presented in such detail, except in sales brochures provided by manufacturers, and should be useful for those considering purchase of imaging equipment.

Four chapters are devoted to the use of computers in nuclear medicine, with complete descriptions of hardware and software systems which are currently available for computer-assisted acquisition and analysis of nuclear medicine images. Again an appendix lists manufacturers and gives a brief summary of the operating characteristics of each system.

Several chapters are devoted to instrumentation which is still in the developmental or very early commercial stages: Tomographic imaging, a concept which has been longer in gestation than perhaps any other imaging process, is treated in depth. Chapters dealing with positron scintigraphy, transmission scanning, profile scanning, and miniature semiconductor detectors (for the detection of beta-emitters in vivo) all provide full descriptions of the physical principles and medical applications of the systems.

The chapter on radiopharmaceutical assay is not directed to the working clinician, but seems more appropriate for radiopharmaceutical manufacturers, with its emphasis on absolute assays with scintillation detectors. An exposition on high-pressure ionization chambers and the characteristics of commercially available systems would have been more in keeping with the spirit of the rest of the volume. The chapter on cyclotrons seems out of tune also.

The final chapter on liquid scintillation counting provides an up-to-date review of advances and a summary of the operating characteristics of commercial systems. The book is highly recommended to all those diverse specialists involved in nuclear medicine, from practicing physician, through physicists, to the technicians operating the equipment.

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Electron Spin Resonance and Nuclear Magnetic Resonance in Biology and Medicine and Magnetic Resonance in Biological Systems. Edited by Sigmund E. Lasker and Paul Milvy, New York Academy of Sciences, New York, 1973, 1124 pp. $54.00.

During the past decade, great progress has been made in the use of magnetic resonance techniques to characterize the function and structure of a variety of biological systems. This publication is the proceedings of the conference by the same name and consists of 79 papers presented at the conference, a synopsis of discussion, plus an index. The text is divided into 11 parts covering a variety of recent applications of magnetic resonance to: Hemoglobin, Enzymes, Nucleic Acids, Membranes, Amino Acids, Peptides, Proteins, Clinical Studies, and includes a section on new experimental and theoretical techniques. Most of the papers are the work of some of the best investigators currently working in this field. Some authors have provided a good description of the basic experimental techniques and theory required to carry out their studies and interpret their results. All papers are extensively referenced.

In summary, as a result of the extensive scope of this text coupled with the current interest in this area and the lack of any other up-to-date reviews, this text will undoubtedly appeal not only to the specialists as a valuable reference source but will
be helpful to students and any professional who needs to be brought up-to-date quickly. All in all, a very useful volume.

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THE ENDOCRINE FUNCTION OF THE HUMAN TESTIS. Volume I. Edited by V. H. T. James, M. Serio, and L. Martini, Academic Press, New York, 1973. ix, 590 pp. $21.50.

The first volume of the Endocrine Function of the Human Testis overviews the feedback system between the testis and the central nervous system. The testis secretes androgens which act at the hypothalamus and pituitary to modulate secretion of hypothalamic releasing factors and pituitary gonadotrophins. LH and FSH influence testicular androgen secretion and sperm formation. This volume is the proceedings of a 1972 symposium of a postgraduate endocrinology course. The book consists of multiple short reviews by authorities on specialized subjects.

Although the field has rapidly advanced since 1972 the book should be of interest to those concerned with reproductive endocrinology in that important topics were discussed and answers briefly formulated. The flavor of the book may best be approached by stating a few of the questions approached. What are the relative physiologic roles of testosterone, the predominate androgen secreted by the testis and the metabolite, dihydrotestosterone, formed in some, but not all, androgen target organs? How are androgens involved in controlling spermatogenesis by directly acting at the seminiferous tubules? Why does the testis secrete estrogens? What is the molecular basis of gonadotrophin action? What is the molecular basis of the androgen directed differentiation of the brain toward the male pattern? One of the important developments evolving from this area of research is a male birth control pill. Systemic administration of sex steroids inhibits pituitary gonadotrophin secretion which diminishes synthesis of testicular androgens required for sperm formation. This book should serve as one of the references for those who are interested in these areas of reproductive biology.

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GASTRIC IRRADIATION IN PEPTIC ULCER. Edited by Walter L. Palmer. The University of Chicago Press, Chicago, 1974. xi, 161 pp. $7.50.

This book is a collection of separate articles by gastroenterologists and radiologists, many presently or formerly associated with the University of Chicago, describing the radiation therapy for benign gastric and duodenal ulcers. Included is a chapter on the history of attempts to treat peptic ulcer disease with X-irradiation which are known to date back at least to 1909. Laboratory experiments are described which demonstrate a transient decrease in both acid and pepsin secretion.