

for courses dealing with the relationship between science and society. Curious biologists will find this a diverting tour of areas of genetic engineering outside of their specialties.

Avise concludes with two analogies, one of which doesn't quite work, and one which is quite effective. First, he compares the current state of genetic engineering to the early days of nuclear physics, noting the potential for tremendous harm when used as weapons in both cases. Like nuclear waste, there will be "messes" to clean up, most likely in the form of escaped transgenic organisms. As Avise admits, however, this analogy may be overly bleak as nearly every use of nuclear physics produces a dangerous waste, while many uses of genetic engineering need not. Avise's second analogy is more successful. Imagine trying to build a dam if the water were always finding new ways to break free from it—becoming more acidic to eat through concrete, or more energetic to leap over the top. This is the situation sometimes facing genetic engineers, in both the organisms they redesign and the ecological communities that those organisms inhabit. Avise's small book will give readers a better grasp of how genetic engineering has already succeeded, where there is a risk of its eventual failure, and when the benefits outweigh the risks.

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Foundations of Biogeography: Classic Papers with Commentaries.

Edited by Mark V. Lomolino, Dov F. Sax, and James H. Brown.

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Biogeography, the study of patterns and processes shaping the distribution of life, has been a recurring part of curricula in biology for the last century or two, but only lately has it asserted its maturity. Despite illustrious expositors throughout history—from Alexander von Humboldt to E. O. Wilson—biogeography has mainly been pursued by scientists from other disciplines. And because biotic distributions are shaped by behavior, ecology, physiology, systematics, climate, and geology, scientists from each of these fields have introduced their own approaches, paradigms, and preferred interpretations to its practice. For some time, this cross-fertilization of biogeography by diverse scientific traditions has been at once the field's greatest asset and crippling legacy. After all, didn't Charles Darwin and Alfred Russel Wallace achieve their revolutionary insights into evolution by natural selection by studying biological variation within a geographic

context? One still senses the great potential of biogeography to foster other major scientific revolutions and consequently cranes an ear at every cry of "Eureka!" At the same time, synthesis and unification have remained elusive, and more often than not one hears instead a clamorous din.

In this book, editors Mark Lomolino, Dov Sax, and Jim Brown offer copious evidence both of biogeography's hybrid ancestry and its methodological and conceptual richness. They sought to produce a collection of fundamental contributions to biogeography that could serve as a unified and easily accessible foundation for future development. All three are leaders of the newly organized International Biogeography Society (www.biogeography.org), drawn from the dominant phalanx of geographical ecologists. Brown and Lomolino are also authors of the most comprehensive and copiously documented textbook on biogeography now available, and all three contribute importantly to the primary literature. And if these credentials were not enough, the editors convened a quorum of 20 biogeographers from various fields at the National Center for Ecological Analysis and Synthesis in Santa Barbara (October 1–4, 2000) to help them frame the field and identify its intellectual heritage in the form of seminal ideas and publications. This volume is a result of that dialogue, and many of its section editors and essayists were participants in the Santa Barbara meetings.

The volume is a collection of 72 articles (or excerpts of articles) that largely span the scope of biogeography and that carry its size to the limits of single-volume bindings. The book is divided into eight parts, each prefaced by a contemporary essay/overview: early classics (including articles published from 1761 to 1953); earth history, vicariance, and dispersal (1924 to 1982); species ranges (1922 to 1979); revolutions in historical biogeography (1962 to 1978); diversification (1942 to 1972); the importance of islands (1921 to 1982); assembly rules (1946 to 1979); and gradients in species diversity (1950 to 1975).

There can be little doubt that the collection of original papers will be useful for modern students and professionals alike. There can't be 10 scientists in the world that had all of these works in their working library prior to this collection, and many classics are, in their original versions, beyond the reach of all but the most tenacious library-loan systems. Selected by committee, they include many classical works and omit few papers of comparable stature—although one conspicuous absence is an excerpt from Andrewartha and Birch's classic book *The Distribution and Abundance of Animals* (1954), an eloquent demonstration that distribution and abundance were different facets of the same phenomenon that admitted a wealth of additional data and methods to biogeographic analysis.

The articles themselves are clearly reprinted in facsimile form, buffering (but not eliminating altogether) the diverse page sizes, type sizes and fonts, and formatting of the original works. Page headers that identify section and volume pagination is helpful for orientation within the volume; footers focused on the classic papers themselves might have helped readers keep track of particular articles.

The essays that introduce each part of the book are generally informed, help-

ful, and incisive in treating the different topical areas of biogeography. Most were written by teams of scientists with complementary specializations, such as terrestrial and marine biologists, neontologists and paleontologists, ecologists and systematists. As with the book's composition, this approach has ensured broad coverage and utility. Given the divergent perspectives of some teams, one can't help wondering if the focus and articulation of each has been shifted in compromise.

Foundations of Biogeography is more than a collection of diffuse but important papers that collectively help to ground a discipline. It marks a conscious attempt to reconcile the field's divergent perspectives, engage its far-flung practitioners, and consolidate its important contributions to other biological sciences. Because only a few of its articles are available electronically, the published collection is an easy choice for scientists who seek a sound foundation in biogeography and who thrill at the insights of exceptional minds. Its availability in a paperback edition priced at one-third the hardcover price should help it achieve the distribution it deserves, in the personal or institutional libraries of all who study the distributions of plants, animals, and fungi.

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Andrewartha, H. G., and L. C. Birch. 1954. *The distribution and abundance of animals*. Chicago: Univ. of Chicago Press.

Physician-Assisted Dying: The Case for Palliative Care and Patient Choice.

Edited by Timothy Quill and Margaret Batin.
Baltimore: Johns Hopkins Univ. Press, 2004.
Pp. 342. \$26.95.

Physician-assisted dying was brought to public attention by the actions of Dr. Jack Kevorkian (now imprisoned), who took it upon himself to assist people who wanted—for a variety of reasons—to die. Later examination of his “cases” revealed that only 35% would have been diagnosed as terminally ill by end-of-life care specialists. The idea of physician-assisted death polarized both the general public and the medical profession, and the opportunity for reasoned discourse was temporarily lost. This book, edited by two early proponents of the practice, pro-