

banization on the quality of life of man are significant. Throughout *A God Within* Dubos points out that cultural evolution now is a far more significant process for mankind than is biologic evolution.

The book is easy to read. I suppose everyone who reads *A God Within* will have his favorite chapter; mine is "Fitness, Change, and Design." Laymen and scholars alike who are interested in interrelationships of science, technology, and society will find this book stimulating. It is especially pleasing to hear from a scientist who believes that man can manage his technology rationally—a scientist who is not preaching doom and catastrophe. Dubos has put it all together.

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EXPLORING THE OCEAN WORLD: A HISTORY OF OCEANOGRAPHY, ed. by C. P. Idyll. Rev. ed., 1972. Thomas Y. Crowell Co., New York. 296 p. \$14.95.

C. P. Idyll is well known for books about the ocean. In the present work he and his 10 collaborators offer a remarkably fine and readable account of the major chapters in the development of oceanography. There are nearly 300 attractive and informative illustrations, a chronology, a useful bibliography, and a complete index. The book could be read with interest and profit by secondary-school students. In view of the current concern for marine problems, this is a most timely edition. It is highly recommended.

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LAST CHANCE ON EARTH: A REQUIEM FOR WILDLIFE, by Roger A. Caras. 1972. Schocken Books, New York. 222 p. \$2.95 (softback).

Last Chance on Earth was first published in London in 1965. In the preface to the American edition Caras updates his information with reports from the International Union for Conservation of Nature and Natural Resources.

This book (which is recommended by the World Wildlife Fund) is devoted to 40 of the 1,000-or-so endangered animals. Included are such well-known animals as the polar bear, blue whale, and sea otter, as well as lesser-known animals. The accounts are factual and depressing, although easy to read. They are well illustrated, by Charles Frace.

The book contains little material that is new or inaccessible elsewhere. Its redeeming feature is the preface. Here the author says he is issuing "a warning and an attempt to put man on record. This book, like many others, is a clarion, a horn, an alarm. Let the call be harsh! Let no one's nerves be spared! . . .

Your ignorance can no longer be accepted in defense. You will forever live with what you do from now on."

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PRODUCTION, POLLUTION, PROTECTION, by W. B. Yapp. 1972. Springer-Verlag, New York. 177 p. \$5.80 (softback).

This book is another in "The Wykeham Science Series," which aims to broaden the outlook of the advanced high-school student and the college undergraduate.

Yapp says in the introduction, "The study of whole animals and whole plants remains the essential biology"; and his book is about the practical aspects of whole-organism biology. He discusses production: how organic matter is converted from one form to another and how this process affects our supply of food and hence the life of mankind; the actions of man: how man has deliberately or accidentally interfered with the natural flow of production; pollution: the ways man has polluted his environment, to his own detriment; and protection: how man may protect himself and other organisms against the results of his activities.

The book is a well-organized review of many studies reported in scientific and technical journals, mostly in the United Kingdom. It contains much that can be used for comparisons of environmental problems in North America and the U.K. Appendices suggest further reading and provide systematic lists of the animals and plants mentioned in the text. The book deserves a place on the shelf of any teacher of ecology or environmental biology.

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THE EARTH AND MAN: A RAND-MCNALLY WORLD ATLAS. 1972. Anonymous; foreword by Julian Huxley. Rand McNally & Co., New York. 439 p. \$35.00.

This is, first of all, a good, up-to-date atlas. The cartography is clear, and the maps (approximately 75) give reasonably good coverage of the world. As behooves a good atlas, there is a good gazetteer—here called, sensibly, a geographic index—consisting of several parts and laden with informative symbols. Unfortunately, the system of symbols is so complex that the new or infrequent user will have to consult the symbol index quite often.

As the title implies, this work goes beyond the confines of a traditional atlas. Only about half the pages not devoted to the geographic index consist of maps and closely related matters; the rest are a collage of astronomy, meteorology, geology, the origin of life,

evolution, ecology, natural resources, human anatomy, human nutrition, and something called "promises to keep." The whole is done colorfully, attractively, and rather accurately. However, one could hardly expect material as wide-ranging as this to hang together in a meaningful fashion; and it doesn't. It resembles a collection made by an adolescent of "scientific stuff" from *Life* magazine. And it would seem that this is precisely the reader for whom the non-atlas parts of this work should hold considerable interest. He may be expected to learn from it—and perhaps to be misled by it, as might happen with the antiquated, stereotypic physiognomy in a section titled "The Family of Man." Nevertheless, the book can be recommended to the family or the school library willing to spend some money on interesting browsing material bound into a volume with a better-than-average atlas.

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MANUAL OF FIELD BIOLOGY AND ECOLOGY, by Allen H. Benton and William E. Werner, Jr. 5th ed., 1972. Burgess Publishing Co., Minneapolis. 408 p. \$6.75.

Depending on one's definition of "manual," this spiralbound, 8½-by-11-inch book may be more or less than a prospective user might envision. It is more than a set of directions for exercises (activities, investigations); it is less than a compendium of ecologic data. It is a well-organized work that all who are concerned with outdoor biology will find useful. Indeed, many have found it useful, as the issuance of this fifth edition attests.

There are nine sections: on field techniques, taxonomy, terrestrial communities and succession, aquatic communities and succession, structure and function of ecosystems, population studies, behavior studies, projects for field study, and selected biologic literature. Each section, except the last two, contains much discussion and has lists of references, in addition to procedures, both general and specific, and data sheets.

High-school teachers will find here little that is directly piratable but much that is adaptable. There are ideas that range from collecting and preserving specimens to investigating succession in a rotting log, from advice on binoculars and cameras to statistical techniques, from addresses of filmstrip suppliers to copious lists of references.

A college teacher of field-biology courses will find much more of some kinds of material than he is likely to use. However, although containing much information that takes it well beyond the function of a simple compilation of field investigations, the book