predictive value, particularly negative predictive value, in that they make it easier to appreciate how sensitivity, specificity, and likelihood ratio data change the initial probabilities of particular diagnostic hypotheses. The effects of changing cutoff points, use of odds and likelihood ratios, combination testing, and in particular, the concept of posttest probabilities crossing “thresholds” and thereby confirming or excluding diagnostic hypotheses are all presented in lucid clinically relevant language. These are followed by 51 chapters, each dealing with a common clinical problem, e.g., myocardial infarction, pleural effusions, and hypercalcemia. With some exceptions, the editors have succeeded in establishing a uniform approach to the handling of each clinical problem. Each chapter begins with a highlighted “Key Points” section consisting of two bulleted lists, headed “Pretest Probabilities” and “Diagnostic Strategies”. This is followed by sections on background information, estimating pretest probabilities, diagnostic tests, and diagnostic strategies. Shown in tabular form in the sections on diagnostic strategies are data on sensitivity, specificity, likelihood ratio, and posttest probabilities at degrees of low, intermediate, and high pretest probability. Each chapter ends with illustrative short case examples.

This book is clearly intended for the practicing physician with the goal of promoting rational, cost-effective test use. The inclusion of imaging tests in this current edition should be of value, not only to practicing physicians, but also to laboratory personnel less familiar with this component of diagnostic testing. From the point of view of the laboratory-based scientist or physician, the main value of the book may lie not so much in the test characteristic data provided as in the insight the text provides into the way clinicians use those data against the uncertain background of clinical practice. On a more basic level, the text includes much up-to-date information that should be helpful to laboratory personnel in their everyday dealings with clinicians. With that said, it should be pointed out that, although improved, the availability of information on test characteristics and pretest probabilities is still incomplete, and the difficulties inherent in assigning “rule-in” and “rule-out” thresholds are still largely unresolved. This means that many of the chapters do not quite live up to the expectations outlined in the initial chapters. Nevertheless, in the opinion of this reviewer, they represent the best that is available on the subject. I would recommend this book to all trainees, scientists, and physicians in laboratory medicine as representing the most clearly written, practical approach to the use of technology directed to the solution of commonly encountered clinical problems.

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This volume consists of the proceedings of a Conference of the same name held in January 2001 in Newport Beach, CA. The book begins with a preface by the editor that expounds nicely on the conference theme: Outer Space, Inner Space, Virtual Space. Next comes an essay by Richard Satava on what he calls the “Biointelligence Age”. He proposes that the Information Age is being replaced by a nascent age marked by interdisciplinary research, which is occurring at the intersections of biology, logic, physical, and information sciences. Satava makes a cogent argument for the importance of this new era of research, citing examples of proposed implantable microelectronic devices that could interact with living cells under the guidance of a decision-support system, a prospect that might drastically alter methods of treatment or diagnosis.

The core of the book comprises 112 presentations from the conference. Although the conference was divided into separate sessions devoted to “Simulations”, “Computer Assisted Surgery”, “Surgical Simulation”, “Visualization and Modeling”, “Virtual Reality and Mental Health”, “Medical Education”, and “Telemedicine”, the book presents the papers without detectable ordering or grouping. Some of the papers are appealing; for example, one intriguing paper deals with a virtual reality trainer for rat dissection in microgravity, developed for use by future research astronauts manning the International Space Station. Unfortunately, very few of the abstracts address issues closely related to clinical chemistry or laboratory medicine. The anatomic pathologists among our readers may find a bit more to interest them, such as the description of a virtual anatomy laboratory that can be used collaboratively via the Internet.

A final weakness of this volume is the limitation imposed by virtue of it being a printed work. Given the nature of the topic, many of these presentations would be much more compelling if they were presented in a multimedia fashion: on a web site or companion compact disc. Although this book may be of interest to those with strong informatics backgrounds or desiring an overview of current research in the specialized area of medical virtual reality, it is not designed as an introduction to the field, and therefore, the vast majority of our readership can safely bypass this volume.

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This contribution to the American Chemical Society Symposium Series presents a collection of chapters fo-