

## General Biology

lection, the effects of population increase, pest control, and many other human endeavors. The section ends with a survey of our health problems, their causes and potential solutions. The reader is acquainted with the concepts of aging, the artificial heart, cancer therapy, biofeedback, and genetic disease, identification, and treatment.

The "Future" begins with an analysis of human behavior, as it is shaped by our technological environment and as it might shape our future. "Much of our behavior is obviously learned, rather than genetic . . . But what of . . . aggressiveness, ambition, the urge to form a family? Are these learned or genetic characteristics?" The science of ethology is also described. McClary proves to be a realist, by admitting that "all cultures serve their own interests first and nature's second . . ." "We suggest that all peoples, Western or not, use nature on their own terms." Even, he says, the American Indian. He also admits what many of us forget: ". . . any step by Western culture back toward an earlier kind of nontechnological environment would . . . be a step down the evolutionary process . . . It would be a renunciation of the human potential." In a sense, the machine is not rendering man less human, but is instead an indication that man is becoming more human and more capable of utilizing nature to his benefit, as all species do. "To renounce technology is to renounce the human potential." We must not abandon technology, but we must integrate it more functionally with nature.

Being a realist, the author admits to the problems of vertical ecosystems called "high-rise" apartment buildings, the danger that "Machine made objects [may] have a dehumanizing effect" in some circumstances, and the decline of diversity and increase in specialization.

The book offers many tangential notes that are presented as sidelights to the main text. The best of these are "The Importance of a Front End," "Is Human Society a Superorganism?", "Reality as Seen by Art and by Science," and "Why Lawns?"

Some errors or debatable statements include the statement, "Most biologists oppose vitalism"; the assignment of purpose to the evolutionary process, especially in the first chapters; and an evolutionary tree showing all Chordate classes that lacks birds.

Any teacher who employs this book as a textbook is bound to disagree with some of McClary's beliefs. But this is one of the credits owed the author. He invites disagreement; but he offers sufficient background to enable the reader to be knowledgeable in reaching a conclusion.

This is a beautiful book—brief survey, detailed, not boring at all—the best in its class.

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**BIOLOGY OF THE FUTURE**, by Eckehard Munck. 1974. Franklin Watts, Inc. (730 Fifth Ave., New York 10019). 128 p. \$5.90 hardback.

This book, even though small, encompasses most of the concepts of modern biology without going into much history. It focuses on many of the new areas of biology, such as bionomics, molecular biology, ethology, and so on, which have come to be an important part of modern biology because of the work of philosophers, psychologists, and others. The author states that our only hope in survival lies in the understanding of the life around us and ourselves.

"Zero Hour," "And Slew Him," and "Whereto, Adam?" are examples of some of the intriguing chapter headings found in this book. Accompanying these interesting chapters are some unusually good and interesting illustrations, some in color, others in black-and-white. My only criticism of this book is on the sequence of the material. Chapters 1 and 2 discuss the cell, DNA, and the genetic code, which should have been placed in the last half of the book in exchange for some of the exciting and more interesting material that could provide a stimulus to the average reader. This book is intended for grades seven and up; however, it might be a little difficult for younger readers.

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**MAN AND THE NATURAL WORLD**, by Coleman J. Goin and Olive B. Goin. 2nd ed., 1975. Macmillan Publishing Co. (866 Third Ave., New York 10022). 654 p. Price not given.

Educators and students who utilized and enjoyed the first edition of this textbook will surely welcome the second edition, as the body of the book has remained intact. One of the author's original convictions in writing the first edition was that ". . . such biological phenomena as respiration, osmosis, and energy exchange are more interesting, more understandable, and more thought-provoking for the general student when examined in the context of his own body and life." This premise has not been altered. The second edition once again presents biology to the prospective nonscience major using the human body as the principal experimental system.

Changes from the first edition are minimal and consist primarily of updating. Most of the modifications are simply incorporated at the conclusion of existing information.

The book is clearly and concisely written, relying heavily on diagrams

for illustrative material. Many of the selected drawings are quite "diagrammatic" and, in some instances, forsake absolute scientific representation for the sake of emphasis. Photographs receive only limited use, being most evident in the taxonomy, ecology, and behavior sections.

Very little chemistry is included in the book, other than the elementary material found in an appendix. In addition, detailed experimental evidence is lacking. These omissions probably reflect the book's intended use, which, in my opinion, would be best served in high school and community college courses for students not preparing for a career in the sciences.

One of the most educationally enjoyable and satisfying aspects of the book is the author's use of material from disciplines other than science to convey scientific information. For example, the "tears" of the Mock Turtle are employed to illustrate the phenomenon of salt elimination, and quotes from Shakespeare attest to an early medical understanding of the value of urinalysis.

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**BIOLOGY: A HUMAN APPROACH**, by Irwin W. Sherman and Vilia G. Sherman. 1975. Oxford University Press (200 Madison Ave., New York 10016). 553 p. \$13.95 hardback.

This introductory textbook is divided into three sections, the first reviewing such topics as the origin of life, the nature of the cell, and the chemical aspects of respiration, photosynthesis, and the genetic code. The second section focuses upon the human as a "type" organism, with chapters on reproduction, development, digestion, circulation, and coordination, while the concluding part contains chapters on human genetics, evolution, and environment.

The book is well designed, with many excellent illustrations. An index and two appendixes (general chemistry and metric measurement) are included. Frequent "asides" from the text appear in boxes and add interesting vignettes into biological inquiry. An admirable teacher's guide ("Teacher's Companion To . . .") is also available and provides, for each chapter, an outline and summary, objectives, reference and film lists, and sample questions.

The emphasis on the human organism is both a strength and a weakness. Because the book is written for the nonmajor, many familiar topics have, of necessity, been excluded. Most notable, of course, is the absence of botanical references. With the exception of photosynthesis, very little discussion of plants is found, and such commonly encountered botanical words as *algae* or *flower* are not indexed. (But then,