

Thallium-201 is briefly mentioned, whereas rubidium-81 is prominently discussed. The chapter seems somewhat heavily oriented toward peripheral vascular evaluation, which is infrequently used, and the discussion of placental scanning also seems out of place today. On the other hand, lymphoscintigraphy is well covered. The renal section begins with a discussion of basic principles, but the inclusion of complicated equations without *clinical* applications or further discussion is confusing. Unfortunately, the author's methods of renal functional evaluation are stressed, with only brief discussions of the more classical renogram and its variations. Diuretic renography is not mentioned at all. The section on renal imaging is, nonetheless, very comprehensive, but the discussion of bladder procedures is quite brief. Adrenal scanning is presented as the "state-of-the-art" by the current primary authority on this subject. The chapter is clear, useful, and furnishes excellent examples.

A very pertinent clinical discussion of the blood is given, including ferrokinetics, volume studies, *in vitro* studies, and marrow and spleen imaging. The chapter is remarkable in its clinical emphasis, while keeping methodological details to a minimum, and should be especially helpful to those with little familiarity in this area. In the chapter on neoplasms a large bibliography and the author's experience with gallium-67 scanning is concisely covered, but other tumor localizing agents are only briefly mentioned. Pediatric considerations are primarily concerned with dosimetry and sedation, and no specific clinical pediatric discussion is included. A short chapter on water and electrolytes provides a good summary of the basic principles involved in studying various compartments. The final chapter covers that most important subject, diagnostic test evaluation, which has just begun to be understood and explored. It is a useful summary of a complicated and very pertinent subject.

Overall, this is an excellent book, with some outstanding strengths and a few weaknesses. I recommend it highly to all who practice nuclear medicine full or part-time. It should be especially useful to those in training programs.

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**THE TOXICITY OF PLUTONIUM, AMERICIUM AND CURIUM.** J. C. Nenot and J. W. Stather. Published for the Commission of the European Communities. New York, Pergamon Press, 1979, 225 pp, \$27.50.

This is a report prepared under contract for the Commission of the European Communities within its Research and Development Program on "Plutonium Recycling in Light Water Reactors." The objective of the report is to provide a biological basis for an assessment of the radiological health problems that result from human exposure to plutonium (Pu), americium (Am) and curium (Cm). Since only limited data are available on the metabolism of these actinides in man and there has been no recorded incidence of serious long-term effects, current knowledge is mainly derived from animal experiments. The authors have summarized infor-

mation from over 400 papers and reports (to 1978), including several of their own, as well as those of W. J. Bair, J. E. Ballou, R. D. Lloyd, R. Masse, J. F. Park, C. L. Sanders, and others. This mass of data has been superbly organized in a few chapters that deal with the physical and chemical properties of biological importance, human experience, metabolism in animals, tissues at risk, pathological effects in animals, the "hot particle" problem, treatment for accidental intakes, and concludes with a quantitative assessment of the biological consequences of human exposure to Pu, Am, and Cm, and a summary. This excellent book belongs in the library of those scientists concerned with these problems of toxicity.

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**TEXTBOOK OF NUCLEAR MEDICINE TECHNOLOGY.** P. J. Early, M. A. Razzak, and D. B. Sodee. St. Louis, C. V. Mosby Co, 1979, 691 pp, illustrated, \$26.95.

This book provides a good review in the basics of nuclear medicine technology. It is divided into two sections, "Nuclear Science" and "Clinical Nuclear Medicine." The first section covers nuclear physics, imaging, and counting statistics. The chapter on radiation detection is broad and incorporates many of the most current techniques that have come into clinical use since publication of the author's previous edition. Similarly, the imaging section includes a discussion of the newer "state of the art" instrumentation, such as total body and emission tomographic scanners, and an explanation of the various correction devices used on current cameras to achieve field uniformity. The chapter on computer systems, although quite elementary, does provide a basic understanding of the hardware and software components and the varied applications for data acquisition and analysis.

The second portion of the text deals with the clinical applications of nuclear medicine. The authors have prepared an excellent comparison with other imaging modalities by clearly presenting and explaining the techniques involved in transmission computerized tomography and ultrasound. There are excellent illustrations for comparison of the complementary benefits of the various instruments. Brief chapters on radioimmunoassays and radionuclide therapy complete the book. These chapters tend to be rather superficial in nature and although a reasonable bibliography is included, a more extensive text on the primary data is needed to completely cover these subjects.

The chapters tend to vary between basic information, introductory approaches, and extensive topic coverage; however, with the exception of the radiopharmaceutical quality assurance assurance, (which is not covered in great detail) the major nuclear medicine subjects are reviewed in a style that is well written and easy to read. The book provides a good general reference tool for use by both physicians and technologists.

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## BOOKS RECEIVED

*Biological Foundations of Biomedical Engineering.* Jacob Kline, ed. Little, Brown & Company, 1976, 988 pp, \$42.50.

*Photochemical and Photobiological Reviews*, Vol. 5. Kendrick C. Smith, ed. Plenum Press, 1980, 316 pp, \$30.00.

*Nuclear Medicine Review Syllabus.* Peter T. Kirchner, Senior Editor, New York, Society of Nuclear Medicine, 1980, 619 pp, \$30.00.

*Chain Reaction—Twenty Years of Nuclear Research and Development in South Africa.* A.R. Newby-Fraser, Atomic Energy Board, 1979, 212 pp.

*Ultrasound in Urology.* Martin I. Resnick, Roger C. Sanders, Baltimore, William & Wilkins Co., 1979, 390 pp, \$37.95.