BOOK REVIEWS

YEAR BOOK OF NUCLEAR MEDICINE, 1980. J. L. Quinn, III, Ed. Chicago/London, Year Book Medical Publishers, Inc., 1980, 335 pp, illustrated, $38.95

This book represents the fifteenth and last in a series of annual volumes of journal article condensations edited by the late Jim Quinn. Each year we looked forward to receiving the new issue, which reviewed a wide spectrum of clinical nuclear medicine articles reported in both domestic and foreign journals during the prior year. The three or four paragraphs devoted to each article, often accompanied by a significant illustration or table, provided the reader with more information than a simple abstract and was a stimulus to seek out an original article that might otherwise have been overlooked. This series is of particular interest to the clinician who might read only a few imaging journals, but who also wants to be aware of articles related to nuclear medicine that appeared in the journals of other specialties.

This volume is no exception to its predecessors, for the articles selected are representative of those published the previous year. The condensations are clear and convey the meaning of the original article. Most of the condensations are accompanied by Jim's pithy, and often humorous, editorial comments. With only a modest investment in time, the *Year Book* provides the reader with an overview of the current status of the field of clinical nuclear medicine.

The series continues with other editors who will, no doubt, maintain the high level of quality set by Dr. Quinn. The first fifteen volumes, however, are a significant part of the legacy left to nuclear medicine by him.

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NUCLEAR MEDICINE: AN INTRODUCTORY TEXT. P. J. Ell, E. S. Williams. London/Boston, Blackwell Scientific Publications, 1981, 208 pp, illustrated, $39.50

As noted in the foreword by Professor R. E. Steiner, the authors "present an overview of the current application of nuclear medicine to clinical practice. They assess the limitations of the various studies and above all put nuclear medicine into perspective in the practice of modern clinical medicine." This is a very practical book for the working physician and radiologist in that the authors have not tried to cover the field in its entirety but have resorted to a more pragmatic approach that is also oriented as an introduction to those not yet well acquainted with the field and its underlying principles.

Of the 15 chapters, three are devoted to the basic sciences: instrumentation, radiopharmaceuticals, and radiation safety. Each of these chapters is clear, succinct, and sufficiently illustrated for ready comprehension by the novice. The authors have been successful in describing a particular subject in terms that can be assimilated and mentally visualized, without resorting to the use of esoteric physics or mathematics. Although the reader will attain an essentially nontechnical perspective of these subjects, he does receive an overview that makes subsequent reading and assimilation of greater value.

The remaining chapters are devoted to the several organ systems, and in addition there are chapters on radioimmunoassay and unsealed source therapy. For each organ system the text provides sections on the appropriate instrumentation and radiopharmaceuticals, patient preparation, and the techniques and procedures for each examination. These chapters are well illustrated with planar images, and for several organ systems there are also single-emission tomographic illustrations. Interpretation of images relative to specific diseases with correlative pathology is provided in an unusually clear manner, demonstrating the usefulness of nuclear medicine, but also pointing out the limitations of these procedures. When appropriate the authors supply information on the role of other imaging modalities pertinent to the particular organ system. At the end of each chapter sources for further reading are provided, and an appendix of a glossary of words has been included. Both of these additions are very helpful to those becoming acquainted with nuclear medicine.

For the postgraduate physician just beginning training in nuclear medicine, the basic scientist who desires an overview of the clinical aspects, and the nonnuclear physician seeking an understanding of the usefulness of diagnostic nuclear medicine, this text will be an excellent asset to his library.

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REAL-TIME MEDICAL IMAGE PROCESSING. M. Onoe, K. Preston, Jr., A. Rosenfeld. New York/London, Plenum Press, 1980, 244 pp, illustrated, $35.00

This book consists of a series of papers presented in 1978 at a Japan-United States seminar on research directed toward real-time parallel image analysis and recognition that deal with high-speed digital processing techniques intended to be used in specialized medical imaging applications where conventional stored program computers cannot provide the required level of performance. Topics of interest in radiologic imaging include general-purpose image digitization processing and display (Kaminuma, Tanaka), cellular computers (Sternberg), high-speed CT techniques (Gilbert, Tateno, Wani), analysis of the electrocardiogram (Kwahara, et al.), automatic detection of nodules in chest radiographs (Sklansky et al.), and analysis of dynamic images (Tsuji).

In the three years since these papers were first presented, several topics continue to be of widespread interest, notably the Mayo Clinic real-time CT project and the notion of using cellular atomata to analyze pictorial data. Others are still in preliminary stages of development or have not fulfilled their early promise of practical utility. Absent from this collection is a discussion of the rapidly developing work on real-time processing of fluoroscopic images, particularly as applied to venous angiography. This omission is unfortunate because of the simplicity of the required computing hardware and the wide class of radiologic procedures to which the technique can be successfully applied.

The primary value of the book is as a summary of work on special-purpose computer technology underway in the late 1970s. As a reference book or as a tutorial text, it suffers from problems common to nearly all high-technology scientific symposia. Individual chapters are not well integrated into the whole, and the depth and clarity of exposition are somewhat variable. I would recommend this book to anyone interested in reviewing research in real-time medical imaging.

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CLINICAL ULTRASOUND REVIEW. VOLUME 1. F. Winsberg, Ed. New York, John Wiley and Sons, 1981, 348 pp, $43.50

This review represents a compendium of well-organized and well-presented timely papers from major journals, both radiologic and clinical. Articles on a given subject are grouped together, allowing the reader to compare and contrast current opinions on a given topic. The contents are well outlined and adequately indexed. The abstracts themselves are brief and well written and the photographic reproduction is excellent. The editor's comments, though occasionally somewhat acerbic, are generally instructive and insightful. In short, I highly recommend the book. At the very least it will provide an excellent review for those following the ultrasound literature closely and serve as an update for those somewhat removed from the subspecialty. If the quality is maintained in subsequent volumes, this series should become a permanent and valuable addition to the spectrum of radiologic annual publications.

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FRONTIERS IN NUCLEAR MEDICINE. W. Horst, H. N. Wagner, Jr., Eds. Berlin/Heidelberg/New York, Springer-Verlag, 1980, 336 pp, illustrated, $54.90

This compendium is a collection of the papers contributed by young scientists to the Second International World Congress of Nuclear Medicine and Biology. The papers are dedicated to the memory of Georg von Hevesy, who formulated the radiotracer principle. In addition to presentation of works of original research, the compendium includes a brief biography of Georg von Hevesy, an eloquent introduction by Henry N. Wagner, Jr., and the 1978 Georg von Hevesy Lecture by Rosalyn S. Yalow.

The articles represent a broad, though incomplete, cross section of nuclear medicine research efforts at the time of the Second International Congress in 1978. The 30 contributions are grouped under the headings Instrumentation, Radiopharmaceuticals, Clinical Applications, and In Vitro Nuclear Medicine. As with any group of research papers, some represent the initiation of useful lines of investigation, many represent continuations of work in established areas of endeavor, and a few are diversions in interesting, but ultimately unfruitful, directions. The greatest emphasis is in the areas of positron imaging and cardiovascular nuclear medicine.

Although this book has obvious historical significance, its usefulness is limited by the fact that most of the papers have been published in similar form in the standard nuclear medicine literature and by the approximately two-year delay between the time of presentation of the papers and their publication in book form.

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