

can continue with relationships which are naturally repugnant to them" (p. 201). Furthermore, the chapters on the emotional and psychologic aspects of sexuality would have benefited from having a woman coauthor: the discussion of women's feelings and perceptions seems less perceptive than that of men's.

Nonetheless, as a whole the book is factually accurate, substantive, and refreshingly nonjudgmental. It is well illustrated and provides an excellent resource for teenagers seeking accurate answers to some of their very important personal questions.

Karin L. Rhines

Biological Sciences Curriculum Study
Boulder, Colo.

THE JOYS AND SORROWS OF PARENTHOOD, by the Committee on Public Education of the Group for the Advancement of Psychiatry. 1973. Charles Scribner's Sons, New York. 159 p. \$5.95 (hardback).

This little book may be read profitably by all parents and prospective parents. Inasmuch as teachers—especially elementary-school and secondary-school teachers—have a surrogate parental function in their role as teachers, the book will also be useful to them. My own perspectives in reading the book were those of a parent, a teacher, and a biologist.

Not being familiar with professional organizations of psychiatrists, I was interested in the credentials of the authors. From the book's dust cover I learned that the Group for Advancement of Psychiatry (GAP) is an organization of more than 300 of America's most distinguished psychiatrists. Committees within the group explore timely topics relating to psychiatry. One such GAP committee wrote *The Joys and Sorrows of Parenthood*.

The authors accurately claim that the book is *not* a how-to-do-it book on childrearing. It is designed, however, to help parents allay the anxieties and guilt feelings they have acquired in rearing their children. As with most other parents who become caught up in the popular image of parenthood (which emphasizes its joys), I have experienced some of its disappointments and sorrows. Seeing my own parental problems, my failures and inadequacies, and noting those of my friends and colleagues, I can readily identify with a book that "centers on what it is to be a parent, on expectations for one's self instead of for the children, on the goals of an individual apart from the children." Chapter titles further reveal the nature of the book: *Parenthood*, *a Period of Personal Development*; *Expectation and Disappointment in Parenthood*; *The Psychology of Values*; *Discipline—Self and Imposed*; *Varieties*

of Parenthood Experiences; *The Middle Years of Parenthood*; *Grandparenthood*; and *Parents Are People Too*.

As a biology teacher I found that some of the chapters relate well to current concerns in science education. The chapter on the psychology of values emphasizes parental values, transmission of values, and the roles of religion, parents, family, and society in helping children to develop values. The biology teacher concerned with relating his science to the value systems of his students will profit from reading this chapter. Most teachers, both in-service and preservice, will also profit from the chapter on discipline, which includes discussions of permissiveness vs. license, self-discipline vs. imposed discipline, and punishment vs. the real object of discipline.

As might be expected from a Committee on Public Education, the book has been written for the lay public. It is not filled with footnotes and the technical jargon of professional psychiatrists; it is not a scholarly research publication. It could be read with understanding by most high-school upperclassmen (and their parents). Although not a book that will find its way into the library as a biology book, it has a very definite place in the high-school and college library as a reference for courses in family living and sex education.

The book concludes with a 57-item bibliography. More than two-thirds of these references were published in the 1960s; the two most recent were published in 1970.

Thomas R. Mertens
Ball State University
Muncie, Ind.

THE BEHAVIOURAL PHYSIOLOGY OF ANIMALS AND MAN: THE COLLECTED PAPERS OF ERICH VON HOLST, VOL. 1. Translated by Robert Martin. 1973. University of Miami Press, Coral Gables. 355 p. \$18.00 (hardback).

Erich von Holst, scientifically active from 1932 to 1962, was one of the founders of behavioral physiology. A generally recognized pioneer, he was the first director of the Max Planck Institute for Behavioral Physiology, in Bavaria. His work, published first in German, has a place among classic sources for studies in neurophysiology, psychology, ethology, and other disciplines in psychobiology and neurobiology. Most of the 14 essays in this collection are research reports, and several of these are still extensively used and cited in the world's scientific literature. They are on the nature of order in the central nervous system; brain mechanisms in the coordination of body movements; the reference principle; mechanisms of convergence and accommodation in visual function; functions of human visual per-

ception; brain localizations and behavioral organization of drives; and tactile illusions. Although well-written and ably translated, these are too detailed and difficult for direct use in the classroom. However, a diligent instructor could gain from these essays some excellent ideas for classroom demonstrations on the scientific method and on how we can learn about our senses, nervous system, and behavior patterns.

The last five essays, on the other hand, are more broadly and philosophically oriented. Some could serve as assigned readings and as the starting points for discussions in high-school or elementary college biology classes. Their topics are the nature of animal life (9 p.); human environment and technology (16 p.); problems of modern research on instinct (14 p.); and freedom (5 p.). The instructor will have to supplement the short list of references at the end of the book, with others that are in English, more current, and more appropriate for class or student use. Many such are available from journals (such as *Scientific American* and *Animal Behavior*), monographs, and textbooks.

W. B. Quay
University of Wisconsin
Madison

Laboratory Manuals

A MANUAL OF BASIC VIROLOGICAL TECHNIQUES, by Grace C. Rovozzo and Carroll N. Burke. 1973. Prentice-Hall, Inc., Englewood Cliffs, N.J. 287 p. \$6.95.

The book succeeds very well in achieving the goal stated by the authors in the preface: "to acquaint the user with procedures which are fundamental to the study of viruses." Chapters are devoted to egg and tissue cultures, propagation of viruses, virologic techniques, biochemical characterizations, and bacteriophages. Consistently, throughout, the explanations are exceptionally clear, the illustrations beneficial and not redundant. The equipment called for is well within the reach of most biology laboratories, and the procedures are arranged in a straight-line, step arrangement, which makes them very easy to follow. Of particular benefit is a long chapter entitled "Preparation of Materials, Equipment and Supplies." Cleaning procedures, sterilization, disinfecting, infiltration, and preparation of media are all covered simply and clearly in that chapter. I recommend the chapter to anyone working in microbiology: student assistants, students, preparators, stockroom people, teachers, and professional consultants.

Any biology teacher who plans to have class exercises in microbiology or viruses or who encourages students to do special projects in these areas should have this book. Although no special

projects are described and the experiments are routine, it is clearly obvious that the experiments lend themselves to variations by the students. Other books tell you what to do; this one shows how to do it. I recommend the book to every high-school biology teacher.

James C. Horton
Cal State College
Bakersfield, Calif.

LABORATORY EXERCISES IN GENETICS, by Gerald James Stine. 1973. Macmillan Co., New York. 287 p. \$5.95.

This excellent manual consists of 16 exercises for the introductory-genetics course. Each exercise has a statement of purpose; a detailed discussion of background information, with references for further reading; the steps of procedure; and data sheets. It is unlikely that all the exercises could be performed during one semester; however, the organization of the manual will allow the instructor to modify or select according to individual preferences. Most students should be able to complete each exercise with a minimum of assistance.

In addition to traditional studies of *Drosophila* and *Neurospora*, a particularly attractive feature is the broad spectrum of topics, including human immunogenetics, human chromosome analysis, transfer of genetic material in *Escherichia coli* conjugal systems, and viral transduction of bacterial genes. Excellent illustrations in both the background reading and the procedures give additional assistance to the student. Five appendices provide information about suppliers, media, and the nutritional requirements of genetic stocks. A glossary makes up the last section. Although no teacher's guide is mentioned, perhaps a supplement is available or is now in preparation.

The manual is strongly recommended as an up-to-date set of exercises that will stimulate and challenge undergraduate students.

Marjorie Behringer
University of North Dakota
Grand Forks

LABORATORY TECHNIQUES IN ZOOLOGY, by Roy Mahoney. 2nd ed., 1973. Halsted Press, New York. 518 p. \$21.50 (hardback).

Written as a textbook for a laboratory science course in England, this comprehensive and practical manual will be used by teachers, technicians, and museum curators. The emphasis is on preserving specimens and on research techniques. The longest chapter, "Phylum Technology," describes in detail for each phylum cultural methods; demonstration, fixation, and preservation techniques; and special preparations, such as nematocysts and radulae.

Related chapters, on management of aquariums and vivariums, fluid preservation, injection and corrosion techniques, museum and paleontologic techniques, and preparation of vertebrate skeletons, contain reagent formulas and procedures not easily found elsewhere.

For the researcher, chapters on histologic and embryologic techniques are complemented by introductory chapters on electron microscopy and physiologic techniques. Notable omissions are electrophoresis and chromatography. Practical discussions of the theory, use, and care of specialized equipment, such as light and electron microscopes and microtomes, are provided.

This book is well written and covers a wide range of topics. Excellent diagrams and a bibliography for each chapter add to the value of this reference. Regrettably, only British suppliers of materials and equipment are named, but the American researcher should have little difficulty obtaining recommended supplies or suitable substitutes.

Karen Brelsford
Columbia, Md.

Textbooks

HISTOLOGY AND COMPARATIVE ORGANOLGY: A TEXT-ATLAS, by William J. Banks. 1974. Williams & Wilkins Co., Baltimore. 295 p. \$24.95 (hardback).

Here is an excellent, up-to-date text-atlas intended primarily for students of animal histology and comparative anatomy in colleges and veterinary schools. This book contains 556 diagrams, photomicrographs, and electron micrographs representing most of the cell types of the mammalian body. The book has three sections: on cytology, histology, and comparative organology. These sections cover, in 23 chapters, every important structural and functional aspect of vertebrate tissue and organ systems. Species differences are discussed whenever necessary.

The text is clearly and knowledgeably written, and the arrangement of the chapters is logical. Generally, the photographic reproductions are of high quality—especially those of the electron micrographs. However, the quality of a few of the photomicrographs is poor. Each chapter is self-contained and has its own extensive and up-to-date references. An author index is lacking; however, the book has a valuable and comprehensive subject index. The book is attractively printed.

Histology and Comparative Organology could be used in introductory undergraduate and veterinary-school histology courses. It should also be useful, as a reference, to those engaged in teaching and in research.

Shyamal K. Majumdar
Lafayette College
Easton, Pa.

DISCOVERING THE BASIS OF LIFE: AN INTRODUCTION TO MOLECULAR BIOLOGY, by Ann Roller. 1974. McGraw-Hill Book Co., New York. 280 p. \$5.95 (softback).

This book has the purpose of permitting students, including those with no training in biology or chemistry, to understand the importance of these subjects. The author feels that, because the origin of life, a cure for cancer, and the nature of life, death, and disease are topics of concern to all, they should be mentioned in relation to molecular biology.

Many of the classic experiments, as well as a number of more recent ones, are described in detail. The reader gains an appreciation of the methods, ingenuity, and arduous work of research.

The text concentrates on the structure and function of proteins; DNA-RNA; and genetics. Seven of the 12 chapters are concerned with these three topics.

One of the major attributes of the book is its style. The author (or her editor) has put forth a great deal of effort to make this a readable text. Another good point is the high quality of the photographs, which usually amplify and elucidate the more difficult topics. The only drawback seems to be that many topics are treated too briefly; for example, only a few pages are devoted to cellular respiration and to photosynthesis. This would detract from the use of the book for a course. However, the book would serve very well as a reference enabling students with deficiencies of background to grasp some of the fundamentals of molecular biology.

Dean A. Adkins
Marshall University
Huntingdon, W. Va.

IMMUNOLOGY, by Harold M. Schmeck, Jr. 1974. George Braziller, Inc., New York. 143 p. \$2.95 softback, \$6.95 hardback.

Schmeck sets out to give an up-to-date review of immunological research and some appreciation of what it all means and why it is ultimately so important. He has participated in seminars sponsored by the National Institute of Allergy and Infectious Diseases, so the seminar findings form the backbone of this short, concise presentation.

The chapter titles—"Immunology, Butterflies, and Blood," for example—are intriguing invitations to such subjects as the Rh factor and passive immunization. The author's excitement about the role of immunology in urgent medical problems, such as cancer, comes across strongly. In the last chapter, "The Many-Edged Sword," he leaves the reader with an eager interest in any new discoveries along the inter-related lines of immunological damage and such afflictions as heart disease,