

cises. A list of materials and commercial sources for each test is followed by instructions for executing the analysis and interpreting results. Space is provided for recording results, and the student is asked to respond to questions. The appendices include a glossary, descriptions of environmental effects of pollutants, and information on air- and water-quality standards.

The manual is well written, and the format is such that an instructor can be selective in assigning the exercises and in the sequence in which they are to be performed. If you are seeking a manual for a beginning environmental-science course, this one deserves your attention.

Carl Prophet
Kansas State Teachers College
Emporia

HOW AND WHY NOT TO HAVE THAT BABY,
by David B. Van Vleck. 1971. Optimum Population, Inc., Charlotte, Vt. 39 p. \$1.00 (softback).

This short book relates the concern about overpopulation to its ecologic consequences. It is the kind of information that should be within reach of every person sharing this concern and working with young people. The book tells it as it is: facts about reproduction, contraception, and abortion, as well as other aspects of the population problem, are treated straightforwardly, without any of the usual moralizing. Methods of controlling the size of the population and why these methods are urgently needed are clearly and factually stated. Every member of NABT should have a copy of this book. This would be one step toward making the information available to a wider audience. The book is published by a non-profit organization that is trying "to help reverse population trends, recognizing the fast accumulating evidence that unless this can be done in the very near future, catastrophe lies ahead for all of us on this earth."

Jack Fishleder
University of California
Berkeley

THE ECOLOGY OF MAN: AN ECOSYSTEM APPROACH, ed. by Robert Leo Smith. 1972. Harper & Row, Inc., New York. 448 p. \$6.95

The high quality of Smith's selections is most evident. The author did not limit himself to "ecologic" literature: they are taken from geography, anthropology, economics, political science, agriculture, and philosophy. And the commentary is excellent. Smith points out that the hunter and gatherer did not live on the edge of a catastrophe, nor did he need to develop a sophisticated social system. This view is confirmed in the article that follows: on the Bushmen of the Kalahari. Next comes an article on primitive agriculture, followed by

commentary suggesting that subsistence methods must be adequate if they have stood the test of time. (We are forced to ask, "Will present methods of technology stand the test of time?") The articles follow along this continuum. The idea of homeostasis between biotic and abiotic elements is developed early and is maintained as a theme throughout the book.

Smith states that "the book is intended as a supplement in any course dealing with man and the environment." Actually, the book is self-contained. It merits a place on every teacher's bookshelf.

Martin Boriko
Orange County Community College
Middletown, N.Y.

THE EVERGLADES TODAY: ENDANGERED WILDERNESS, by George X. Sand. 1971. Four Winds Press, New York. 184 p. \$5.95.

This "angry book" describes the beautiful, mysterious Everglades just as the early Spanish explorers found it. Then, in contrast, it tells what the "greedy white men" have done to destroy it. As you read, you can see the great expanses of sawgrass, shiver at the thought of being attacked by hordes of mosquitos, wonder at the beautiful flowers around you, hear the varied sounds, and be thrilled by the unusual species of animals of the Everglades. Then, in the next paragraph, you are made aware of the destruction man has wrought. The Everglades has been reduced to half its original size and has been dammed, drained, and concreted. The topsoil has been destroyed and all has been burned, until even the balance between salt and fresh water is endangered. A great number of plants and animals are endangered.

Interwoven with this story of beauty and desolation is a history of the Everglades. It begins with the geology; and it includes the Seminoles, whose life and sad fate are discussed. Sand says of the future of the Everglades: "There is some comfort in the expectation that since technology created the Everglades problem, technology will also solve it." This is a good book for an ecology course and for the enrichment of any high-school biology class.

Martha G. Taylor
Haleyville (Ala.) High School

MAN, SPACE, AND ENVIRONMENT, ed. by Paul Ward English and Robert C. Mayfield. 1972. Oxford University Press, New York. 628 p. \$5.95 (softback).

Awareness of the ecologic crisis has followed a rather predictable course in the last 15 years. Membership in conservation societies mushroomed as the public began to be bombarded with popular articles deploring the ecologic

state of affairs, and the bandwagon of ecologic concern became almost too heavy to pull. Oftentimes, as in the case of detergent phosphates, the rash "cures" proved to be worse than the disease.

Meanwhile, back in the halls of ivy, a core of realistic people continued their research on patterns of culture. To understand human behavior was considered indispensable to the solution of ecologic problems. *Man, Space, and Environment* is a collection of 39 papers discussing aspects of human geography.

The book has six major sections. The first three deal primarily with the analysis of behavior: (i) from an historical perspective of community planning and development, (ii) as manifest in man's activities involving the environment, and (iii) as seen through his perspectives or images of his relationship to the environment. Here the doomsday tone usual in books of similar title is lacking; instead, the emphasis is on understanding the relationships man enjoys with his surrounding and on demonstrating that man is a product of his environment—not so much biologically, in the last few millenia, as culturally. The second half of the book discusses the spatial structure of human behavior: the causes and effects of man's diffusion and concentration around the world.

Although *Man, Space, and Environment* does not spout facts and figures about a rapidly depreciating environment and does not offer "quickie" solutions, it does do two things that are very important. First, it attempts an analysis of the patterns of human behavior in various parts of the world—patterns that have produced the ecologic manifestations our popular literature has emphasized in the last few years. Second, it reinforces the idea that rational thought and understanding of human perspectives are essential to effect long-range planning in the efficient use of the space and resources of our finite world.

Many of the papers are rather technical and would be somewhat difficult for a secondary student; but there is also much in this book from which students and their teachers can benefit—especially as biology becomes more and more integrated with the social, economic, and political aspects of our culture.

James L. Mariner
Fountain Valley School
Colorado Springs, Colo.

ENVIRONMENT: RESOURCES, POLLUTION, AND SOCIETY, ed. by William W. Murdoch. 1971. Sinauer Associates, Inc., Stamford, Conn. 447 p. Price not given.

The editor planned this book for undergraduates in interdisciplinary courses dealing with man and the environment, with the hope that the lay

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public would also use it as an environmental sourcebook. He has divided it into three sections following a one-chapter introduction to ecologic systems. The sections deal with populations and resources, environmental degradation, and environment and society.

The first chapter does an excellent job of presenting basic ideas of ecologic relationships, dealing in a straightforward manner with materials cycles and food webs, with populations (their regulation and concomitant problems), and with the problems of studying such complex ecosystems as those that contain man's activities.

The first section begins with two chapters—both pessimistic—on the number and distribution of mankind and the environmental and social consequences of attempting to feed the ever-burgeoning numbers of people. This theme is continued in chapters discussing mineral, energy, land, and water resources. The final chapter takes up an example: the relationships among anchovies, birds, and fishermen in the Peru Current.

In the second section a chapter is devoted to each form of pollution: of the air, of fresh water, of the ocean, by ionizing radiation, and by pesticides—the last-named receiving excellent discussion and having a follow-up chapter, equally good, on better methods of pest control. The final chapter goes into the

interrelationships among pollution weather, and climate.

The final section deals with the social problems of environmental changes. Chapters are devoted to urbanization; the economics of rapid growth and the economic consequences of trying to stop it; the effect that laws (or their lack) have on environment; and the politics of ecology. The section closes with a discussion of the social repercussions inherent in attempting to improve the environment without at the same time alleviating present social and economic inequalities between rich and poor. After all, most of the cries about pollution come from the middle and upper classes; the poor, while suffering most from pollution, have far more serious problems demanding their consideration (such as where their next meal is coming from). If the environment is "improved" by indiscriminately taxing the people for this improvement, the poor are proportionately overburdened by the tax. Serious social revolts are foreseen if something is not done. The authors stress that the impact of almost any policy on various segments of the society is almost unknown: our nation has good economic indicators of changes in the quantity of materials but no social indicators of changes in living quality, and they are sorely needed.

The book as a whole is interesting and could be read with ease by a good high-

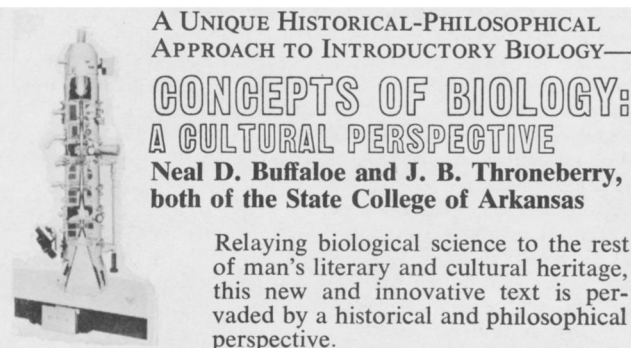
school biology student. The sections dealing with economics may be found more difficult because less familiar in secondary schools; even so, the authors have written about economics in a way the thoughtful student can understand. The book deserves a prominent place on the high-school biology classroom bookshelf, seems admirably suited for its purposes as an undergraduate textbook, and should be required reading for any biology teacher who is attempting to relate traditional ecology to current problems.

Elizabeth P. Nuckolls
Los Angeles city schools

Genetics

GENETIC EXPERIMENTS WITH BACTERIAL VIRUSES, by D. Peter Snustad and Donald S. Dean. 1971. W. H. Freeman & Co., San Francisco. 65 p. \$2.50 (soft-back).

My colleague Gene Perry and I had prepublication access to this laboratory manual and have used it at Knox College to supplement our introductory course in microbiology; as a source of laboratory information for juniors and seniors in our introductory and advanced genetics courses; and as an aid to students who were doing genetics experiments on their own. The following comments and suggestions are based on this experience.



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