extraction, hepatobiliary transit, and renal clearance are briefly discussed. The conclusion that ". . . Tc-99m trimethylbromo-IDA is currently the hepatobiliary radiopharmaceutical of choice . . ." may be correct, but awaits a wider evaluation. Chapter 2 discusses the technique of performing a hepatobiliary study and also mentions the effect of fasting on gallbladder entry of the label. Curiously, however, there is no detailed discussion of the role played by cholecystokinin. The remaining chapters deal with the normal and abnormal appearance of hepatobiliary studies. Several tables aid in the interpretation of information. Many of the case presentations are followed by references to the recent literature. This is an interesting collection of cases by two authors who have a wide clinical base in performing hepatobiliary imaging.

RICHARD P. SPENCER
University of Connecticut Health Center
Farmington, Connecticut

NONINVASIVE TECHNIQUES FOR ASSESSMENT OF ATHEROSCLEROSIS IN PERIPHERAL, CAROTID, AND CORONARY ARTERIES. T. F. Budinger, A. S. Berson, I. Ringqvist, M. B. Mock, J. T. Watson, R. S. Powell, Eds. New York, Raven Press, 1982, 271 pp, $49.00.

This book, which is based on an NIH workshop, reviews the current status of the various noninvasive modalities available for the detection of atherosclerotic vascular disease. Because of the workshop format, the material focuses on atherosclerotic disease, rather than diagnostic issues of a more general nature. Nevertheless, sufficient good general information about the various imaging modalities is provided. Ultrasound imaging, Doppler techniques, nuclear magnetic resonance imaging, and digital subtraction angiography are covered in separate chapters. Other topics, such as dynamic spatial reconstruction, are also discussed. The chapter by Dr. Budinger on emission tomography (i.e., single photon tomography and positron tomography) is especially thorough.

The book is organized in three sections containing concise chapters, which are individually referenced. The first section presents the pathology and natural history of atherosclerosis. The second section focuses on the need for noninvasive tests for studying atherosclerotic disease of peripheral, carotid, and coronary arteries. The third and largest section reviews the status of clinical applications of the various modalities to atherosclerotic disease. Also included are "commentary" chapters, in which an expert gives his opinion of the issues discussed in the previous section, and these commentaries help place the discussions of the various diagnostic modalities in proper perspective.

Some diagnostic modalities are reviewed in more depth than others—ultrasound and Doppler techniques are the most thoroughly reviewed topics, but the information on digital subtraction angiography is substantially behind the state-of-1983 knowledge and experience. The book should be of greatest value to the clinician or scientist not currently involved with diagnostic imaging or who is familiar with only one or two of the modalities discussed and wishes to read a survey of the current status of the other noninvasive techniques.

JOEL M. ROSEN
PHILIP O. ALDERSON
Columbia University
New York, New York

BONE METASTASIS. L. Weiss, H. A. Gilbert, Eds. Boston, G. K. Hall Medical Publishers, 1981, 512 pp, $57.50

This fourth volume of a series on metastatic disease is an expansion of a conglomerate of papers presented at a workshop on the subject of bone metastases. The multiauthored text is divided into six sections dealing with background-to-bone metastases, diagnosis, rehabilitation, drug therapy, surgical procedures, and radiation therapy.

The first part, undoubtedly the most interesting, includes the original description of the vertebral vein system by Oscar Batson. Other excellent contributions to this section include the chapter by Gallino and Liotta on cell shedding and one by Kuettner and Pauli on resistance of cartilage to tumor invasion. The second part, on diagnosis, includes relevant reviews of radiology and computerized medicine as well as a superficial section on radionuclide scanning. The third part, on rehabilitation, includes only one chapter dealing with the psychosocial and economic aspects of cancer with regard to the patient, the family, and society. Although not specifically related to the general theme, it is an adequate reminder of the complex issues involved. Part 4 covers drug therapy and is possibly the weakest. Beginning with a paper on the pharmacokinetics of adriamycin, which belongs elsewhere, and followed by two simplistic and repetitive presentations on chemotherapy, this section is rescued only by a first-rate review on the management of pain. In the section on surgical procedures there is only one chapter. This excellent summary on the management of malignant pathologic fractures, however, contains some erroneous information on radiation doses and fractionation. The last part covers radiation therapy, but the chapters are quite dissimilar, with some being of high quality and others superfluous. These discussions are on the philosophy, economics, and techniques of palliative irradiation.

This volume exhibits the inherent difficulties of a multiauthored text, but it will still provide an adequate review of the subject of bone metastases for students and practitioners in contact with cancer patients.

OSCAR MENDIANO
University of Kentucky Medical Center
Lexington, Kentucky

BONE RADIOLOGY CASE STUDIES. T. C. Demos. Thorofare, NJ, Chas. B. Slack/Book Division, 1982, 344 pp, $39.50.

This well-contructed volume demonstrates the inherent advantages and deficiencies of a "case studies" approach to a medical subject. These advantages include the presentation of interesting and varied material that is easy to read as well as abundant information on many types of osseous pathology. A major appeal is that there is focus on an individual patient. This is an instructive format for individuals at various levels of expertise, from neophytes who want to learn about a specific entity to informed physicians who wish to review the subject. The fundamental deficiency of this or any other collection of "case studies," however, is the absence of a comprehensive and integrated coverage of the subject. To overcome this problem the authors have added an introductory chapter, but the basic nature of a book of this type as well as the magnitude of his subject negate somewhat the adequacy of the objective.

The considerable number of lists of diseases that exhibit specific radiological findings gives the volume a "gamut" aura. You will like this aspect of the book if you believe "gamuts" are a worthwhile approach to medical education. Because many entities can be placed in several different categories with equal relevancy, any classification of the radiological findings of bone disease is very difficult, perhaps impossible. Unfortunately, Dr. Demos has not been able to improve this type of presentation. I should mention that there are minimal errors such as inverted radiographs, misspellings, etc., that could detract from the book's value or appeal. The illustrations, although profuse, vary in quality from acceptable to fairly good, but the narrative portions of the book are more in-