

# The Anesthesiologist's Bookshelf

Edited by HUBERTA M. LIVINGSTONE, M.D.

**Outline of Human Anatomy.** By SAUL WISCHNITZER, PH.D., Assistant Professor of Anatomy, New York Medical College, New York City. Illustrated by Paul Singh-Roy. Fabricoid. \$6.95. Pp. 392, with 107 illustrations. The Blakiston Division, McGraw-Hill Book Co., Inc., New York, 1963.

This book covers voluminous subject matter in such a concise and accurate manner that a student can master the subject in the decreased time now allotted to the study of anatomy. The approach in this book is essentially on regional dissection. Illustrations are placed close to the text material so as to make it possible to conveniently locate anatomic parts described in the text. The illustrations are line drawings and are semi-schematic. The number of labels has been restricted to pertinent anatomic terms under discussion. Nomenclature used is usually the English equivalent of the Latin anatomic term, although the current standard nomenclature was accepted at the Sixth International Congress of Anatomists in 1955 and revised at the Seventh Congress in 1960.

The text is divided into eight major areas of the body—head, neck, upper extremity, thorax, abdomen, pelvis, lower extremity, and back. Each area is subdivided into smaller regions, and under the caption of each region is the numerical list of grouped structures. Presentation of these structures is from superficial to deep. Bones and joints are discussed collectively since they are usually studied in this manner in the laboratory. This book is an excellent outline of anatomy and indeed a very useful book for the study of this subject.

V. K. STOELTING, M.D.

**Clinical Anatomy.** By OTTO C. BRANTIGAN, M.D., F.A.C.S., Professor of Clinical Anatomy, University of Maryland School of Medicine and Chief Surgeon, Church Home and Hospital, Baltimore, Maryland. Cloth. \$15.00. Pp. 421, with 639 figures. The Blakiston Division, McGraw-Hill Book Co., Inc., New York, 1963.

This book is the outcome of 20 years teaching of clinical anatomy and its primary object is to relate many clinical procedures to the underlying gross anatomy. The book attempts a general coverage of the entire body, and while textbook in form is not detailed nor comprehensive. The two chapters on surface anatomy and the thorax are particularly commendable. The outstanding feature of this publication is the numerous self-

explanatory clear line drawings ably executed by Thomas Stevenson. The text is relatively brief and the style terse and monotonous. The book would have been greatly improved by skilled editorial treatment of the text.

This book fills a definite need for a concise, well-illustrated applied anatomy and should be of interest to the anesthesiologist, surgeon and anatomist.

MALCOLM R. MILLER, PH.D., M.D.

**Handbook of Physiology: Section 3: Respiration. Volume 1.** SECTION EDITORS: WALLACE O. FENN, and HERMANN RAHN. American Physiological Society, Washington, D. C. Cloth. \$32.00. Pp. 926, with illustrations. The Williams & Wilkins Company, Baltimore, 1964.

In their preface to this volume, the section editors state that they have had in mind the production of a Handbook of Physiology after the German tradition, which should present a critical and comprehensive presentation of contemporary physiological knowledge and concepts. This first volume which comprises 884 pages of text, covers the basic aspects of respiration and its fundamental principles. The second volume has been designed to cover the more applied aspects of the field and it is expected that this will be issued in 1965.

There can be no doubt that the section editors have succeeded in compiling in 34 chapters a remarkable account of the basic principles of respirations as these are now understood. There is no major aspect of knowledge of the fundamental factors involved in respiration which is not discussed in considerable detail. Documentation of the literature at the end of each chapter is thorough, and the reader can confidently turn to this book for authoritative information on many diverse aspects of the process of respiration. Of particular value are chapters dealing with the historical development of respiratory physiology; the physics of gases; comparative physiology (as between man, animals and fishes) of gas transport mechanisms; and with individual aspects of respiration more familiar to general readers such as gas transport by the blood, respiratory mechanics, control of respiration, and ventilation and perfusion.

Those readers who are not respiratory physiologists working in one of these fields might be deterred from the very comprehensiveness of this major volume from making full use of it. If this

were the case, they would be mistaken, since in most of the chapters they will find that the essential evidence and deductions have been clearly and concisely explained, and that many original papers have been neatly brought together to provide an integrated survey of the field. Much of the credit for this must go to the section editors, since this volume is remarkably well written, in most chapters the style of presentation is excellent, and in some the standard of the writing judged as literature alone is of a high order. The non-expert reader who has been discouraged from attempting to master the often indigestible compression of original work which makes up many physiological reviews, will be surprised and encouraged by the excellent lucidity of many of the chapters in this volume.

For anesthesiologists it will provide an invaluable source and reference work, to which they may well find themselves turning more frequently as they begin to appreciate its quality. It demonstrates the way in which scientific knowledge in one discipline has been built up from the endeavours of thousands of individual research workers, and in many instances serves to point the way to future areas of inquiry. Every anesthesiologist should make a habit of dipping frequently into its chapters by way of relaxation from the strains of his practical endeavours. Every physician, or scientist interested in respiration, has something to learn from this volume, and will remain grateful to the section editors whose unremitting efforts have resulted in its production. The result is a book of outstanding usefulness and admirable format, which represents in itself a considerable contribution to English-speaking scholarship.

D. V. BATES, M.D., M.R.C.P.

**Morphometry of the Human Lung.** By EWALD R. WEIBEL, M.D. Cloth. \$12.00. Pp. 151, with 109 figures. New York Academic Press, Inc., Springer-Verlag, Berlin-Göttingen-Heidelberg, 1963.

In contrast to the beginnings, it has been a paradox of medical science that knowledge of physiology has outstripped by far that of morphology. This is true not only of respiration but of the circulation and the central nervous system as well. The monograph under scrutiny attempts to rectify this situation for the lung. Dr. E. R. Weibel, a trained anatomist, under the influence of Professor D. Gomez, a mathematician and biophysicist, worked on this problem in the cardiopulmonary laboratories of Drs. Andre Cournand and Dickinson W. Richards, at Bellevue Hospital. It was the author's belief that a systematic investigation of dimensions of the lung was needed before a quantitative correlation between lung structure and respiratory function could be attempted on a physico-mathematical basis. Utilizing an entirely new methodology, only those structures of significance in gas exchange were examined: the dimensions of the alveolar and capillary respira-

tory surfaces; the capillary blood volume; the alveolar-capillary tissue barrier; and, to a lesser extent, the dimensions of the airway system and peripheral pulmonary circulation.

Although the introductory chapter wanders a bit, subsequent sections are well presented—those on the general organization of the lung, principles and methods of morphometry, material and methods of preparation and volumetric composition of the human lung. The succeeding chapters present the results, statistically analyzed. It may seem heretical to present data in a review of this compass, but the measurements obtained are so arresting as to warrant the readers' attention for a moment. To cite just a few: total number of alveoli, 300 million, regardless of age of the lung; total capillary surface  $70 \text{ m}^2$ ; total capillary blood volume, only 140 ml.; and, the diameter and depth of the average alveolus ranging from 250 to 300 microns. It is heartening to learn that Reverend Stephen Hales in 1731, in studies on fresh calf lung, found the dimensions of the alveolus to be approximately  $1/100$  inch, or 250 microns.

Although the reviewer is not qualified to pass judgment on the methodology used here, the author is critical of his own work and supplies a complete list of pertinent references. No attempt is made to interpret these morphometric findings from a functional point of view, this being left to the biophysicist. Thus the contents of this volume would seem to be essential information for the pulmonary physiologist and clinician. This monograph is handsomely printed as Springer-Verlag books usually are, and the diagrams and photographs both accurate and esthetically satisfying. One is delighted by the methodological virtuosity displayed here, and stimulated by the mere prospect of studies such as these.

LEROY D. VANDAM, M.D.

**Animal and Clinical Pharmacologic Techniques in Drug Evaluation.** EDITED BY JOHN H. NODINE, M.D., Associate Professor of Medicine, Head, Section of Clinical Pharmacology, Hahnemann Medical College and Hospital, Philadelphia, and PETER E. SIEGLER, M.D., Assistant Professor of Medicine, Assistant Head, Section of Clinical Pharmacology, Hahnemann Medical College and Hospital, Philadelphia. Cloth. \$18. Pp. 660, with 108 figures and 67 tables. Year Book Medical Publishers, Inc., Chicago, 1964.

There has been a pressing need for a book dealing with the principles and techniques of drug screening and evaluation in experimental animals and men. This volume summarizes the course in Clinical Pharmacology given at Hahnemann Medical College and its purpose is to discuss the available methods and assess their usefulness for drug studies. Its 87 chapters written by 92 contributors (helped by a further 55 panelists) represent a large-scale effort to embrace the testing of all drug categories under both laboratory and clinical conditions.