Book Reviews

• **Readers' comments on reviews should be addressed to the Editor.**

Biochemistry

CHEMICAL BIOLOGY, by J. Ramsey Bronk. 1973. Macmillan Co., New York. 667 p. $14.95.

The organization of this text reflects its title. Part 1, "Some Chemical Principles," reviews chemical structure, thermodynamics, and chemical reactions. Part 2 covers biomolecules (proteins, lipids, carbohydrates, and nucleic acids). Part 3, "Biological Reactions," discusses enzyme action and general metabolic topics: anabolism, catabolism, photosynthesis, and the "metabolic mill" for ATP production. Part 4 discusses catabolism in detail. Part 5 is devoted to synthesis, transport process, and muscular contraction. Part 6, "Control Mechanisms," involves discussions of control of protein synthesis (coarse control) and enzymatic activity (fine control).

The level and scope of this text are more similar to recent cell-physiology textbooks than to biochemistry textbooks, such as those of Lehninger and of Mahler and Cordes. The writing is clear, and the illustrations are helpful. This book should find acceptance in undergraduate courses in both cell biology and molecular biology. There is significant flexibility in the use of this text: part 1 would be skipped by students with a strong training in chemistry, and chapter 6, "The Structure of Cells," would need little attention by students with a course credit in cell biology.

The only problem areas I find are the discussion of membrane structure (many students will have been exposed to the fluid mosaic model and find only the unit membrane model discussed in chapter 6) and the discussion of total ATPs from complete oxidation of glucose (many students will have understood 36 rather than 38).

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THE CHEMICAL BASIS OF LIFE: READINGS FROM *Scientific American*. 1973. W. H. Freeman & Co., San Francisco. 405 p. $12.00 hardback, $5.95 softback.

This is an updated and expanded version of Haynes' and Hanawalt's anthology *The Molecular Basis of Life* (which is still being used extensively). These 38 articles provide a survey of the main currents in molecular and cell biology, including the latest work on membranes and biochemical regulation in cells. The book contains more experimental detail than is found in a traditional textbook, and the style of the articles and introductions is such as to convey the excitement and development in each area represented.

The volume is divided into four parts. The first deals with energy capture, transfer, and utilization in living systems and with the origin of life. The second part is on molecular architecture. The third section is on supramolecular complexes and cell formation. The fourth section is on information transfer and control. There is also a concluding essay, on the role of molecular biology in human behavior.

The clear explanations and the colorful and informative illustrations are very good and tend to elucidate concepts within the individual articles.

The book is intended to be used as supplementary reading for courses in general biology, cell biology, biochemistry, biophysics, genetics, microbiology, and virology. It may be used either as a principal or a supplementary textbook for courses in molecular biology at all levels and for individual study. Overall, it is a very good book.

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Botany

MORPHOLOGY OF PLANTS, by Harold C. Bold. 3rd ed., 1973. Harper & Row, Inc., New York. 683 p. Price not given.

This edition of a now well-established textbook of plant morphology deals with the entire plant kingdom, including bacteria. It is an honest revision of the second edition, not just a change in a few illustrations and a new cover. It is improved by the substitution of many clearly better photographs, drawings, and diagrams selected carefully for their pedagogic value. The information and concepts have been brought up-to-date. Even the scale of geologic time on the inside cover has been modified in accordance with current thought. Where pertinent, descriptions based on ultrastructural cytology (well illustrated) are included. Many new references to the literature, appropriately placed at the ends of chapters, help the reader to acquire the most recent supplemental information. The parts of the book on bryophytes and vascular plants are augmented, with improved treatment of fossil plants included where their significance in phylogenetic considerations is most pertinent. Important new discoveries in plant development, physiology, and reproductive biology are treated, along with descriptive morphology, in a fairly well-balanced approach.

Shortly after I received the book, the author sent me five pages of corrections of printing errors. This, unfortunately, is becoming too characteristic of the shoddy publishing of textbooks and monographs in recent years. It is certainly too bad that the otherwise lucid writing and careful organization of this book should be marred by so many typographic errors. Perhaps in the next printing corrections can be made.

While retaining many of the good features of the second (1967) edition, this new edition has obviously been written to include the important developments in plant morphology during the past six years. It should be of interest to teachers and students in plant-kingdom and elementary-plant-morphology courses.

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ATLAS OF PLANT LIFE, by Herbert Edlin. 1973. John Day Co., New York. 128 p. $10.00 (hardback).

Seemingly, the publishers have spared no effort to provide a high-quality popular book on the global distribution of plant life, with special emphasis on cultivated plants and on the relation of plants to their climatic and topographic environments.

Actually, the book is the third in a series of natural-history atlases, having been preceded by an *Atlas of Wildlife* and an *Atlas of Animal Migration*. This fact is not indicated in the book but is implied by blurbs on the attractively illustrated dust cover.

This third member of the nature-atlas series maintains the same high standards that gave such distinction to the earlier volumes. *Atlas of Plant Life* is lavishly illustrated by superb paintings (by David Nockels and Henry Barnett) of trees and other plants, flowers, fruits, crop plants, including structural details as well as ecologic associations, together with excellently prepared and beautifully printed maps (by Geographical Projects, London). The book was printed and bound in Spain, and it stands as another example of the superior work of European color-printers.

Authored by a distinguished botanist and writer (publications officer of the Forestry Commission, London, since 1945), and containing a vast quantity of information, this book should be in the libraries of elementary and sec-