structure factor. "What happens when we have a compound or multiple lattice arising from several atoms in each cell of the original lattice? This problem led Ewald to attach 'weights' to the existing reciprocal lattice points. To his astonishment, these weights turned out to be identical with the structure factors, and this led him to realize that the weights were Fourier coefficients" (p. 56). Many years later, Bienenstock and Ewald explored in two papers the symmetry of reciprocal space. Unfortunately, these manuscripts and their influence on developing theories for quasiperiodic materials are mentioned only briefly. Authier and Capelle's article points out the importance of the notion of wave field introduced by Ewald, and the principle and many practical applications of X-ray topographs. The article by Colella gives a lucid account of the multiple diffraction of X-rays and its practical application for solving the phase problem. Juretschke presents a delightfully readable commentary on the conceptual structure of the dynamical theory. The article by Cowley and Moodie on electron diffraction and the one by Bullough and Hynne on optical extinction are very thorough and cover some recent advances, but at a somewhat advanced level for the average reader.

Part D contains a translation of one of Ewald's German articles and reproductions of four articles by Ewald himself at a later period, truly letting "Ewald speak for himself."

As mentioned in the preface to the book, this is not a systematic biography, but a sampler with sufficient strength and attractiveness to induce and inspire the modern reader to want to know more. This is an excellent addition to the literature on the dynamical theory and will be enjoyed by the more physically oriented crystallographers and solid-state physicists. Teachers and students of X-ray crystallography who are interested in the history and early development of X-ray diffraction will find this book very rewarding.

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GENERAL BIOLOGY

PIONEER NATURALISTS: THE DISCOVERY AND NAMING OF NORTH AMERICAN PLANTS AND ANIMALS. *A John Macrae Book.*

By Howard Ensign Evans; drawings by Michael G. Kippenhan. Henry Holt and Company, New York. $22.50. ix + 294 p.; ill.; index. ISBN: 0-8050-2337-2. 1993.

This new book by a well-known naturalist and author is about the names and namers of North American plants and animals. The name of a newly discovered organism is important; it tells us of its existence, and provides a commonly used reference to discuss it. More than that, however, names can tell us much about an organism's characteristics and about those who named it. In this book, Evans opens with a brief history of the early North American naturalists; he then uses many of our commonly known plants and animals to discuss not only how their names were derived but also the lives and adventures of their namers.

Evans's book takes us back to an earlier era, when every step led to new vistas and species of remarkable diversity and novelty, at least to the eyes of the European settlers seeing North America for the first time. Today we are accustomed to knowing not only our own flora and fauna but also that of other regions as well, owing to the abundance of nature shows and articles in the media. Evans writes of a different time, when naturalists roamed an unknown world, and were compelled and challenged to name everything they discovered, to capture an organism's essential qualities in a word or phrase.

This book goes beyond the names, however, and tells us of the namers. The early North American naturalists come alive here, with their individual quirks and common passion for natural history. *Pioneer Naturalists* is replete with tales of their close scrapes, hardships, personal tragedies and triumphs, religious epiphanies, petty quarrels, and sometimes hideous deaths. Most of all, however, these discoverers shared a deep and personal curiosity about this then-new world, and would go to any lengths to find and name the inhabitants of North America.

Pioneer Naturalists is a delight to read, but it also reminds us that names and namers are intertwined, and scientific discoveries are all the richer when we understand the biases, backgrounds and passions of the discoverers. Evans also reminds us that a rich world of plants and animals is still out there in this age of laboratory science, and that there still are names to be given out and adventures to be had for today's intrepid naturalists.

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NATURAL ENEMIES: THE POPULATION BIOLOGY OF PREDATORS, PARASITES AND DISEASES.

Edited by Michael J. Crawley. Blackwell Scientific Publications, Oxford and Boston (Massachusetts). $69.95 (paper). xii + 576 p.; ill.; index. ISBN: 0-632-02698-7. 1992.

This excellent book is about flesh eaters. It deals principally with the population dynamics of natural enemies and their prey, and to a lesser extent with the evolutionary consequences of predator-prey interactions. The taxonomic scope is broad—

viruses to whales—but even though the editor is primarily a plant ecologist, there is barely a chloroplast in sight. Clearly modeled on the three successful volumes edited by Krebs and Davies (*Behavioural Ecology: An Evolutionary Approach*, Sinauer, Sunderland, 1978, 1984, Blackwell Scientific, Oxford, 1991), this book is an assemblage of chapters written by the central figures in the field. It too is targeted at advanced undergraduates and graduate students, as well as research workers looking for an easy way into literature they need not be familiar with. Most contributions do not advance their respective fields, but rather provide lucid summaries that should serve to consolidate their fields and make them widely accessible.

Introductory chapters on dynamics, the comparative method, and foraging theory are followed by chapters on particular taxa. These summarize the main research foci in each group. The third part of the book is ambitiously called synthesis; it deals with questions relevant to various taxa (predator psychology, prey defense, community and population dynamics). Throughout, there is an emphasis on how theoretical ecology has the potential to illuminate applied problems. Much of the material is important in fields as politically diverse and contentious as biological control, medicine, conservation, and whaling. As May and Watts (p. 451) put it, policy decisions in these areas "will ultimately be constrained by sociopolitical factors, but a lucid understanding of the underlying dynamics is a prerequisite to informed choice." I recommend this book to those who doubt that proposition and the relevance of research on problems superficially of interest only to specialists.

Just as the three editions of Krebs and Davies have tracked the developments and fashions of behavioral ecology, it will be interesting to see the shape of any future editions of this book. Certainly, a number of classes of natural enemies are missing, but perhaps cannibals, herbivores and competitors could form the basis for a complementary volume. Future editions of this one will surely include a chapter on immune systems as natural predators. As Crawley points out in the final chapter, there is currently widespread agreement on the important elements affecting the dynamics of natural enemies and their prey. The search for generalizations has shown that details matter; it remains to be seen how much the generalizations will change when we know more details.

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THE POWER OF PLACE: HOW OUR SURROUNDINGS SHAPE OUR THOUGHTS, EMOTIONS, AND ACTIONS. *By Winifred Gallagher. Poseidon Press, New York.* $22.00. 240 p.; index. ISBN: 0-671-72410-X. 1993.

If you are seeking an engaging review of many of the ways in which our surroundings affect us, this book may serve your needs well. The author explores many facets of interactions between humans and our environments, including purely physical stimuli (day length, temperature, and electromagnetic radiation), the complex information reaching human fetuses and infants from their mothers, the stimuli emanating from our complex modern social environments, and signals from nature in the form of landscapes and individual organisms.

Gallagher's goal is not to provide in-depth accounts of research in these diverse areas. In fact, the book contains no data, tables, or figures. For this type of information, the reader must consult the selected references listed at the end of the book. Rather, Gallagher's approach is to select a few researchers in each area and to quote them extensively. As a result, her coverage is somewhat idiosyncratic; what is gained is a very readable overview of a wide array of topics that should induce further reading of the literature upon which the views of the interviewees are based.

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FOR TYROS & LAICS

WHAT THE BONES TELL US. *A John Macrae Book. By Jeffrey H. Schwartz. Henry Holt and Company, New York.* $25.00. xii + 292 p.; index. ISBN: 0-8050-1056-4. 1993.

Bones, particularly what paleontologists and forensic anthropologists can learn from them, seem to be enjoying a bit of popular efflorescence. *What the Bones Tell Us* is one among a number of recent books, magazine articles, and television programs that detail the exciting field of skeletal biology for nonscientific audiences.

The first of the two parts of this volume deals with bioarcheology and forensic anthropology. Part II considers hominid paleontology, ending with Schwartz's own views about hominid cladistics. What sets this book apart from the pack is the author's incorporation of the scientific process and scientific method. His technique works best in the first illustration, where he educates the reader about details of the history of ancient Carthage, particularly about written evidence for the sacrifice of women and children. By doing so, he paints a