

# Book Reviews

• Readers' comments on reviews should be addressed to the Editor.

## Development

DEVELOPMENTAL BIOLOGY, by N. J. Ber-rill. 1971. McGraw-Hill Book Co., New York. 535 p. \$12.95.

This is an excellent book for under-graduates or beginning graduate students who have had at least an introduction to biology. Descriptive embryology, formerly emphasized in textbooks, is balanced here by new focuses from the advances made in molecular biology and genetics. Relevant experimental evidence takes on important proportions in producing an integration fundamental to a basic understanding of the present dynamics in developmental research. The author says: "The dominant theme is that of self-assembly and directed assembly of organized substance. . . . Inquiry and concepts are stressed throughout the book, rather than accomplishments and answers, the treatment reflecting the fact that at all levels the inquiry is open-ended."

The book is interestingly written and fortified by clear illustrations. Each chapter ends with a summary of concepts and a list of readings. The many facets treated are included under three headings: assembly of cell and organisms; the nature of animal development; and organization, reconstitution, and differentiation.

I highly recommend this textbook by the competent and scholarly N. J. Ber-rill.

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EMBRYOLOGY OF THE CHICK AND PIG, by Bruce M. Harrison. Rev. ed., 1971. Wm. C. Brown Co., Dubuque, Iowa. 211 p. \$4.95.

In certain relatively static fields of biology, revising a book is more a matter of improving details than of integrating newer information. Such is the case here. As a guide to the student who is beginning his study of the gross developmental anatomy of the chick and the pig this manual is excellent. The drawings, although simple, are good approximations to what the user can actually expect to see under the microscope. For most stages sufficient sections are shown to give some sense of spatial continuity for most structures. The

labeling is quite adequate, although there are some mistakes. The book goes somewhat beyond the narrow confines of the subject: the technique of slide-making and the structures that produce, package, and care for the gamete, zygote, and embryo are also considered.

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## Ecology

FUNDAMENTALS OF ECOLOGY, by Eugene P. Odum. 3rd ed., 1971. W. B. Saunders Co., Philadelphia. 584 p. \$11.75.

The numerous modifications and additions in this edition should insure the continued popularity of this textbook and increase its value as a general reference for ecologists.

Like the previous two editions, the book has three parts: basic ecologic principles and concepts; the habitat approach; and applications and technology. Parts 1 and 3 have been extensively reworked and expanded. Important topics receiving broader and updated coverage in part 1 include biogeochemical cycles, mechanisms for biologic control of the abiotic environment, self-regulation of ecosystems, and applications of species-diversity indices for describing and quantifying community structure. New chapters pertain to the species and the individual in the ecosystem, the development and evolution of ecosystems, and (a contribution by Carl J. Walters) the nature and potential role of mathematical modeling in ecology.

Part 3 emphasizes the shift from the population to the ecosystem as the focal point in applied ecology that has developed during the past decade. Here Odum pleads the case for man's need to develop a positive attitude towards ecologic management of the human population. Major changes in this part of the book include the addition of chapters on pollution and environmental health, on remote sensing as a tool for the study and management of ecosystems (by Philip L. Johnson), on perspectives in microbial ecology (by William J. Wiebe), on ecology of space travel (by G. Dennis Cooke), and a chapter called "Toward an Applied Human Ecology." The contributed chapters provide insight into some new, relatively complex, and little-known aspects of modern ecology, which until now

have been missing from most ecology textbooks. There is an excellent, up-to-date bibliography. On the whole, the revisions and additions in this edition significantly improve an already proven product.

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LEADERS OF AMERICAN CONSERVATION, ed. by Henry Clepper. 1971. Ronald Press Co., New York. 360 p. \$10.00.

The 316 persons included were nominated by one or more of the 40 member organizations of the Natural Resources Council of America. A page facing the preface lists the criteria of selection: among others, "A basic requirement is that the contribution shall have been meritorious," and "An essential qualification for listing is the individual's performance of those acts that accomplished socially desirable results." A six-page introduction is a general account of conservation movements and activities during the last century.

Each of the alphabetically arranged biographies is about one page long and provides a condensed factual account of the person's career. This unique compilation considers administrators, educators, researchers, and writers on natural resources. Most of the biographies are of Americans, although a few foreigners who have made special contributions on problems in America are included. The omission of such well-known students of environmental problems as Commoner, Ehrlich, Graham, Kormondy, and Nearing, to mention a few who quickly come to mind, is rather surprising. Of the 316 leaders included, only 20 were born before 1850. The earliest, by birthdate (1785), is Audubon. Oddly, Thoreau is not included.

The size and shape of the volume is pleasing, the binding is durable, and the paper and type size are superior. It should be useful to conservationists in general and as a reference book in libraries.

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CLEAN AIR - CLEAN WATER FOR TOMORROW, by Reed Miller and the editors of Science Book Associates. 1971. Julian Messner of Simon & Schuster, Inc., New York. 190 p. \$4.50 (hardback).

This book gives the reader the up-to-date essentials necessary to understand what makes clean air and water. The book is not superficial. The authors cite specific pollutants and discuss their chemical nature and their physiologic