

References are inconveniently listed without numbering or indentation at the end of the book, making it tedious to find specific papers. Key words are capitalized for emphasis throughout the text, but an inadequate explanation and demonstration of their meaning gives some sections the appearance of a word list. Such important concepts as inhibition and the IPSP, for example, are discussed without accompanying oscillograms which could add considerably to an understanding of these phenomena.

The complete absence of photographs showing structural detail is an important and unnecessary shortcoming of this book. Thus the reader is shown diagrams of muscle striations and ciliary cross-sections, but must look elsewhere to discover the beauty and pattern of these structures as photographed with a light or electron microscope.

At least one chapter, that on nervous integration, is outdated and inadequate. Such important integrating mechanisms as neural branching, electrotonic bridges, and field effects are not mentioned, leaving the impression neurons interact only with all-or-none impulses and neurohumors. No mention is made of the neuropile, though this is the most important site of neural interaction in the vast majority of animal species.

With some revisions, including a more careful amplification and pictorial demonstration of structures and concepts, and a more comprehensive and up-to-date coverage of neural activity, this could be a useful basic text in an introductory course in general and/or comparative physiology.

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PHYSIOLOGY OF MUSCULAR ACTIVITY, 6th Ed., Peter V. Karpovich, 305 pp., \$6.00, W. B. Saunders Company, Philadelphia, 1965.

Written for physical education majors, nevertheless, there is a great amount of biology involved and in a scholarly way with frequent reference to various studies. Thus, it is an excellent example of applied biology based on scientific evidence but oriented toward the specifics of physical education.

This reader had the feeling that there were many places where illustrations would have helped although there are some diagrams and pictures. The author does not focus on athletes only as there is material for physical education of the handicapped, aged, and debilitated. However, the real startler was the citation that athletes had the same illnesses, in somewhat the same proportion, as the rest of us.

The biology teacher might want to look this over because there are many project ideas which could prove scientific and interesting.

MAN, NATURE, AND DISEASE, Richard Fiennes, 268 pp., 75c, Signet Science Library, New American Library, New York, 1965.

An original paperback written by an Englishman who has a scientific and journalistic background. This is not a comprehensive and detailed listing of diseases, etiology, symptoms, etc., but primarily a treatise on the phenomenon of disease itself. Several well known diseases are described in detail, however. Further, there are many anecdotal examples used from the author's extensive experience. Much of the book is devoted to a description of the various classes of causes of the disease condition, from bacteria to heredity.

An interesting book for the general reading of the biologically oriented student.

THE COMMUNICATION SYSTEM OF THE BODY, David F. Horrobin, 214 pp., \$4.95, Basic Books, Inc., New York, 1964.

Written by an Englishman, this book is one of these rare finds which are written for the secondary school and beyond biology student whose interest takes him one step further than the text or the course. Rich in analogies and interplay, the book explains easily the nervous and chemical control of the body. Some of the verbal illustrations are interesting indeed, and were quite new to this American reviewer. There is also an abundant set of references to the workers in the field, and unfortunately most of the English ones are identified but few of the others.

The organization of the book follows a traditional pattern used under this general heading, but there is an interesting introductory chapter on how nervous systems evolved.

All in all, this is a splendid book for the beginning biology student, and deserves a place on the secondary school shelf where hopefully it will be picked up and read by that student intent on going one more step.

ESSENTIALS OF HISTOLOGY, 5th Ed., Gerrit Bevelander, 329 pp., \$6.50, C. V. Mosby Company, St. Louis, 1965.

It is my opinion that the author would have had a more appropriate title had he called this book an Outline of Histology. It strikes me as a publication of lecture notes for a short course in histology with little additional padding. The author could be accused of "term-dropping" inasmuch as he sticks in terms all over the place with no explanation to the reader as to their meaning of significance, e.g., Krebs' cycle, cyto-

chrome oxidase system, myosin, actin, etc. You get the idea that he is trying to show you that he too knows the jargon of molecular biology.

Otherwise the author takes a somewhat traditional and fairly conservative approach to his subject. A typical statement is the one on page 245 that says, "Since the chromosomes are believed to be the bearers of hereditary characteristics, their distribution is of great interest to geneticists." Atypical is the statement on page 17 that says, "The nuclear DNA is the molecule of heredity, and the sequence of the base pairs is the *genetic code* providing information and direction regarding the specific function of the cell."

Although the book is in the fifth edition, I think it could be improved by sticking to the essentials of histology and omitting the superficial treatments of other subjects such as endocrinology, molecular biology, and physiology. One of the nice features of the book is the illustrations. Electron photomicrographs are used sparingly.

Incidentally, we use this text at Butler University for the histological phase of our course in vertebrate histology and microtechnique. It serves our purpose very well.

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Microbiology

MICROBIOLOGY, 3rd Ed., Louis Gebhardt and Dean Anderson, 488 pp., \$7.75, C. V. Mosby Company, Saint Louis, 1965. MICROBIOLOGY LABORATORY INSTRUCTIONS, 3rd Ed., Gebhardt and Anderson, 335 pp., \$4.25, C. V. Mosby Company, St. Louis, 1965.

The fact that these two books are in third edition is some evidence of their popularity and ability to reach the needs of the elementary course in microbiology. They are straightforward, unembellished texts with little reference to complex metabolic pathways and with a heavy emphasis on industrial applications of the science. As is customary, protozoology and virology came off with slight treatment. Of course, there is nothing on the algae. Also, the emphasis on pathogens indicates one of the chief objectives of the texts, namely, the beginning course in viruses, etc.

The lab manual is perforated so that each exercise is complete with instructions and blank page for handing in. The exercises are simple and unembellished, indicating the author's classroom experience.

The pair of books should be examined for the elementary service courses, and the high school teacher will find them useful as references.

MICROBIOLOGY, 2nd Ed., Michael J. Pelczar, Jr. and Roger D. Reid, 662 pp., \$9.50, McGraw-Hill Book Company, New York, 1965.

A most beautifully published book, a model for the textbook publishers' art. Full color is used where appropriate and line drawings are superb. This is truly a most useful and inclusive text for the elementary microbiology course.

Even though the amount of material on these organisms' ability to show reproductive mechanisms, including DNA, is also reduced in comparison to other texts, it is full of valuable material. Indeed, it is one of the few microbiology texts which recognize protozoa, algae, and fungi.

Everything seems well done in the text, and while the expert may find errors of fact, one cannot make a strong case against the book's effectiveness and coverage.

A fine reference for the high school and a well known text for the collegiate course.

THE BIOLOGY OF THE ALGAE, F. E. Round, 269 pp., \$7.25, St. Martins Press, New York, 1965.

The interests of the author are reflected in the emphasis placed on physiology and ecology, but this increases the value of the book since most of the available texts on the algae stress taxonomy and morphology. It will be most useful as an adjunct text for courses in the algae and as a source of references for both phycologist and non-phycologist.

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Genetics

GENERAL GENETICS, 2nd Ed., A. Srb, R. Owen, R. Edgar, 557 pp., \$9.00, W. H. Freeman Company, San Francisco, 1965.

In the fourteen years since Srb and Owen wrote the first edition of "General Genetics," tremendous advances have been made in genetics. The authors of the second edition are to be commended on the excellence of their product which must have resulted from an extremely difficult sorting task.

The second edition maintains the high quality and the lucid explanation of the first edition, yet, also, includes the significant modern discoveries without becoming too voluminous for an introductory genetics course. The students offered a substantial background to classical genetics as an integral part of a clear, concise structure, greatly extended by recent discoveries from microbial and biochemical research.

While the page number has not increased in this new edition, the concepts of gene structure and function have increased. Many of the