

cussed historically with due elaboration of the major contributions of outstanding scientists. The material is well organized and generously illustrated. Not only do the authors offer a discursive presentation of the subject matter generally treated in a microbiology text, they include chapters which elucidate the biochemistry and bioenergetics of the macromolecules of the major groups of prokaryotes—eucaryotic, procaryotic, and viruses. The latter are given specific attention, with discussions of modern research on intracellular and genetic phenomena, lysogeny, transduction, colicins, prophages, and factors in the production of a viral neoplasm and in mutation.

Currently pertinent sections of the book are the treatment of microorganisms in their native environments; requirements of mesophiles, psychrophiles, and thermophiles, the biochemistry of antibiotics; vectors as disseminators of infectious diseases; immune mechanism; industrial utilization of microorganisms; and the microbiology of ecological systems.

So important are microorganisms in our cosmos that the authors state emphatically (p. 651): "The cycles of nutrient elements within the biosphere involve myriads of microorganisms, and their activities (decomposition and transformation of compounds) are essential for the continuance of life itself."

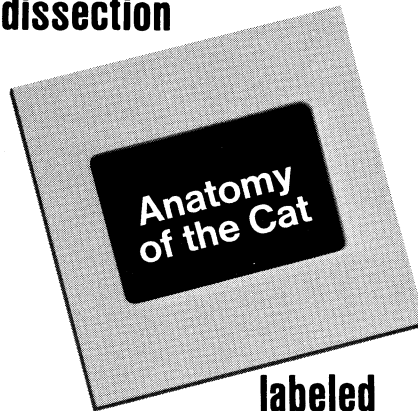
Sister Mary Dolores Ahles
St. Gabriel's Hospital
Little Falls, Minn.

FUNDAMENTALS OF MEDICAL BACTERIOLOGY AND MYCOLOGY, by Quentin N. Myrvik, Nancy N. Pearsall, and Russell S. Weiser. 1974. Lea & Febiger, Philadelphia. 520 p. \$14.50.

This is one of a series of three textbooks designed to cover the field of medical microbiology. The other two volumes are concerned with immunology and medical virology. This is not a reference work, nor is it designed for the student of microbiology as such; rather, it is directed toward the medical student and attempts to provide him with the essentials of what he needs to know about microbiology in order to practice medicine successfully. It does not contain any discussion of intermediary metabolism and points out that today this information is obtained primarily from courses in biochemistry.

Now, for what the book does contain: First, there are 114 pages of the basics of microbiology—nature of bacteria, phage, genetics, sterilization and disinfection, chemotherapy, host-parasite interaction, pathogenic mechanisms, mode of transmission, and normal flora. Next are 256 pages on pathogenic

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bacteria arranged in the conventional pattern, *Diplococcus*, *Streptococcus*, and so on. Each group of organisms is treated according to the following outline: medical perspectives; physical and chemical agents; experimental models; infections in man; mechanisms of pathogenicity; mechanisms of immunity; laboratory diagnosis; therapy; reservoirs of infection; and control of disease transmission. The treatment of subject is not, of course, necessarily of the same length, but it appears to be adequate and brief and indeed suitable for the medical student. A similar pattern is followed for the pathogens related to bacteria. 17 pages are devoted to mycotic infections. On the whole, this is a brief no-nonsense summary of probably the minimum that a medical student ought to know about pathogenic microbiology.

Wayne W. Umbreit
Rutgers University
New Brunswick, N.J.

Physiology

THE HUMAN ORGANISM, by Russell M. Decoursey. 4th ed., 1974. McGraw-Hill Publishing Company, New York. 655 p. Price not given.

Written for basic undergraduate courses in human morphology and physiology, this textbook follows the typical format of presenting the functional systems, nutrition, and human development. It includes enough details about both structure and function to make it rewarding for the student to read without being overburdening for a one-term course.

This updated edition includes a brief description of prostaglandins, the role of cyclic nucleotides as intracellular messengers, venereal disease, female oral contraception, male sterilization, and orgasm in both sexes. Intermediary metabolism is treated succinctly in the introductory chapters and more fully in the chapter on respiration. Students will probably not really grasp the important aspects of this subject without supplementary material from the teacher. The genetics of blood-type inheritance and of developmental deficiencies are included with circulation and human development.

The author introduces the muscular system from the molecular level, which is too abstract for most students. However, the teacher may avoid this by assigning the later chapter on skeletal muscles first.

I find the book beautifully written. It is a pleasure to read. At the end of each chapter is a list of papers for further reading, and the book concludes with a set of book references relating to each chapter and an extensive glossary. The index is comprehensive.

This book should be considered by all teachers of human anatomy and physiology as a potential textbook.

Donald Wise
College of Wooster
Wooster, Ohio

ILLUSTRATED HUMAN EMBRYOLOGY: VOL. 3, NERVOUS SYSTEM AND ENDOCRINE GLANDS, by H. Tuchmann-Duplessis, M. Auroux, and P. Haegel. 1974. Springer-Verlag, New York. 143 p. \$9.80.

The formal study of embryology has been severely curtailed by the increasing encroachment of time available for teaching anatomy. This is regrettable in view of its increasing importance to modern medicine. Tuchmann-Duplessis and his associates succeed in giving us three outstanding books on human embryology. Volumes 1 and 2 deal with embryogenesis and organogenesis. This third volume covers the development of the nervous system, the sense organs, and those endocrine glands specifically related to the nervous system.

In clear and concise terms, we receive a vivid and conclusive account of the development of the nervous system. One can easily read the book in one evening, and the fantastic illustrations prove that "a picture is worth a thousand words." Perfect photomicrographs and matching colored drawings of a "Michaelangelo" quality lend clarity and simplicity to the developing organism so that the reader does not have to rely on his memory to organize a mass of material. Many will enjoy this work because there are no hypothetical ventures—it simply "tells it like it is."

The discussion of the central nervous system development in man summarizes the complex stages undergone by neural structures during the course of evolution. In an attempt to make embryological information more integrated and meaningful, the authors present developmental concepts on a comparative basis with some zoological overtones. The sense organs and endocrine glands are treated as functional systems organized around the central nervous system. The authors present the synthesized currently accepted viewpoint, but footnotes point out areas of controversy. Each section ends with a strong summary on human malformations.

The usefulness of this volume loses nothing in the translation from French to English. Writing a book of this size on human embryology is a big job requiring a great deal of courage. I congratulate the authors on a great contribution to medical education.

Robert H. Davis
Hahnemann Medical College
Philadelphia

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NATURE PHOTOGRAPHY: ITS ARTS AND TECHNIQUES, by Heather Angel. 1974. Charles Scribner's Sons, New York. 222 p. \$14.95 (hardback).

The author, a British biologist and professional photographer, has attempted to cover the techniques needed to photograph any form of flora or fauna and to provide a description of the morphology of each organism photographed. Neither goal is reached effectively.

The book contains 150 black-and-white photographs and 24 pages of color plates. The author uses only a Hasselblad camera; after reading the first chapter, in which she discusses necessary equipment, the average biology teacher or amateur nature photographer will be convinced that he is incapable of taking nature photos with his own equipment. The book would be more useful for a professional photographer or a college biology department that needs a reference source on how to photograph a particular biological group of organisms.

Terminology is understandably British, but references to such terms as hide photography—known in the U.S. as the use of nature blinds—make for confusing reading. The references listed at the end of each are almost all from England, and as a result they were difficult to find or check for accuracy.

David G. Wacker
Grafton Public Schools
Grafton, Wis.

STATISTICS FOR BIOLOGISTS, by R. C. Campbell. 2nd ed., 1974. Cambridge University Press, New York. 385 p. \$5.95 softback, \$15.50 hardback.

Long a favorite among those textbooks in statistics for biologists which trade a certain degree of rigor for practicality, the second edition differs from the first primarily by the introduction of problems at the ends of the chapters (some with pathways to solutions indicated), and by addition of a chapter concerning nonnormal distributions.

A few features should be indicated for those not familiar with the earlier edition. Little mathematical sophistication is required. There is considerable emphasis on nonparametric techniques, not as substitutes for "better" parametric methods but often as conceptual introductions to entire lines of thought. In many cases, the ideas and manipulations are developed with only limited recourse to examples, then are applied to one or more well-chosen examples. The nature of the exercises makes access to a good desk calculator necessary, but an unusually good set of tables is included.