enlarged edition permitted correction and improvement, as well as the presentation of research which has been conducted in the field in the past few years. In the new edition the problem of respiratory mechanics is presented in detail, and the number of illustrations are increased.

The chief sections of the text are: the normal physiology of respiration; research methods of pulmonary function; pathophysiology of respiration, and clinical aspects of pulmonary insufficiency. An excellent supplement gives the composition of analytical chemical solutions used in respiratory research; nomograms for such studies, and tables and graphs of correction for the Hasselbach-Henderson equation at various temperatures and *p*H.

An excellent bibliography gives 70 pages of references. These are divided into a section of monographs with seven subsections, and a section of individual works with 33 subgroups. The initial subsection concerns physiology of respiration in general, while the final group of six deals with breathing and sport.

This monograph is thorough and complete. The illustrations and diagrams are excellent and useful. There is nothing, however, which is not available in the American literature. It is doubtful if any American, except a specialist in this particular field, would desire to purchase this book.

O. S. ORTH, M.D.

Surgery in World War II, Vol. II, General Surgery (History of the Medical Department, United States Army in World War II), By numerous authors. Catalog No. D104.11:Su 7/4/v.2. Cloth $4.25. Pp. 417, with 45 figures, 97 tables. United States Government Printing Office, Washington 25, D. C.

This volume reports chiefly the experience encountered in treating 3,154 abdominal injuries in forward hospitals of the United States Seventh Army during World War II. The data were computed and analyzed overseas and reanalyzed later in the United States.

Anesthesiologists will be principally interested in the first 78 pages written by Beecher and one subsequent chapter written by a group of anesthetists who worked separately for Beecher. The information presented on the resuscitation of acutely wounded men, the control of their pain, their preparation for operation, and their anesthetization will make interesting reading for the anesthesiologist who wishes to be well prepared for mass casualties, whether war or civilian incurred.

Not the least interesting of these chapters is the historical account of anesthesia during World War I and the chronological development of anesthetic service during World War II. From no other source will the anesthesiologist of today become more acutely aware of how far his specialty has come in less than four decades. The continual advance accounts for many statements in this text that are no longer acceptable. If one is searching for definitive data concerning treatment of shock or administration of anesthetics to the wounded, then he will be disappointed. Data are confined to incidence of cases and technics. All else is clinical experience and impressions. Under the circumstances, this is to be expected.

All teaching departments of Anesthesiology should have this volume for their residents and students to read.

JAMES E. ECKENHOFF, M.D.

Chemical Quantitation of Epinephrine and Norepinephrine in Plasma. By WILLIAM MUIR MANGER, B.S., M.D., PH.D., Department of Medicine, College of Physicians and Surgeons, New York, KHALIL G. WAKIM, M.D., PH.D., Section of Physiology, Mayo Clinic, AND JESSE L. BOLLMAN, M.D., Section of Biochemistry, Mayo Clinic. Cloth $11.50. Pp. 398, with 70 illustrations. Charles C Thomas, Publisher, Springfield, Illinois, 1959.

This is an attractive-looking book, clearly printed and well illustrated. The contents of the volume, however, leave something to be desired.

The title of the book is misleading; it suggests that the entire text deals with methods for analyzing catecholamines in plasma. Instead, only one chapter deals with methodology. This chapter considers four chemical methods, only two of which have been extensively used to analyze plasma. Other chem-

ical methods are available (*cf.* Price and Price, 1957) but are not mentioned. Biological methods adequate for analyzing plasma were also in use at least as early as 1954, but these are dismissed as either too insensitive or too erratic for use. Actually, neither is true. The method advanced by Manger is not completely specific for epinephrine and norepinephrine, and it has not been verified either by biological or by more specific chemical methods. Indeed both the biological and the more specific chemical methods indicate plasma catecholamine concentrations which are lower than those determined by Manger, which suggests that his method detects biologically inactive substances present in the plasma. This is not explicitly stated in the text. Results, obviously, are significant only to the extent that the method used is reliable.

Of the methods discussed only that of Manger is treated in detail, but even here there are omissions. The technique, as described, contains references to other authors whose papers must be consulted if one is to follow the procedure outlined. The grades and chemical characterization of the reagents used are not given. In addition, two methods used by Manger are presented (separated by a section on instrumentation), one of which is merely a later version of the first method. In the results many of the data reported were obtained using the unperfected early method. Since the early method did not distinguish between epinephrine and norepinephrine, there is no way in which the data obtained with the two techniques can be compared.

Chapters II and III deal with observations both in man and animals during hypertension and hypotension produced by a variety of means. As just mentioned, most data are reported as "epinephrine-like substance" and are uninterpretable in terms of epinephrine or norepinephrine. Moreover, there appear to be errors in assigning statistical significance–for instance on page 81, where it is stated on the basis of data given in adjacent tables that there is a significantly greater plasma concentration of norepinephrine in hypertensive than in normal women. No statistical method known to the reviewer would support this assertion, on the basis of the findings given. Unfortunately, the authors do not describe the statistical methods used, or their criteria for establishing significance.

Chapter IV considers concentrations of epinephrine and norepinephrine in plasma and cerebrospinal fluid in patients with mental disease, as well as the effects of various drugs used in treating mental disease.

Chapter V considers metabolic and other effects of epinephrine and norepinephrine. It begins with a consideration of possible routes of inactivation and elimination of epinephrine and norepinephrine *in vivo*. Two pages later the reader learns the discussion he has been reading is out of date. This is acknowledged in a footnote. This information was available in 1957, but there is no reference to it among those listed at the end of the chapter. Indeed, there are few references anywhere in the text to papers appearing after 1957, and even that year is incompletely covered (*vide supra*), which is remarkable in a book appearing near the end of 1959. Chapter VI contains further comment.

In summary, this book is a discursive account of the application of a chemical method for analyzing catecholamines in plasma to a host of experimental and disease conditions in animals and men.

HENRY L. PRICE, M.D.

Medicinal Chemistry. Volume IV. A Series of Reviews Prepared under the Auspices of the Division of Medicinal Chemistry of the American Chemical Society. AUTHOR: WILBUR J. DORAN. EDITORS: F. F. BLICKE AND R. H. COX. ASSOCIATE EDITOR: L. A. WOODS. ASSISTANT EDITOR: HARRIET GEER. Cloth $12.00. Pp. 334. John Wiley & Sons, Inc., New York, and Chapman and Hall, Ltd., London, 1959.

As with other books of this series on medicinal chemistry, this volume provides a comprehensive summary of available material on biological and chemical data of the substances considered, in this instance, the barbiturates. A short history of the clinical use of these substances starts the book. This discussion is followed by a general description of the chemical methods of preparation. Details are not