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equipment list and a preparations list, is available. This manual should find extensive use in introductory biochemistry courses, particularly one-semester survey courses. Krogman is to be congratulated on his conceptualization and execution of this manual.

Thomas A. Cole
 Wabash College
 Crawfordsville, Ind.

Source Books

MCGRAW-HILL ENCYCLOPEDIA OF SCIENCE AND TECHNOLOGY, ed. by D. N. Lapedes. 3rd ed., 1971. McGraw-Hill Book Co., New York. 15 vol., \$360.00.

This is the outstanding reference work of its kind. The third edition represents more than a thorough updating of material: according to the editors, almost 1,000 articles and more than 2,500 illustrations have been added. I was sent one volume for review; it indicates that the encyclopedia provides remarkably complete and authoritative information and provides it in an easy and attractive fashion. (I consulted my colleagues; they agreed.) The frequent illustrations are the most effective and relevant I've ever seen in any encyclopedia. In general, the editors have made

certain that each article is understandable to the nonspecialist. It is my opinion that an interested high school senior with a good background in science would have no difficulty understanding over 70% of the articles; the more technical articles, of course, would require considerably more sophistication and scientific background. Because of the broad scope of this kind of encyclopedia it would have been easy for the editors to overlook many biologic concepts, but I am pleased to report that such omissions are few.

This encyclopedia is a must for any school or public library. It presents current and definitive information on scientific and technologic subjects in an understandable and attractive manner.

Bruce B. Criley
 Illinois Wesleyan University
 Bloomington

A RESOURCE BOOK OF TEST ITEMS FOR BSCS GREEN VERSION "HIGH SCHOOL BIOLOGY," by Biological Sciences Curriculum Study. 1971. Educational Improvement Corp., Boulder, Colo. 154 p. \$6.95.

RESOURCE BOOK OF TEST ITEMS FOR "BIOLOGICAL SCIENCE: AN INQUIRY INTO LIFE," 2ND ED. 1971. [Same issuance.] 179 p. \$6.95.

These are extensive revisions of the experimental test booklets published in 1966. They provide items to measure the mastery of objectives in the BSCS courses. The items for each chapter are designed to measure two arbitrarily selected levels of ability; however, the authors (who are not identified) have wisely stated that any such category system is only valid when compared with what has gone on in the classroom.

Except for a few free-answer questions the items are multiple-choice. In general the multiple-choice items are far superior to the free-answer items. The former show evidence of careful editing—an improvement over the original booklets. Most noticeably, the multiple-choice items are relatively free of technical flaws and unnecessary verbiage. The free-answer questions, however, suffer from a lack of careful editing and of imagination. The least that could be expected is a larger number of questions permitting the student to use a greater range of newly acquired knowledge and skills in considering solutions to societal problems.

Although of value to the teacher, the introductory sections are uneven. One example is a chapter devoted to the assessment of inquiry skills with investigative activities—"laboratory prac-

tical examinations." Why uneven? The section does not relate to those preceding and following but would be valuable in a well-organized chapter dealing with a plan for total evaluation. Furthermore, I have some serious reservations concerning the authors' statement that "A periodic check of these investigative inquiry skills will help your students place the laboratory activity in a proper perspective in the biology curriculum." This is with respect to the "lab practical." Such evaluative techniques should help students and teachers keep the laboratory aspect of science in proper perspective. Unfortunately, the sample items are the only ones of this kind to be found in the booklet.

The authors state that "for each information or recall-type question selected there should be two that require students to apply knowledge or use the 'inquiry processes'." Apparently the authors do not feel that items requiring the application of knowledge should correspond to the recall questions. Tests would have greater diagnostic value if this were the case, however.

The items are consistent, nevertheless, with the aims and objectives of the courses of study for which they have been developed. They are a must for the teacher in the development of a comprehensive program to evaluate student progress in BSCS biology.

Harold Durst
Kansas State Teachers College
Emporia

Textbooks

BIOLOGIC READINGS FOR TODAY'S STUDENTS, ed. by Gideon E. Nelson and James D. Ray, Jr. 1971. John Wiley & Sons, New York. 388 p. \$3.95 (softback).

The editors are justified in saying that they selected the articles in this collection "on the basis of readability, relevance to today's problems, presentation of new advances in biology, and unusually clear explanations of complex biological concepts." The readings are arranged topically, following the organization of Nelson, Robinson, and Boolootian's *Fundamental Concepts of Biology*. The two books together would make an excellent "package" for an introductory-biology course for liberal-arts students.

The articles are about such fundamental subjects as energy, cells, the nervous system, behavior, heredity, and the environment. They are taken from such magazines as the *New York Times Magazine*, *Science*, *Fortune*, *Science Journal*, and *New Scientist*—a varied derivation, which gives a pleasant mixture of challenging scientific information and readable biology for the nonspecialist. Titles like "The Speed That Kills or Worse," "Genetic Engineering: Controlling Man's Building

Blocks," and "The Search for the Memory Molecule" arouse interest.

Biologic Readings for Today's Students could serve admirably as a supplementary textbook in college introductory-biology courses and also as a sourcebook for student action and discussion groups.

Georgia E. Lesh-Laurie
Case Western Reserve University
Cleveland

Zoology

EAGLES, by Leslie Brown. 1970. Arco Publishing Co., New York. 96 p. \$3.95 (hardback).

When you come eyeball to eyeball with a martial eagle (*Polemaetus bellincosus*) in full color, you immediately come to attention. *Eagles* abounds with such photographs—several in full color, all interesting.

Leslie Brown has been engaged in research on birds of prey for most of his life. He lives in Kenya, where he was chief agriculturist in the colonial service.

Legends about the birds of prey are numerous. Do eagles carry away children? Brown concludes, from many observations and measurements, that this feat is impossible. Large eagles, however, can kill animals weighing 25 to 35 pounds, such as small bush-buck, deer, and antelope.

Eagles are a topic of broad appeal, and the photographs seem to be directed to a general audience. The text varies in style from lifeless sentences about taxonomy to poetic statements in support of eagle protection. An example of dullness is a discussion of whether certain large birds of prey ought to be considered eagles. This section is further tarnished by statements made without supporting documentation; for instance, "thus we shall ignore the Australian Whistling Eagle (*Haliastur sphenurus*) which is nothing but a large kite." After reading the book, I still don't have any reasons for not considering this bird an eagle. My guess is that anyone with a casual interest in birds will not be discouraged by the heavy material, to the point of giving up: one feels, rightly, that there are better things to come. In fairness, I would add that most of the book reads easily.

The book closes with a chapter, "Eagles and Economics," that should be read by all who are interested in wildlife conservation. Many eagles are on the endangered-species list; one of these is our national emblem, the bald eagle (*Haliaeetus leucocephalus*). I recommend *Eagles* for inclusion in high school and college libraries.

George O. Dawson
Florida State University
Tallahassee

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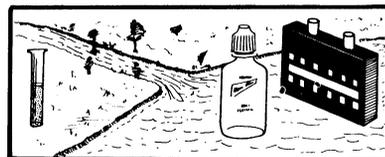
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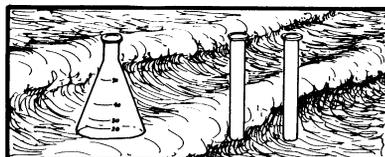
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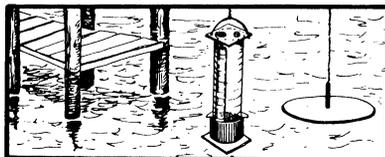
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