

If a teacher wanted to complete an entire book in the school year, I believe this book would lend itself to such an accomplishment.

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### SPBE: SELF-PACING BIOLOGY EXPERIENCES

by James L. Kelly and Alan R. Orr.  
1980. Iowa State University Press  
(South State Avenue, Ames, IA  
50010). 21 packets, \$11.50.

*Self-Pacing Biology Experiences*, having the appearance of a laboratory manual, is a basic biology program consisting of 21 packets each devoted to a different biology topic. The materials are suitable for biology classes at the high school, junior college, and vocational school levels, as well as for some junior high school courses. The publisher states that it may be used with any biology text or in any course of study at the introductory level. The authors intend for the 21 units to offer individualized and self-pacing opportunities for the student in a course without formal lectures. Emphasis is on the student doing, seeing, listening—and of course, reading—the commentary and laboratory instructions in each of the self-paced experiences. Much effort is directed towards honing the student's powers of observation and using these observations in interpreting and explaining biological phenomena.

Each of the 21 packets consists of a basic part that everyone is to do, plus optional exercises of varying degrees of difficulty, but in most cases drawing upon the knowledge acquired in the basic material.

The topics are standard for introductory biology; they include "The Microscope," "Cellular Membrane," "Histology of Plants," "Fetal Pig Dissection," "Chemistry for Biology," "Energy and Enzymes," "Photosynthesis," "Genetics, RNA, and DNA," and "Basic Ecology." One packet is devoted to "Plant and Animal Diversity," but organic evolution is not considered.

The approximately 200 8½-by-11 inch sheets are unbound and punched for a three-ring binder. The commentary is easily understood and many drawings are included. Space is provided for student responses and the recording of data.

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THE BIOLOGY OF HUMAN ACTION  
by Vernon Reynolds. 2nd ed., 1980.  
W.H. Freeman (660 Market Street,  
San Francisco, CA 94104). 315 p.  
Price not given.

The central theme of this book is to identify the appropriate role of biology that has in the last twenty years joined psychology, anthropology, sociology, philosophy, and the humanities in explaining human action. Because the author assumes a certain familiarity with some books on ethology, anthropology, psychology, and sociobiology, it is an advanced book that could be used as a textbook in the second or third year of college. Some examples of the books that are analyzed by the author are the following: Konrad Lorenz's *On Aggression*, Desmond Morris's *The Naked Ape*, Robert Ardrey's *The Territorial Imperative*, Tinbergen's *The Study of Instinct*, Wilson's *Sociobiology: the New Synthesis*, Jane van Lawick Goodall's *In the Shadow of Man*, John Pfeiffer's *The Emergence of Man*, Lucy Mair's *Introduction to Social Anthropology*, and G.H. Mead's *Mind, Self and Society*.

This book provides a marvelously broad, critical, and balanced assessment of the ideas expressed by many recent authorities. It can serve as a single sourcebook for the whole biology-sociology debate. The titles of the five parts of this book well describe the great issues that are considered: I. Biological Determinism and Human Action, II. The Evolution of Human Action, III. The Physical Mechanisms of Human Action, IV. The Psycho-social Development of Human Action, and V. Human Action in Cultural Context. Human ecology is not considered.

The first edition published in 1976 predated the immense impact of sociobiology on the interpretation of human nature. The second edition contains a new Chapter 3 that attempts "to clarify some of the current confusions in human sociobiology." The author presents arguments against the "central claim of sociobiology, that our evolved, inherited, organic nature is the driving force underlying our behavior and the forms of our societies." He notes that E.O. Wilson himself has more recently anticipated that anthropology will profoundly influence and mix with sociobiology in forming explanations of the really important qualities of human social behavior.

This scholarly book contains three pages of suggested further readings and sixteen pages listing the references. Words are not wasted in the concise analysis of the ideas presented by the leading authorities of many disciplines. The author has accomplished the very difficult task of bridging the gulf between the famous two cultures of the sciences

and the humanities, through concentrating on the common problem of explaining human action. Although the biological interpretation is given the highest priority, the insights of the other disciplines involved in explaining human action are clearly presented and fully respected. A study of this book will probably prevent enthusiasts of simplistic biological generalizations from blundering into inappropriate statements about the nature of humans. I recommend this book as one that will certainly help biologists to move toward an interdisciplinary, scholarly, and accurate understanding of human action.

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### A GUIDEBOOK TO BIOCHEMISTRY

by Michael Yudkin and Robin Offord.  
4th ed., 1980. Cambridge University  
Press (32 East 57th Street, New York,  
NY 10022). 272 p. \$44.50 hardback.  
\$15.95 softback.

The authors present succinctly a wealth of information that reads easily at an introductory level. Their principal theme is to describe proteins, nucleic acids, carbohydrates, and lipids in terms of the forces that determine their architecture, and relate the structure of these compounds to their functions. In doing so, the reader can easily integrate new information presented in the textbook with that from earlier parts of the book.

The section on metabolism includes respiration, photosynthesis, synthesis of polysaccharides, fats, and amino-acid metabolism. Molecular genetics and protein synthesis are combined in a section that contains the synthesis of purines and pyrimidines, as well as a fairly detailed account of protein synthesis. The authors also introduce membrane structure, membrane permeability, appropriate aspects of thermodynamics, and the control of enzyme synthesis and activity with some reference to the metabolic effects of hormones. Unfortunately, this book does not include enzyme kinetics, which would be beneficial to the intended audience.

This textbook is more detailed than Lehninger's *Bioenergetics*, but less comprehensive than standard texts in biochemistry. It should be considered as a supplement to the readings in undergraduate courses in cell biology, microbiology, cell physiology, and plant physiology. Illustrations are numerous and well done. The index is extensive.

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