sets, and the associated case histories provide an excellent reference for researchers and managers working on restoration problems. This volume presents some of the most detailed case histories in existence and it would be a great addition to the library of ecologists interested in restoration efforts.

The first two-thirds of book provides some specific case histories in Florida, all of which have long-term data associated with impacts of eutrophication, paper mill contaminants, and hydrologic modifications. The author very effectively describes the impacts to plankton, aquatic macrophytes, and fish communities. The last one-third of this volume presents brief overviews of restoration efforts in some of the most high-profile ecosystems in the U.S. (South Florida, Chesapeake Bay) and also gives an overview of mercury and dioxin waste site restoration. The author includes quotes from the popular media associated throughout the book, which in most cases is very interesting but, in others, the issues discussed in the media are not fully described in the text, making interpretation of the comments not always intuitive. The two areas where I think the text could be improved are in the quality of the graphics (which is not high, particularly for the large time-series data sets that cover years to decades and are not always straightforward to interpret) and some of the text organization is a bit scattered (topics do not always follow the subheadings, which makes the book more difficult to follow than it could be). Nevertheless, the excellent long-term data sets combined with the author's experience in ecosystem restoration make this a valuable publication that should be read by researchers working on ecosystem restoration efforts.

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EVOLUTION

SCIENCE, EVOLUTION, AND CREATIONISM.
By The National Academy of Sciences and Institute of Medicine. Washington (DC): National Academies Press. $12.95 (paper). xvi + 70 p.; ill.; index. ISBN: 978-0-309-10586-6. 2008.

Scientists face challenges in explaining evolution and its evidence. A recently articulated view of their role is that they should *avoid* emphasizing technical details when they attempt its defense (M. C. Nisbet and C. Mooney. 2007. *Science* 316(5821):56). The thesis is that scientists should "frame" information in contexts familiar to their audiences, given that facts are often misapplied and modified especially if they are highly relevant to politics and decision-making. However, many scientists feel "comfortable" only when dealing with bodies of facts as evidence for their positions.

The National Academy of Sciences and the Institute of Medicine recently issued an updated and rewritten edition of their treatise *Science, Evolution, and Creationism.* This thoughtfully written presentation of the nature of science with a focus on evolution, the evidence for biological evolution, and a review of creationist perspectives addresses questions about our knowledge of biological evolution and whether one can accept evolution and still retain religious beliefs. It is a source of information, logic, and ideas. Its stated audience includes those involved in discussions about evolution—teachers, policymakers, legal scholars, and community members interested in quality science education. Students and adults who wish to learn more about evolution as a fact and a process that results in the diversity of life on Earth are its broader audience. The format is exceptionally useful. Essential terms are carefully defined as marginal notes. Illustrations present well-chosen examples. Several "boxes," especially in the first chapter, present information on the applications of evolutionary thinking to "real life" situations as well as information on special techniques and relevant examples. The text is clear, direct, and meant to be inoffensive to both scientists and questioners without being dogmatic or even persuasive. The responses to the "FAQs" are thoughtful ideas about the stumbling blocks to understanding the importance and relevance of science and of evolution, and why science and religion are *different* ways of understanding phenomena.

This volume provides the information, almost no matter what the debate or level of inquiry, necessary to meet Nesbit and Mooney's challenge to present science, evolution, and creationism in ways that address the perspectives of their audiences, but with an *understanding* of the relevant "technical detail." A companion supplement, perhaps an update of Bull and Wichman's outstanding review of applied evolution (2001. Applied evolution. Pages 183–217 in *Annual Review of Ecology and Systematics*, Volume 32, edited by D. G. Fautin, D. J. Futuyma, and H. B. Shaffer. Palo Alto (CA): Annual Reviews), might be added to the next version so scientists would have more examples to help them emphasize, in

context (including but not limited to the "technical details"), the importance of science and evolution to our existence.

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The Driving Forces of Evolution: Genetic Processes in Populations.

By David Wool. Enfield (New Hampshire): Science Publishers. $59.50. xv + 346 p.; ill.; author index and index. ISBN: 1-57808-445-8. 2006.

From this volume, it is clear that Tel Aviv University students have enjoyed rigorous survey courses in population and ecological genetics during the latter decades of the last century. The author's pedagogy, previously published in Hebrew, is now an English-language book.

Part I offers tidbits about the origins of life on Earth, a few definitions, and then the basics of the Hardy-Weinberg theory—all in three quick chapters. Five subsequent chapters rapidly review processes that perturb populations from equilibrium: drift, mutation, migration, nonrandom mating, and selection. This is a standard overview, distinctive mainly for its emphasis on graphical methods (e.g., De Finetti diagrams, hexagonal graphs). Part II (Selection in Nature) emphasizes phenotypic evolution over genotypic evolution. It does offer three short, quirky chapters on a huge topic: the neutralist-selectionist "controversy" and molecular evolution. Part III consists of five chapters and is a medley of macroevolutionary topics: species concepts, speciation, extinction, phylogenetics, human evolution, and game theory.

Any course relying on only this volume will convey a good, basic understanding of how selection affects populations. Yet the book offers only very cursory exposure to research that explores other topics fundamental to population genetics: inbreeding depression, sexual selection, and phylogeography to name a few. Chapter-ending reference lists, especially in Parts II and III, include either obvious textbook cases or somewhat dated reviews. Efforts to update this 2006 volume seem a tad perfunctory. This weakness of Parts II and III is—in some ways—a strength of Part I. Wool's theory section is a clear, concise outline accompanied by a scholarly bibliography, and it guides readers efficiently to the historical primary literature.

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Gene and Protein Evolution. *Genome Dynamics, Volume 3.*

Edited by Jean-Nicolas Volff. Basel (Switzerland) and New York: Karger Publishers. $250.00. vii + 194 p.; ill.; author and subject indexes. ISBN: 978-3-8055-8340-4. 2007.

Research on gene and protein evolution has exploded since the early 1990s and recent innovations in high-throughput genomics have further increased the pace of these fields as well as the volume of material in the literature. *Gene and Protein Evolution* is a collection of 12 independent articles that cover a variety of topics in molecular evolution. Individual chapters reflect specific authors' areas of expertise, including studies with both theoretical and empirical approaches. The majority of chapters will interest a broad audience, although some will be of limited appeal to readers outside of the specific area addressed. Standout chapters include the contribution from Madan Babu et al., which discusses regulatory networks, and the contribution from Van Hellemont et al., which examines regulatory sequence divergence.

Despite its strength as a series of interesting and current articles, the book does not present a complete or unified picture of the current state of knowledge of gene and protein evolution in the way that the now classic volumes by Graur and Li (2000. *Fundamentals of Molecular Evolution.* Second Edition. Sunderland (MA): Sinauer Associates) or Nei and Kumar (2000. *Molecular Evolution and Phylogenetics.* Oxford: Oxford University Press) did. Such an up-to-date cohesive synthesis of the current field of molecular evolution is sorely needed. Experts in the field and others with an interest in molecular evolution will find *Gene and Protein Evolution* of interest and utility, since it includes some good summaries and challenging suggestions, but it is not a replacement of either of the outstanding, but aging, volumes mentioned above.

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Ancestral Sequence Reconstruction. *Based on a meeting held in Kristineberg, Sweden, 30–31 March 2005.*

Edited by David A. Liberles. Oxford and New York: Oxford University Press. $100.00. xiii + 252 p.; ill.; index. ISBN: 978-0-19-929918-8. 2007.

These are plentiful times for evolutionary biologists interested in the history of life. *GenBank* could, by the spring of 2008, boast over 80 million distinct gene sequences, with the size of the database growing exponentially. This growth has not been lost on biological scientists who, according to the *Web of Science*, had published (by the end of