ined from a fresh viewpoint can yield information which is both new and revolutionary."

This compact but comprehensive text, really a large monograph, is highly recommended to pathologists, cardiologists, and students of atherosclerosis.

Albert I. Rubenstone
Chicago, Illinois

Year Book of Pathology and Clinical Pathology. 1956-1957 Year Book Series. Edited by William B. Wartman, B.S., M.D., Morrison Professor of Pathology, Northwestern University; Director of Laboratories, Passavant Memorial Hospital; Senior Attending Pathologist, Wesley Memorial Hospital; Consulting Pathologist, Children's Memorial and Veterans Administration Research Hospitals, Chicago. 510 pp., 158 figs., 3 tables. $7.00. Chicago: Year Book Publishers, Inc., 1957.

This book continues the high standards of previous years. Three hundred and nine articles from many domestic and foreign journals are represented by abstracts which are brief but adequate. They are sometimes accompanied by illustrations and usually by pertinent editorial comments. A wide range of subjects is covered, and helpful reference is made by the editor to many additional articles on related or contrasting subjects. A surprisingly large amount of material is included, and we are again reminded that progress is being made.

Paul E. Steiner
Chicago, Illinois

Diseases of the Liver. Edited by Leon Schiff, M.D., Ph.D., Professor of Clinical Medicine, University of Cincinnati College of Medicine; Director, Gastric Laboratory, Cincinnati General Hospital. 28 Contributors. With a foreword by Cecil J. Watson, M.D., Ph.D. 738 pp., 244 figs., 44 tables. $16.00. Philadelphia: J. B. Lippincott Company, 1957.

The deserved popularity of Schiff's book is partly measured by the fact that it has come to a second impression in so short a time. It fills a great need for an up-to-date summary of current knowledge in the field of liver disease. Prior books had given good service, but the rapid advances in our knowledge of the liver, particularly during the last decade, left the older books somewhat antiquated and outworn. In all, there are 25 chapters on the liver and 1 on the gallbladder and extrahepatic bile ducts. Thoroug, searching reviews are presented from the viewpoint of various disciplines, such as anatomy, physiology, biochemistry, and pathology; while the chapters revolving around the clinical aspects of liver disease skillfully blend modern information through an interdisciplinary approach. Anyone working in the field of liver disease, regardless of his special interest, will find this book a useful, practical, 1-volume encyclopedia.

The pathologist concerned with the practical business of interpreting liver biopsy specimens will appreciate the pathologic descriptions of specific disease entities that appear in the various chapters, but he will find even greater usefulness in the excellent pictures painted of the over-all natural history of disease processes. For the pathologic interpretation of liver samples, always a difficult task, rests on the combined histologic and clinical data. The investigator who is primarily concerned with the causes and mechanisms of liver disease will be grateful for the first part of the book that lays a solid foundation of excellent summaries of present-day concepts derived from the basic sciences. One leaves these chapters with the regret that there is so much yet to learn about the basic structure and function of this deceptively simple but mysteriously complex organ. If only we knew more about such fundamental matters as how blood, bile, and lymph flow through the liver, how much better we would understand the various liver diseases! The mechanisms involved in the production of the cirrhotic diseases also await elucidation. But these and other as yet incompletely solved problems will hopefully be given increasingly sharper answers as later editions of this valuable book continue to keep pace with current researches in the manifold aspects of hepatic structure and function. Prometheus will then truly be unbound.

I. N. Dubin
Philadelphia, Pennsylvania

Microtechniques of Clinical Chemistry for the Routine Laboratory. By Samuel Natelson, Sc.M., Ph.D., Chairman, Department of Biochemistry, Rockford Memorial Hospital, Rockford, Illinois. 484 pp., 161 figs., 12 tables. $11.00. Springfield: Charles C Thomas, 1957.

This book discusses the principles of macro, micro, and ultramicro chemical methods, and then describes the adjustments in design of equipment required to attain ultramicro techniques, without sacrificing the principles of the original macro method. There is increasing need for broader usage of micro methods in pediatrics, and also to run more tests on a single specimen because of the present tendency of clinicians to order a "battery" of tests. Wherever possible, simple 1 test tube techniques are presented which employ ultramicro wash-out pipets, sensitive indicators, and ultramicro burets. Several different designs of assemblies for ultramicro distilla-
tion, ultramicro burets, and gasometric devices, including those designed by the author, are presented. Several types of analytic balances are also described, together with advice on their use.

The body of the book is occupied by detailed descriptions of micro techniques for practically all the routine determinations made in clinical chemistry. The procedures are arranged alphabetically for easy reference. One or more alternate procedures are presented for several of the methods. Many toxicologic techniques are included. Methods for many of the less commonly used determinations are also given. The appendix includes methods for statistic analyses, and a discussion of absorption spectrophotometry. There are a few minor criticisms: good methods have been published eliminating the use of NaCN in the uric acid method; the discussion of absorption spectrophotometry could well include a stepwise example of the standardization of a colorimetric method as a guide for the less experienced technician; the 550 to 575 C. temperature range recommended for the alkaline ash digestion in the protein bound iodine method; the discussion of absorption spectrophotometry was not presented.

This book is the most complete laboratory manual of microtechnics in clinical chemistry to appear in recent years, and it is recommended to all engaged in this field.

GEORGE R. KINGSLEY
Los Angeles, California

Trace Elements in Human and Animal Nutrition.

This monograph represents a comprehensive review of selected trace metal studies in humans and animals, with some information about plant life. There are few such summaries and this well written one will help to focus attention on a subject that has been neglected in the past insofar as man is concerned. The historical portions are extremely interesting. The various chapters on the requirements and the toxic actions of the various trace metals in poultry, pigs, sheep, cattle, horses, and man are well arranged.

The chapters on copper, iron, iodine, cobalt, zinc, and manganese, as well as the one on molybdenum, are particularly comprehensive. The toxic action of selenium in cattle, pigs, and chickens, and its concentration in plants is well summarized, together with information concerning the necessity as well as the poisonous effects of this metal in man.

The other trace elements are briefly considered in Chapter XII, namely: aluminum, arsenic, barium, boron, silicon, strontium, bromine, and vanadium. Information concerning silver, chromium, cadmium, and many other metals that probably are of importance to man, is not included. Lead has been the subject of much research work, yet this trace metal was not mentioned. Chapter XIII concerning soil and plant interrelationship is intriguing to the person interested in trace elements, and indicates the need for extensive and comprehensive research to further establish the importance of metals in disease states and normal nutrition.

The book will be of considerable value to the pathologist, biochemist, teacher, veterinarian, and nutritionist, and is one of the early attempts to focus attention on the importance of trace metals in the metabolism of man, animals, and plant life.

E. M. BUTT
Los Angeles, California