adequately supplies referenced diagnostic information to complement clinical experience. Like the comparable internal medicine text [2], this book would be a good study guide for National Boards Part II. It will be useful to medical students, house staff, nurses, paraprofessionals, and concerned and educated parents.

1. Illingworth RS: Common Symptoms of Disease in Children, Sixth Edition. Boston, Blackwell Scientific Publications, 1982.
2. Fishman MC, Hoffman AR, Klausner RD, et al: Medicine. Philadelphia, JB Lippincott Company, 1981

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CARDIAC PROBLEMS IN PREGNANCY. DIAGNOSIS AND MANAGEMENT OF MATERNAL AND FETAL DISEASE. Edited by Uri Elkayam and Norbert Gleicher. New York, Alan R. Liss, Inc., 1982. 618 pp. $85.00.

Cardiac Problems in Pregnancy. Diagnosis and Management of Maternal and Fetal Disease is an extremely well-written text with original and thoughtfully planned charts and diagrams. The contents of the book make it an important contribution to the literature, as emphasized by the authors' "The rapid changes in technology in regards to cardiology over the past decade have given new insight and understanding to cardiac diseases in pregnancy." Recent advances such as ultrasound of the fetal heart have made the fetus, as well as the mother, a potential cardiac patient during pregnancy. The book appropriately addresses these developments in its division into maternal and fetal sections.

The maternal section discussions of cardiac and pulmonary physiology are extremely lucid and give a good scientific basis in order for understanding the specific disease processes that are described later on. Significant changes in technology are considered in chapters on ultrasound and radionuclide studies in normal and abnormal cardiac physiology. The shift of emphasis with regard to specific diseases in recent times is quite interesting in that diseases such as rheumatic fever and congenital anomalies, although still important, now share equal attention with the myocardopathies.

A large portion of the text is devoted to drugs in pregnancy, specifically those related to cardiac, pulmonary, and cardiovascular disease. Mundane chapters on antibiotics, valve prolapse, and the management and evaluation of hypertension in pregnancy are thorough but brief and comprehensible.

The fetal section includes discussions of the biophysics of the developing heart as well as the genetic, infectious, and metabolic causes of congenital cardiac abnormalities. Evaluation of the fetus by intrauterine cardiography, systolic timed interval, and echo and phono cardiography are also covered. Chapters on cardiac surgery in both the newborn and the mother round out the work.

This text is quite interesting for one who has been away from cardiology and its outgrowths for a period of time. Unfortunately, in its entirety it has a limited audience, but as a reference textbook for perinatologists, neonatologists, and cardiac surgeons, it will serve a real and useful purpose. Occasionally the clinician involved in routine obstetrical care as well as the pediatrician in a comparable position will find this a handy reference source.

The editors should be commended for putting together an excellent, comprehen-
sive text that is technically and scientifically well prepared. It is easy to appreciate the careful attention to detail that went into the planning and execution of this work.

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Protein Abnormalities, Volume 1. Physiology of Immunoglobulins: Diagnostic and Clinical Aspects. Edited by Stephan E. Ritzmann. New York, Alan R. Liss, Inc., 1982. 359 pp. $38.00.

The dedication of this first volume in the Protein Abnormalities series to the physiology of immunoglobulins should come as no surprise in the face of the continued surge of research in this area. These highly diverse plasma proteins, which have for many years occupied a special place in the pantheon of serologists and immunologists, have in recent years generated a wave of enthusiasm which now carries on its crest large numbers of protein biochemists, molecular biologists, and geneticists. This volume deals with the study of immunoglobulin molecules primarily from the standpoint of the clinical laboratory, where they are used as serologic tools and also as indicators of specific disease states. In addition, two chapters are included which deal with the more basic biology of antibodies.

Most of the techniques described in the chapters dealing with laboratory diagnostic practices have been in use for some time and will be familiar to many clinicians. In general, these methods are not limited to the study of immunoglobulins alone, but are applicable to the investigation of other disease-related plasma protein alterations. For example, there is a chapter describing the familiar technique of cellulose acetate membrane electrophoresis (CAM) written by J. Kohn, the originator of the technique, and P. Riches. CAM, which remains in wide use today because of its comparative simplicity and rapidity, provides a relatively crude means of separating the plasma proteins into seven familiar "zones," consisting of prealbumin, albumin, and the five globulin groups. A considerable refinement of the zone separation is achieved by agarose electrophoresis, described by T. Sun in a chapter which provides an excellent general overview of the application of zone electrophoresis to clinical diagnosis. Other authors describe the use of methods which identify particular protein components of plasma, such as two-dimensional immunoelectrophoresis (IEP) and immunofixation electrophoresis (IFE).

In a more experimental vein is a section on the analysis of body fluid proteins by two-dimensional polyacrylamide gel electrophoresis (2D-PAGE). This technique has long since become a powerful tool in research laboratories, but it has yet to find its way into the modern clinical laboratory. By combining isoelectric focusing with sodium dodecyl sulfate PAGE, this procedure provides resolution of hundreds of distinct proteins in body fluids. The authors also describe a modified silver stain which can detect as little as 0.5 ng of protein. The diagnostic possibilities of this technique are at present unknown, but the authors speculate on some interesting applications in prenatal diagnosis and the characterization of neoplasms.

The second part of the book is headed by the subtitle "Pathophysiologic Considerations" and consists of two chapters. The first is an extensive overview of immunoglobulin structure by G.S. Hahn. This clearly written chapter is a fine review of the vast data bank of structural information for the five immunoglobulin isotypes and their subclasses, and a considerable amount of material concerning the