The book should be of general interest to high-school students and college undergraduates. The illustrations are exceptionally good. Some elementary knowledge of classical and modern physics is assumed. The reader is exposed to Kepler's laws, Newtonian mechanics, and relativistic theory without recourse to mathematics, for the most part. The author's analogies in such matters as the "clock paradox" are, although not original, well conceived.

The strongest point the book makes has to do with the constant struggle between cosmologic theory and astronomic observation. The author gives a blow-by-blow account of how such ideas as those of the expanding universe and the steady-state universe have been tested by scientific thought. In addition, he gives some attention to the future of cosmology. Kilmister has also sought to identify the techniques that he believes offer the best chances for a breakthrough in cosmologic thought during the next decade. Virtually no hypothesis has been left uncovered—including some rather bizarre ideas about antimatter.

Robert L. Solomon
State Fair Community College
Sedalia, Mo.

Education

GUIDE TO LITERATURE OF THE LIFE SCIENCES, by Roger C. Smith and W. Malcolm Reed. 8th ed., 1972. Burgess Publishing Co., Minneapolis. 166 p. $6.50.

This widely used book (formerly *Guide to the Literature of the Zoological Sciences*) has been expanded to include the plant sciences. This should make it useful to a greater number of biologists and biology teachers. The book has been written to serve as a textbook or reference for classes in biologic literature. There are sections on advice in thesis and dissertation selection, sources of funds, advantages and disadvantages of literature summaries, library organization, abstracts preparation, and sources of bibliographies. A new section, "Literature on the Teaching of Biology," contains a very limited list of periodicals, books, and collections of classic papers; the teacher will be disappointed to find that many widely used sources are not included.

Paul M. Daniel
Miami University
Oxford, Ohio

NEW TRENDS IN INTEGRATED SCIENCE TEACHING, by UNESCO. 1970. UNPUB, Inc., New York. 381 p. $7.00.

This volume on integrated science-teaching in many countries is the product of a joint effort of UNESCO and the Committee on Science Education of the International Council of Science Unions (ICSU). UNESCO's program in integrated science-teaching is aimed at providing member states with assistance in implementing experimental projects for developing new methods and materials for primary and lower-secondary schools. The publication concentrates on work at this level but includes a few examples from higher levels.

Part 1 contains examples of how various workers have defined integrated science and provides a general background relating to the trend towards integration. Part 2 presents statements of the thinking underlying the work in progress and examples of this work. Part 3 treats of the psychologic and social factors that must be taken into consideration in planning curriculum changes.

This collection of articles—not all germane, sometimes in dual language (English and French), and in their original typewritten or printed form—does not constitute a coherent volume dealing with trends in integrated science-teaching. However, the volume does contain many excellent articles, and the reader can learn something about innovations, either in progress or planned, by the member states.

Harold Durst
Kansas State Teachers College
Emporia

Environmental Biology

MAN AND THE SEA: CLASSIC ACCOUNTS OF MARINE EXPLORATIONS, ed. by Bernard L. Gordon. 1970. Natural History Press, Garden City, N.Y. 498 p. $9.95.

Poems (like Masefield's "I must go down to the sea again") are about the only form of writing absent from this exciting anthology. It opens with the Biblical account of Noah, with comments by Suess; quotes Plato and Atlantis; and goes forward to 1969 articles on the hot brine deeps of the Red Sea and the promising uses of seaweed. The contents are almost evenly divided among physical, chemical, and biologic oceanography. 27 of the 71 articles have been selected from the 1960s. Of special interest to the layman are selections from the writings of Benjamin Franklin, Isaac Newton, Charles Darwin, and Louis Agassiz—famous men of broad interests.

Secondary-school students should be able to read many, if not most, of the articles. The book could serve as an introduction, not only to sea exploration but to career opportunities in this fascinating field. It gives the teacher an overview of the history of oceanography. Some of the articles have bibliographies, which in effect are introductions to the technical literature.

As an anthology the book cannot go deeply into any one aspect of marine science; nevertheless it outshines many books devoted solely to marine biology. Gordon is to be congratulated on his skill as a compiler. The book should be added to school libraries.

Elizabeth P. Nuckolls
Los Angeles (Calif.)
City Unified School District

A LABORATORY MANUAL OF GENERAL ECOLOGY, by George W. Cox. 2nd ed., 1972. Wm. C. Brown Co., Dubuque, Iowa. 208 p. $3.95 (softback).

The author has included all but one exercise of the first edition (1967) and has added six more, for a total of 35 exercises in this second edition. All of the "new" exercises are excellent, especially the one on selecting an ecologic field-problem and the one on computer programming.

This is a well-written, practical manual that could be used as an excellent reference for college general-ecology, population-ecology, and community-ecology courses. It contains a wealth of information and many good ideas and suggestions for field and lab problems, procedures, and treatment of data. (However, an outdated, tedious method of determining dissolved oxygen is given.) The manual contains too much material to be "covered" in a one-semester course, but it is structured for easy selection.

John Ransom
Kansas State Teachers College
Emporia

ENVIRONMENTAL SCIENCE LABORATORY MANUAL, by Maurice A. Strobbe. 1972. C. V. Mosby Co., St. Louis. 146 p. $4.25 (softback).

This manual was designed to introduce selected analytic procedures for determining the presence of pollutants and for characterizing the general environmental quality. The analytic methods are derived from numerous sources but emphasize the use of prepackaged materials and methods developed by certain commercial enterprises. Some scientists might consider some of the procedures unsuitable for research application; however, it should be kept in mind that the manual is intended for use by elementary-science students. To this end the manual serves its purpose.

There are five main parts: on particulate matter and chemical parameters affecting air quality, on chemical analysis of water, on microbiologic examination of water, on physical parameters of water, and on identification of pesticide residues by thin-layer chromatography. The sixth part consists of appendices. Each instructional part consists of a set of exercises concerning related pollution parameters. A brief discussion of the environmental significance of a given parameter is presented at the beginning of most exer-