also members of the Royal Armament Research and Development Establishment and between them have been able to draw on a considerable store of previously tested but unpublished data to enhance the value of the book.

In spite of thorough coverage of the subject, there are two omissions that are immediately apparent, at least to this reviewer. There is no mention of the use of color materials in radiography (pardon me, *industrial radiology*) and there is only one brief mention of neutron radiography. This should not detract from the value of the book, for both of these subjects are in the developmental stages, not universally used as yet, and there is probably not enough information available to warrant publishing in a permanent-type reference book.

Terminology throughout conforms to the British standard. This presents no problem to the US reader. One runs into slight difficulty in comparing British proprietary names, such as the identification of films, when specified, to appropriate US-equivalent brand names. In this respect, and because of the considerable depth of discussion of each subject covered, the book is not the type to be used as a quick-reference handbook by a field worker or technician, though any technician would enhance his professional value by absorbing its contents. It will find its greatest value in the hands of the person responsible for radiographic services: the one who has to be sure he is making the best use of the present state-of-the-art and is taking maximum advantage of his materials and equipment.

The most valuable parts of the book, to this reviewer, are chapters 8 and 9, both written by the editor. Here his discussion of the many and sometimes confusing aspects of radiographic definition, sensitivity, and image quality indicators, is worth the price of the book alone. Mr. Halmshaw presents a thorough discussion of all US and European types of image quality indicators, with an apparently unbiased presentation of the advantages and disadvantages of each.

Illustrations of radiographic images are a slight disappointment, in that positive prints rather than photographic copies are used. Positives were undoubtedly used to prevent loss of some fine detail in the reproduction process, but the high quality of printing used in this ambitious book might have permitted use of photographic copies, and thus not require the reader to shift mental gears to mentally reverse the customary and familiar shading of images.

Each chapter is thoroughly referenced and the whole has been adequately indexed. It is an impressive work that will be valuable to the United States as well as the British nondestructive testing industry.

Jere Austin discovered the value of radiography during World War II when radium was used successfully to determine the extent of cracking in a main engine cylinder liner of his Attack Transport. It was coincidential that, ten years later, as a member of the Hot Laboratory Operations Group, he became involved in and took charge of all radiographic inspection done at Brookhaven National Laboratory. In this capacity he has developed several new radiographic techniques.

ON THE SAWDUST TRAIL

Title Computer Calculation of Dose Distributions in Radiotherapy

Publisher International Atomic Energy Agency, 1966

Pages 215

Price $4.50

Reviewer James S. Robertson

When one considers the complicated radiation dose patterns being used in modern therapeutic procedures he wonders how the radiotherapists ever got along without computers. It is not surprising, then, to note that radiologists are well represented in the *avant-garde* that is promoting the uses of computers in medicine. In general, the applicable computer techniques have been developed at a few advanced medical research centers, but they

are becoming available for use at any institution having some kind of access to a modern digital computer.

Like many of the IAEA panels, the one on whose reports this book is based seems to have been convened largely for the purpose of spreading the gospel to the uninitiated, particularly in the developing countries. The result is an attractive, well-edited survey of the present state-of-the-art, with some notes on historical development and a crisply-worded glossary of paracomputer terminology thrown in.

The book includes 20 papers by authors from 7 countries. Most of the papers are concerned with technical questions of dosimetry or programming in treatment planning, but one entitled, "Economics of Computer Dosimetry," might be especially useful in helping to make a decision as to whether or not to automate dosimetry calculations. A discussion of costs is also included in the "Report on the Proceedings of the Panel." Another nontechnical title is "Organization of a Computer Facility in a Hospital Physics Department."

About 150 references are collected in a single comprehensive bibliography rather than listing references at the end of each article.

The book will be most useful to radiologists who are looking for methods to use in treatment-planning calculations. It can be recommended to anyone interested in the general field implied by the title.

James S. Robertson is Head of the Medical Physics Division at Brookhaven National Laboratory. He holds MD (1945) and PhD (1949, Physiology) degrees from the University of Minnesota and the University of California, respectively, and has been active in the fields of electrolyte exchange in nephrotic children, neutron capture therapy, tracer therapy, and radiation dosimetry.

BOOK ANNOUNCEMENT

Although the following book will not be reviewed, it may be of interest to some of our readers:

American Men of Science, 11th ed., Suppl. 2, R. R. Bowker, 1967, viii + 311, $15.00