

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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#### 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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#### 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,