; ill.; no index; (2) ii + pp. 87–168; ill.; no index; (3) ii + pp. 169–252; ill.; no index; (4) ii + pp. 253–350; ill.; author and subject indexes for Volume 1. ISSN: 1055-7903. 1992.

These are exciting times in the study of evolution. Traditionally separate subdisciplines in biology are merging—evolutionary biology, molecular biology, and information science. This has led to fruitful reciprocal illumination and has advanced our understanding of evolutionary processes at both the organismal and molecular levels. Evolutionary biologists often think of their discipline as being largely driven and advanced by new theoretical concepts rather than new technologies; this seems to be in contrast to most other scientific disciplines that more or less freely admit that technological advances provide new tools that speed up scientific inquiry enabling new questions to be asked and answered, and hence help drive progress. Nevertheless, technological advances have had an impact on evolutionary biology, such as when evolutionary biology experienced the allozyme revolution; in the 1960s it was the advent of the study of protein variation at the population and species level. The arrival of the polymerase chain reaction (PCR) and the development of "universal" primers in the late 1980s led to the most recent revolution in evolutionary biology. This molecular technique brought about a flood of new DNA sequence data that are used for the study of population-level evolutionary phenomena and the study of molecular phylogeny reconstruction. PCR makes the collection of DNA sequences easier and speedier; it also creates a demand for faster and specialized outlets for the publication of new molecular phylogenetic information.

The most prestigious journal in evolutionary biology is *Evolution*. This venerable journal, however, so far has not profited noticeably from the PCR revolution; only a handful of papers that use this technique have appeared in it thus far. *Evolution*'s main problem is its long reviewing time and the time between acceptance of manuscripts and their publication. It takes about two years or more to publish a paper in *Evolution*. Even for a discipline of biology that is used to thinking in terms of geological time spans, this is far too long a time. Molecular systematics and other disciplines of evolutionary biology that use DNA sequence information are fields that might advance faster than other areas of evolutionary biology, and new information needs to reach its intended audience quickly. Slow publication time creates problems for graduate students who need to see their papers published before their graduation if they hope to advance to postdoctoral positions, and researchers who need to demonstrate progress on projects funded by grants. Fast publication time is obviously desired by all researchers, but may be a must for a competitive field like molecular evolution. *Evolution* is currently experiencing other problems (perhaps only a temporary aberration); as this review is being written (March 1994), the latest issue of *Evolution* is the June issue of 1993! Another journal, geared toward the community of systematic biologists rather than the larger community of evolutionary biologists, is *Systematic Biology* (*SB*); it is an important outlet for studies in molecular systematics. Unfortunately, *SB* is also plagued with rather lengthy publication times.

The Journal of Molecular Evolution (*JME*) and *Molecular Biology and Evolution* (*MBE*) are two highly successful journals with much faster turnaround times than *Evolution*, and are important outlets for molecular data in evolutionary biology. Both *JME* and *MBE*, however, are more focused on issues like the evolution of genes rather than the evolution of organisms that contain these genes, as well as their genealogical relationships. Nonetheless, both *JME* and *MBE* have published and continue to publish important studies that utilize the phylogenetic information contained in molecules. Molecular phylogenetic studies that report largely on aspects of the phylogenies of organisms rather than

on the molecular evolutionary aspects of the genes sequenced do not need to be published in the abovementioned journals, and in the near future more papers on the subject are going to appear in taxon-oriented journals (for example, *Auk, Copeia, Herpetologia, Systematic Entomology*, and *Journal of Mammology*).

Arguably, the net output of evolutionary information has increased through PCR, and much enhanced computational power has overwhelmed the capacity of existing journals. But do we really need yet another scientific journal? I believe the answer is yes; there is a need for a journal that specifically focuses on molecular phylogenetic studies, and *Molecular Phylogenetics and Evolution* (*MPE*) fills this niche nearly perfectly. *MPE* is a new journal that publishes articles that aim to increase our understanding of evolution and the phylogenetic history of the twigs that, it is hoped, will eventually add up to the elusive "tree of life." *MPE* hopes that such studies will also aid in the development of taxonomically more accurate classifications and the development of more powerful computer algorithms. *MPE* also publishes studies that provide information on the mechanisms acting at the molecular level that are of interest to the communities of evolutionary biologists and systematists, as well as studies that deal with theoretical aspects of phylogeny reconstruction.

In its short history, *MPE* has already been blessed with a flood of excellent papers by many leaders in the field. *MPE* has also experienced some of the typical growing pains of new journals, such as delayed publication dates (not all four issues of the 1993 volume have yet appeared by March 1994) and somewhat uneven quality (albeit the overall quality is high) of papers, one of which contained "contaminated sequences" that needed to be fixed by a lengthy correction in a later issue. Nevertheless, I am confident that under the authoritative editorship of Morris Goodman and his excellent group of associate editors, *MPE* will grow to become an established important journal in the fields of molecular evolution and molecular phylogenetics.

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PARASCRIPT: PARASITES AND THE LANGUAGE OF EVOLUTION. *Smithsonian Series in Comparative Evolutionary Biology.*

By Daniel R. Brooks and Deborah A. McLennan; Series Editors: V. A. Funk and Peter F. Cannell. Smithsonian Institution Press, Washington, D. C. $69.00 (hardcover); $25.00 (paper). x + 429 p.; ill.; author and subject indexes. ISBN: 1-56098-215-2 (hc); 1-56098-285-3 (pb). 1993.

This book might have been better subtitled "In Defense of the Underclades," as it contains an elaborate plea for evolutionary biologists to understand parasites, not as nasty evolutionarily regressed peculiarities best suited for the clinician, but as splendid creatures in their own right, excellent subjects for the study of virtually any topic in evolution. The word "parascript" is from a paper by the helminthologist Harold Manter, who defined it as "the language of parasites which tells of themselves and their hosts both of today and yesteryear" (p. 18). While poetic, this definition is not particularly informative, and indeed for the first 20 or 30 pages, I was uncertain of exactly what the book is about.

Once the introductory material is read, however, it becomes clear that the authors attempt to do several things. First, they examine the historical framework that resulted in a bifurcation of parasitology and evolutionary biology around the turn of the century. This interesting discussion pinpoints a crucial lack in early parasitological work: the inability to reconstruct phylogenies. As a result, attempts at evolutionary analyses stagnated, and evolutionary biologists quickly left the parasitologists behind. Chapter 2 contains numerous examples of parasite-host associations and how they might be used to answer evolutionary questions. Although I appreciated the spirit in which these examples were given, perhaps because of the specialized terminology, I found them heavy going, and preferred the more general discussions of how parasites can illustrate evolutionary mechanisms such as sympatric speciation. The chapter also contains an extensive treatment of Brooks Parsimony Analysis that would have been better left to another venue.

Subsequent chapters take a rather biblical tone as they enumerate The Six Myths About Parasites (of which none is true) and The Six Generalizations From the Current Data Base (of which all are true). The myths include both real truisms from "parasites are simple and degenerate compared with free-living organisms," which the authors debunk by pointing out that sister groups must be used for comparison, to suspiciously long and complex statements like "larval and adult features represent independent adaptive responses to different environments and indicate different phylogenetic relationships," which I suspect along with a few others serves as a straw man to allow the authors to promote their favorite theories and disagree with their critics.

The book concludes with a formidable 160-page database containing phylogenetic information about all described parasitic helminths and protists. It is thus reminiscent of Bell's *The Masterpiece of Nature* (Univ. of California Press, Berkeley, 1982), which contains a similarly painstaking review of sexual reproduction. Both books would be well used by new graduate students casting about for a thesis topic in systematics, parasitology (in the case of