

the discussed protocols. Since the book assumes the reader has little background in computers it covers the topics from a binary number representation up to a description of a typical nuclear medicine operating system. The descriptions, although by necessity are wide in latitude, they are shallow in depth.

The book should serve as an introduction to computers in nuclear medicine as well as provide a better understanding of the applications of computers in this specialty. It is not a comprehensive work for the education of the user, and it cannot serve as a resource for developing new protocols or for implementing the protocols as described by the authors. The illustrations support the material and were well chosen. In conclusion, the book is recommended as an *introduction* to the applications of digital computer techniques to nuclear medicine at all levels.

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CHEMISTRY FOR NUCLEAR MEDICINE. M. W. Billingham, A. R. Fritzberg. Chicago, Year Book Medical Publishers, 1981, 328 pp, \$24.95

Nuclear medicine is, by its very nature, a field requiring some knowledge of a wide range of specialist disciplines. No individual can possibly obtain a full understanding of the entire scope of topics required. This is as true in chemistry, where the four major branches each have undergraduate texts that run to thousands of pages, as it is in physics, biochemistry, physiology, and medicine. *Chemistry for Nuclear Medicine* is a text designed for those involved in the field who do not have a specialist education in chemistry. Since it covers both theory and techniques in just 300 pages, it must inevitably skim, touching lightly on many areas where the specialist would demand much detail and analysis. The skimming is highly successful, however, collecting the "cream" for its readers and leaving the "milk" for those who would feed on such a diet.

The book, based on the Canadian syllabus, is aimed at technologists and will provide a valuable text for a student or teacher involved in technologist training. In addition, anyone who works in nuclear medicine and requires some understanding of the theory and practice of radiopharmaceuticals will find it useful. It touches briefly on basic chemical theory of structure and reactions, passes through equilibria and pH to the chemistry of metals, covers the basic organic chemistry of biochemically important compounds, and describes basic laboratory techniques. No one will become an expert chemist from reading this book, but anyone who read, marked, learned, and inwardly digested the entire book would be both comfortable and familiar with the tools of the chemist's trade.

The book is easily read and accessed, with specific items being readily obtained from the index of the chapter headings. A non-chemist in nuclear medicine could afford to devote shelf space to this book, and even a chemist could profitably allocate an inconspicuous corner to it.

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ULTRASOUND ANNUAL 1982. R. C. Sanders, Ed. New York, Raven Press, 1982, 353 pp, \$48.00

In the 1982 *Ultrasound Annual* ten topics, each comprising a chapter, have been chosen for discussion and review. These topics include those areas where ultrasound has an established role, such

as in studies of the pancreas, gallbladder, kidney, and in obstetrical measurements. The remainder of the chapters consist of newer applications of ultrasound such as the study of the neonatal brain, duplex scanning of the carotids, intraoperative application, puncture techniques, breast ultrasound, and fetal cardiac evaluation. The choice of topics is timely because they reflect the developments and interests in the field of diagnostic ultrasound that have occurred in the past year.

The chapter on the pancreas, which includes a discussion of the relative roles of ultrasound and transmission computerized tomography, is a thoroughly researched, in-depth review of pancreatic disease. In the discussion of renal disorders, the author provides excellent clinical-pathologic correlations. The pathologic physiology of intracranial hemorrhage is reviewed lucidly in the chapter on neonatal intracranial ultrasound, and the author provides a good, practical guide to the diagnostic value of ultrasound and transmission computerized tomography. Anyone interested in an informative, clear explanation of duplex carotid ultrasound would be rewarded reading this chapter in the *Annual*. The discussion on puncture techniques provides important practical suggestions for the use of ultrasound as a guide to interventional procedures.

In the chapter on the gallbladder there is a lengthy discussion of gallbladder wall thickness. Because of the nonspecificity of this finding, one could question the relevance of including this material. The author fails to discuss the limitation of cholelithiasis in visualizing the gallbladder neck region and, specifically, its inability to demonstrate cystic duct obstruction, the single most important diagnostic feature associated with acute cholecystitis. There is no mention of the relative role of Tc-99m IDA cholelithiasis in this important diagnostic area.

All the chapters in this book are well referenced, and the illustrations are, for the most part, excellent. The text will be of great interest and value to nuclear medicine physicians involved in correlative imaging, since it provides further insight into this important, complementary, diagnostic modality.

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ACTUALITÉS EN RADIODIAGNOSTIC—NOUVELLES TECHNOLOGIES. M. Amiel, D. Doyon, H. Fischgold, R. Schmidt. Paris, Masson, 1982, pp 118, \$42.00

This book is a short monograph on the latest advances in imaging. An introductory chapter is devoted to the concepts of basic computer and image analysis. In the following chapters the principles and technology of digital angiography, transmission computerized tomography, single-photon emission tomography, nuclear magnetic resonance, thermography, and diagnostic ultrasound are discussed in turn. Each topic is well organized, adequately referenced, and approached in a concise but scholarly manner that stresses the practical and fundamental aspects of the technology. There are many excellent illustrations that are informative and facilitate the understanding of the subject matter. The overall result is quite successful. This monograph is best suited for those individuals who require a quick update on the latest in the physics and basic principles of each of the specialties. For a more detailed and elaborate treatment of the concepts involved, reference to source texts will be required.

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