

"walk." In addition to the usual hormone experiments, an exercise on the red/far-red light effect on pinnule closure is included in the development chapter. Water relations and respiration are missing.

The algae and fungi are treated in detail, but there are no labeled or unlabeled drawings, both of which generally prove helpful to my students with these divisions. However, the exercise on algal identification utilizing paper chromatography redeems my faith. Chapter 24, which is 24 pages long, takes the student on a tour of the higher plant divisions with clear labeled drawings (though not life cycle drawings) and instructions for proceeding to relevant future chapters. If the manual must be kept at its present length, I would rather this lecture-type material were reduced and exercises on tree, flower, and fruit identification and root and leaf morphology—all of which are nearly or completely absent—were added.

There's no fat in this manual. It would be quite simple to add the few missing topics by means of supplementary exercises attuned to individual needs (such as local taxonomic guides). The manual suits an in-depth 4- or 5-credit semester course in general botany with at least a 3-hour lab. If the student has already had introductory biology, some chapters, such as cell structure, cell division, and genetics, could be eliminated to allow time for treatment of missing topics. The manual would pair well with a textbook such as William A. Jensen and Frank B. Salisbury's (1972) *Botany: An Ecological Approach* which supplies much seasoning to embellish the meat of botanical information in the manual. Bon appetit!

P. J. Thompson  
St. Michael's College  
Winooski, Vt.

**PLANT CELL STRUCTURE AND METABOLISM**, by J. L. Hall, T. J. Flowers, and R. M. Roberts. 1974. Longmann Group Ltd, London. 426 p. \$14.50 (softback).

This well-written book would make an excellent supplement to college courses in plant physiology, cell biology, and biochemistry. The discussions on metabolic activities require a knowledge of biochemistry and would restrict the audience to upper-level college courses. Following the two introductory chapters are chapters devoted to the ultrastructure and metabolic activities of ten cell structures. The electron micrographs are of excellent quality. Supportive tables and figures, which are easily followed, are integrated nicely into each chapter.

Although the title appears to limit the content to plants, continuous references are made to animal structures and metabolism. Each cell structure is explored in detail, with references to cur-

rent literature and interpretations permeating the dialogue.

Richard J. Medve  
Slippery Rock State College  
Slippery Rock, Pa.

**THE COMPLETE BOOK OF TERRARIUM GARDENING**, by Jack Kramer. 1974. Charles Scribner's Sons, New York. 165 p. \$9.95 (hardback).

This book is intended to be a source book for persons interested in growing plants in a transparent container. The author discusses types of receptacles, ways to start a terrarium, the best plants suited for each environment, the planting techniques, and the maintenance of these gardens. It is a well-organized work which gives a list of plants with their common and scientific names and places to buy plants and containers. The photographs, the botanical sketches, and the how-to-do diagrams enhance the book.

The information is comprehensive and can easily be followed by either experienced or inexperienced gardeners. My conclusion is that the book can be recommended for all gardeners; it would be a lovely gift.

Betty M. Slayton  
Gurdon High School  
Gurdon, Ark.

### Cell and Molecular Biology

**THE BIOCHEMISTRY OF CYTODIFFERENTIATION**, by D. E. S. Truman. 1974. Halsted Press, New York. 122 p. \$8.95

An extremely useful book for undergraduate courses, this volume covers the major aspects of modern developmental biology: cell differentiation, types of change during differentiation, regulation of cellular activity, genes and tissues, and gene activity and its regulation. Six models of differentiation (the erythrocyte, the lens fiber, liver, skeletal muscle, mammary gland, and pancreas) are explored in the next-to-last chapter and the concluding chapter considers the theory of Britten and Davidson for gene regulation of higher cells, Crick's model of the eukaryotic chromosome, and the cell cycle.

Such a short book treats no topic exhaustively, but the reference list of 160 books and articles allows the reader to pursue any topic. The reference list is impressive in its conciseness and its focus on the major problems in molecular development. Editors of future "collected important papers" in developmental biology have much of their work done by Truman's list.

This volume is a companion to Bonner's (1965) *Molecular Biology of De-*

*velopment*. Bonner and Truman could be used together in an upper-level college course to demonstrate the historical development of the area over the past few years. College instructors in development, genetics, and biochemistry will want to read this volume immediately. Instructors in introductory biology courses should spend an evening with Truman's accomplishment.

Thomas A. Cole  
Wabash College  
Crawfordsville, Ind.

**BIOLOGICAL MICROIRRADIATION: CLASSICAL AND LASER SOURCES**, by Michael W. Berns. 1974. Prentice-Hall Inc., Englewood Cliffs, N.J. 152 p. \$9.95 hardback.

One highly valuable tool for the study of cell function is the use of microirradiation to selectively destroy cell components. The purpose of this short monograph is to consider all aspects of this useful procedure and to provide assistance to investigators planning to make use of it. This volume is the sixth of a series on biological techniques under the editorship of Alexander Hollaender.

The book includes an introductory chapter, six additional chapters, a brief bibliography, and a short subject index. Chapters 2, 3, and 4 cover the instrumentation used to produce a microirradiation, the types of radiations employed, and a discussion of dosimetry involved in microirradiation. Chapter 5 discusses the microirradiation of cell components, and chapter 6 discusses the microirradiation of microorganisms, gametes, and embryos. The last chapter deals with the ultrastructure of cell components following microirradiation.

The book is amply supplied with highly useful, detailed diagrams of suggested techniques and excellent illustrations to complement the text. The author has done an excellent job of bringing together widely scattered material from the literature and has prepared a book which will be indispensable to those investigators contemplating research using microirradiation techniques.

Donald F. Logsdon, Jr.  
United States Air Force Academy, Colo.

### Ecology and Environmental Biology

**THE URBAN ORGANISM: THE CITY'S NATURAL RESOURCES FROM AN ENVIRONMENTAL PERSPECTIVE**, by Spenser W. Havlicek. 1974. Macmillan Publishing Co., New York. 525 p. \$12.95.

The title may mislead some to think that this book is about urban organisms. Rather, it is based on an analogy