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 Birds of Prey—Form and Flight  
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 Shorebirds—Wading and Feeding Behavior  
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 How Animals Breathe—Fresh Water  
 Introduction to the Coral Reef  
 How Animals Move Underwater—  
 Marine Species (2)  
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 Marine Predators—Competition for Food  
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 Cecropia Moth Life History  
 Bald Eagle  
 Introduction to the Beaver  
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#### Elementary Biological Science

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The number of highway deaths in 1964  
 soared to 48,000. In addition, according to a  
 survey by The Travelers Insurance Compa-  
 nies, 3,840,000 persons were injured.

## Book Reviews

*All unsigned reviews were made by editor.*

### General Biology

PRINCIPLES OF MODERN BIOLOGY, 4th Ed.,  
 Douglas Marsland, 723 pp., \$9.00, Holt,  
 Rinehart and Winston, Inc., New York, 1964.

This college text has a long and honorable  
 approach, having its roots in the well known  
 Plunkett text of 1929. It follows the "functional"  
 approach. But in this edition, radical changes  
 have been made. The illustrations have been im-  
 proved and many new ones added. However, the  
 chief change is the vastly increased proportion  
 of pages devoted to molecular biology—almost  
 one-third of the book and quite a bit welded into  
 the remainder. The diagrams are quite up to date,  
 indicating in the best modern way the biochemi-  
 cal aspects of biology teaching. Surveys of the  
 plants and animals are put into the back of the  
 book. The pitch of the book is quite high and  
 cannot be considered for a "low level" course.  
 It will make a fine text and excellent reference  
 book.

Throughout the book, there are many self-  
 tests, questions, extra readings, etc. In other  
 words, the end-matter of each chapter is quite  
 extensive and detailed. There is an extensive  
 glossary and descriptive listing of biographical  
 data of prominent biologists, past and present.

It is difficult to assess a text like this except  
 to say that it does follow the orthodox treatment  
 of biology as it has been known in the past thirty  
 years. The diagrams and illustrations leave much  
 to be desired, but the book is colorful, easy to  
 read, and should be inspected by the teacher  
 who wishes his biology course to follow a some-  
 what traditional form.

BIOLOGY, 2nd Ed., Alfred M. Elliott and Charles  
 Ray, Jr., 885 pp., \$8.50; Appleton Century  
 Crofts, New York, 1965.

This textbook was written for the general  
 biology course given at the college level. It is a  
 well integrated book, written in the traditional  
 style, but with a strong common theme through-  
 out—the evolutionary theory of life. The theme  
 is well chosen, since both the newest concepts in  
 biology as well as the important past concepts  
 can be given to the freshman student in a unified  
 fashion. The science of biology and the student's  
 own knowledge of the world have not been  
 separated, as frequently occurs when the physical  
 and chemical aspects of biological concepts are  
 the underlying themes in the introductory course.  
 The study of the science of life should have more  
 initial interest for the average student with this  
 approach, because the information the student  
 has already observed is presented alongside the

new information. This should give him more confidence in the study of such a broad science as biology.

The textbook has much of the newer information. It is well presented so that the student with little chemical or physical sciences background can still grasp the significance of the facts presented. The illustrations are very well done and should aid in the presentation of such ideas as the homologous and analogous structures at the subcellular, cellular, organ, and individual levels. The basic relationship of subcellular structures and biochemical reactions are also well illustrated. Although the authors have separated plants and animals at the level of the individual, they are very well united in the discussion of cellular and subcellular concepts. This should help the student to understand the basic unity of both plants and animals. Each of the phyla are given individual attention and the more important characteristics of these groups are considered, but the student is not overwhelmed with detail.

In summary, this is a well written textbook with information presented so that it can be considered by the college student and even perhaps excite him. From the material presented, he should be able to see the frontiers in biology that will occupy scientists in the future.

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Purdue University

#### Botany

THE LIFE OF PLANTS, E. J. H. Corner, 290 pp., \$12.50, World Publishing Company, Cleveland, Ohio, 1964.

It is a little difficult to imagine the audience for which this book was intended. It can hardly have been written as a textbook, although one reviewer has so assumed (Schultes, R. E. in *Science* 146:910. 1964). It is far too technical in its details of life cycle to have much appeal for the general reader, and yet it contains far too much elementary botany to attract the biologist. The author points out that books dealing with general botany have become "tediously compendious . . . thoroughly dull and dully thorough . . ." Although the book does sparkle in places, chiefly when the author's detailed knowledge of tropical plants comes into play, parts of it to this reviewer were, to use the author's own words, thoroughly dull. Even if one isn't willing to accept all of the author's theories, he has to admit that his message that general botany needs orientation from a tropical standpoint comes through loud and clear.

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Indiana University

#### Zoology

DISSECTION OF THE FETAL PIG. 7 loose-leaf experiments, Warren F. Walker, Jr., 20c each, W. H. Freeman and Company, San Francisco, 1964.

*Dissection of the Fetal Pig* is presented in a series of seven loose-leaf experiments. These pages are printed in a durable paper, punched for a three-ring notebook, and securely stapled where more than four pages are required to cover the unit. With the extensive utilization being made of the fetal pig as a laboratory specimen in the high school biology classes as well as in college biology and zoology, the activities outlined in these laboratory exercises will be most helpful.

The titles of the exercises will give some idea of the materials covered: External anatomy, skin and skeleton; The digestive and respiratory systems; Circulatory system, veins and arteries; Circulatory system, heart and circulation; Urogenital system; Nervous coordination, sense organs; Nerves, coordination, nervous system.

The exercises introduce the student to the major features of mammalian anatomy. Technical terms are printed in bold type, and the drawings are very effectively reproduced and all parts are labeled. Specific dissection instructions are given to the students and are presented in such a manner as to require careful and thorough observations.

It is my opinion that these laboratory exercises would serve as very effective instructions in the laboratory where the fetal pig is to be dissected. They could be used as the complete reference for the laboratory study of the fetal pig in the high school or college biology class, and would serve as a most effective supplement to any laboratory manual where the anatomy of the fetal pig is not extensively considered.

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BIRD MIGRATION, Donald R. Griffin, 171 pp., \$1.25, Anchor Original, Doubleday, New York, 1964.

The serious minded student will find this book on the biology and physics of orientation behavior of birds interesting and challenging reading. Not only is a review of early studies on bird migration included but there are also selected notes on migration of bats, butterflies, bees, and other animals. Many of the current books covering some biological topic emphasize how very important it is for young people interested in a career in biology to have a firm background in the physical sciences. In the book under review, for example, he will find the discussion on radar, polarization of light,