

BOOK REVIEWS

RADIOLOGIE. Heinz Hundeshagen, ed. Berlin-Heidelberg-New York, Springer-Verlag, 1978. 456 pp, illustrated. \$26.70.

The purpose of this textbook is to provide basic knowledge in radiology to the nonradiologist physician and to the medical student. It furnishes a framework within which the entire spectrum of the radiologic field is encompassed.

The contents are divided into seven sections. As an introduction, the physical basis of radiology is presented with special emphasis on the methods used to produce radiation and the interaction of radiation with matter. The second section is a discussion of the biologic aspects of radiation effects. The largest part of the book, 250 pages, is dedicated to diagnostic radiology and is subdivided into nine chapters. The underlying technical principles of diagnostic radiology are presented, including a discussion on the creation of a radiographic image, the different systems for display, the laws of projection, and the factors that influence the quality of a radiograph. Separate chapters deal with the thoracic cavity, vascular system, digestive system, genitourinary system, retroperitoneal space, skeleton and skull, soft tissue, and the female breast. A final chapter on radiation protection is included in diagnostic radiology. There is a section on radiation therapy and two chapters on nuclear medicine. The first of these two chapters on nuclear medicine deals with basic measurement techniques and the second presents special diagnostic applications. The last section of the book is dedicated to the principles of radiation protection. The book was co-authored by eleven specialists in their respective fields.

The text is limited to the most frequent diseases and to important details, which are brought to the reader's attention by the pale-red coloring of the paper background. The radiographs are printed as positives in off-set technique. It might have been more beneficial, especially to the student reader, if the radiographs had been shown as originally obtained. The numerous drawings are valuable didactic aids. At the conclusion of each chapter there is a brief bibliography to provide further reference material; however, the references cited are not always the most significant ones. The book is written in German in a clear and concise style, and print and layout are of good quality. It can be recommended as a general orientation to the medical student and possibly also to the nonradiologist.

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ATLAS OF HUMAN ANATOMY, 9th English Edition. France H. J. Fegge and Walter J. Hild (Eda)—original author Johannes Sabotta. Baltimore-Munick, Urban and Schwarzenberg, 1977. 3 volumes. \$92.50.

In 1903 Sabotta prefaced his work, which was to become the classic among atlases of anatomy, with the statement, "This anatomical atlas is intended to serve in the first place the practical needs of medical students and physicians; it is not intended for the professional anatomist." His purpose and goal have been maintained through 70 odd years, 30 beyond his death in 1945. Dr. Sabotta developed his atlas as a guide for anatomic dissection to provide the practicing clinician or researcher with an easy correlation between his formal education and the experience of his postdoctoral years.

In this ninth edition the text passages have been eliminated and more than 60 new illustrations added to emphasize that this work

is simply an atlas. There are now more than 1000 illustrations mostly from the "old plates," which have not to date been surpassed in accuracy or artistic quality. The Latin nomenclature has been anglicized, a radical change, but evidence that the editors are cognizant of contemporary needs. For a further understanding of the anatomic terms, however, etymology has been included in each volume. The indices are quite extensive, and, fortunately, the editors have indexed each volume individually.

To the person who appreciates gross anatomy as a science, this atlas is a pleasure to use and repeatedly impresses the reader with the beauty of the artistic reproductions of the gross dissections. Sabotta's *Atlas of Human Anatomy* is one of the primary requisites of a physician's or scientist's library.

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INTERMEDIATE PHYSICS FOR MEDICINE AND BIOLOGY. Russell K. Hobbie. New York, John Wiley & Sons, 1978. 557 pp, illustrated.

As stated in the preface, this text is based on the author's teaching of an intermediate physics course for students interested in the biologic sciences—medical students and biology majors who have had an introductory physics course and calculus. Generally, most physics texts designed for nonphysics or nonengineering students shy away from involved mathematical derivations and cite only the end result of such derivations. This text, to the contrary, is somewhat unusual in the liberal use of calculus throughout. In fact, some of the chapters contain rather extensive mathematical derivations and little verbiage.

Each chapter begins with a summary of the content of each section in the chapter along with an explanation for its inclusion. Also designated are those sections that a reader may elect to pass over and yet maintain continuity and understanding of the following sections. This presentation is very helpful in orienting the reader to the logic of the flow of the chapter. Also, the author appropriately cites references to historical works, recent publications, and additional supplementary readings in each of the major topics. These details are particularly helpful to the reader who wishes to pursue specific topics that are covered somewhat superficially in the text. At the end of each chapter there are several problems that are generally good examples of practical applications of the chapter contents.

The text is divided into 12 chapters, the sequence of which seems somewhat arbitrary and the composition of which is recognized by the author to be incomplete from the standpoint of covering all physics topics relevant to medicine and biology. The 12 chapters cover mechanics, exponential growth and decay, systems of many particles, transport in an infinite medium, transport through membranes, electrical properties of nerves, the electrocardiogram, feedback and control, signal analysis, atoms and light, x-rays, nuclear physics, and nuclear medicine.

The author has included 16 appendices that briefly discuss such topics as plane and solid angles, exponents and logs, expansion series, specific integrals, and differential equations. Separate appendices are included for the major probability distribution functions.

From the perspective of a student of nuclear medicine, several chapters are directly relevant and quite complete; however, some others although important are rather incomplete. Chapter 2, on exponential growth and decay, is an excellent presentation of a topic that is usually given only a paragraph or two in most nuclear medicine texts but is very important to the mathematical description of biologic systems. This topic deserves the full, although brief, chapter and is especially helpful as presented here early in the book. Chapter 7 on the electrocardiogram is valuable, considering the current interest in cardiac studies in clinical nuclear medicine and their dependence upon the electrocardiogram as correlative information or as an integral component of the nuclear medicine test. Chapter 9 on signal analysis is mathematically oriented but applicable, particularly the sections on data fitting and the discussions of Fourier analysis as related to computed tomography and the description of the frequency response function of imaging systems.

The last three chapters of the book on atoms and light, x-rays, and nuclear physics and nuclear medicine are probably the most

interesting to the nuclear medicine community. The sections on detectors for nuclear medicine are very brief and somewhat disappointing not only in their brevity but also in the lack of illustrations of results that one can obtain with these instruments. On the other hand, the description of the MIRD scheme for internal dosimetry is quite lengthy, detailed, and complete.

Throughout the text, and particularly in the latter chapters, the author uses both the traditional and SI units for various physical quantities. This is quite helpful in light of the delayed acceptance of SI units in nuclear medicine. There are surprisingly few typographic errors, and the illustrations, both schematic and photographic, are clear and well described. Although this text alone would not fulfill the needs of a student of nuclear medicine, it would serve as an excellent reference for topics that are somewhat peripheral to mainline nuclear medicine physics.

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BOOKS RECEIVED

Atlas of Pediatric Nuclear Medicine, Philip O. Alderson, David L. Gilday, Henry N. Wagner, Jr., with the assistance of Julia W. Buchanan and Wendy A. North. 296 pp, illustrated. St. Louis, Missouri, The C.V. Mosby Company, 1978. \$44.50

Progress in Nuclear Medicine. Volume 5: Newer Radiogases in Practice. Marvin Guter, ed. 241 pp, illustrated. Basel/Munich/Paris/London/New York/Sydney, S. Karger AG, 1978, SFr. 128.- / approx. US \$83.50

Why be Quantitative about Radiation Risk Estimates? Sir Edward E. Pochin. The Lauriston S. Taylor Lecture Series in Radiation Protection and Measurements, Lecture No. 2. 36 pp. Washington, D.C., National Council on Radiation Protection and Measurements, 1978. \$6.00

Thyroid Cancer. Larry D. Greenfield, ed. 267 pp, illustrated. West Palm Beach, Florida, CRC Press, Inc., 1978. \$64.95; outside U.S.: \$74.95

Table of Isotopes, 7th ed. C. Michael Lederer, Virginia S. Shirley, eds. 1490 pp. New York/Chichester/Brisbane/Toronto, John Wiley & Sons, Inc., 1978. Hardcover: \$40.00; paperback: \$26.25

Radioimmunoassay and Related Techniques. Methodology and clinical applications. Jan I. Thorell, M.D., Steven M. Larson, M.D. 298 pp, illustrated. St. Louis, Missouri, The C.V. Mosby Company, 1978. \$23.50

Internal Radiation Dose in Diagnostic Nuclear Medicine. Hans Detlev Roedler, Alexander Kaul, and Gerald J. Hine. 112 pp. Berlin/Boulder, CO (961 Gapter Road), Verlag Hildegard Hoffmann, Publisher, 1978. \$16.50 (for Colorado add 3.5% sales tax).

Nuclear Medicine in Clinical Practice, P. B. Schneider and S. Treves. 320 pp, illustrated. Amsterdam/New York/Oxford, Elsevier/North Holland Biomedical Press, 1978. US: \$84.50; Dfl.: 190.00