

# The Anesthesiologist's Bookshelf

*Edited by Huberta M. Livingstone, M.D.*

**Milestones in Anesthesiology.** Readings in the Development of Surgical Anesthesia, 1665-1940. BY FRANK COLE, M.D. Cloth. \$6.50. Pp. 290. University of Nebraska Press, Lincoln, Nebraska., 1965.

This book is a compilation of 45 original articles which the editor, Dr. Cole, considers important contributions to the development of knowledge needed for an understanding of modern anesthesiology. Each of the articles is preceded by the editor's commentary. He has selected articles which announce an invention of prime importance or which contains the pioneer's account of what he did and how he came to do it. Thus there are assembled here the writings of Snow and Morton on ether anesthesia, Karl Koller on cocaine, James Simpson on chloroform, Macewen on endotracheal intubation and others. It is to be expected that there will be some disagreement on selections from the vast literature upon which anesthesiology is based. There are also some statements which are erroneous. Pravaz, as usual, is credited with the invention of the hypodermic syringe in 1853. Pravaz did not invent the hypodermic syringe and this legend was completely demolished by N. Howard-Jones in "A Critical Study of the Origins and Early Development of Hypodermic Medication" (*Journal History of Medicine* 2: 201-247, 1947). Corning is credited with being the first to introduce spinal analgesia. The truth is Corning's writings attracted little attention at the time and it is certain that they had no influence upon the ultimate adoption of spinal analgesia into surgery. By contrast the important work of the Kiel surgeon August Bier is omitted.

Nevertheless the majority of the articles selected are representative of original advances in knowledge important to the development of anesthesiology. Here they are conveniently bound together in one volume.

RICHARD FOREGGER, M.D.

**Physiology and Biophysics of the Circulation.** BY ALAN C. BURTON, PH.D., Professor and Head of the Dept. of Biophysics, Medical School, University of Western Ontario, London, Ontario, Canada. Cloth. \$8.50. Pp. 217 with 113 figures. Year Book Medical Publishers, Inc., Chicago, 1965.

This monograph, written by a well-known biophysicist devoted to the study of the circulation, is intended for the medical student, and the author claims it will be inadequate for the graduate student. The text concentrates on ideas rather than on facts, since new facts are added and old ones amended so fast that most texts are out-of-date before reaching print. By concentrating on ideas, the author hopes to establish some permanency to his monograph. If students understand the ideas, they would have to pass the examinations. In general, the writer is dogmatic and does not engage in controversy. When he expresses personal opinion and recognizes other physiologists may disagree with him, he sets off his statements with special symbols. Most students do not read references, so the bibliographies at the end of chapters are brief with deference to reviews, symposia and monographs. The organization of the material is more according to the principles of the circulation rather than to specific topics. There are five broad sections entitled: The Circulating Fluid, Blood; The Vascular Bed; The Energetics of the Circulation; The Heart and Its Action; and The Regulation of the Circulation. Each section is divided into 3 to 7 chapters. The coverage of all material dealing with circulatory physiology that is important to the average physician is well presented.

This monograph is lucidly written. The author sprinkles his "ideas" liberally with humor, since, as he says, ". . . students remember the things taught in a dramatic, exaggerated, or amusing way, when they have forgotten everything else in the lectures." His introductory chapter on "Why

Have a Circulation" is delightful; he lets the reader in on the deliberations of "The Celestial Committee on Control of Mammalian Circulation." In discussing the interactions of adrenaline and noradrenaline with analogous drugs, he says "the field is so complicated that research pharmacologists will be kept happy arguing with each other for many years." He compares electrocardiography with bird watching and leaves out a discussion of the equilateral triangle of Einthoven remarking ". . . the time has come to forget this particular contribution, or at least not to ask the student to remember it. If he has to do so, there are other textbooks." It is hard for the reviewer to pick out especially outstanding chapters or sections; they are all good depending upon one's interests. The sections on "The Vascular Bed" and "The Regulations of the Circulation" are particularly appealing.

The book is well indexed, printed and produced. It accomplishes the purposes set out in the preface. The humor and style of writing make reading the text anything but a chore. Exception, however, is taken to the statement that it is only for the student—perhaps it depends upon the definition of a student. Few physicians could fail but to profit from a few hours' perusal of this book. It should be required reading for anesthesiologists.

JAMES E. ECKENHOFF, M.D.

**Physiology of Respiration.** BY JULIUS H. COMROE, JR., M.D., Director, Cardiovascular Research Institute, and Professor of Physiology, University of California Medical Center, San Francisco. Cloth. \$7.50. Pp. 245 with 111 illustrations. Year Book Medical Publishers, Inc., Chicago, 1965.

One of a new series of monographs on the major subdivisions of physiology, each limited to 250 pages, this volume is "intended for students of medicine—whether . . . in medical school, . . . residency training, or . . . the practice of medicine," to quote from the preface. Parts of the book are included, the author adds, "to show how physiological evidence is obtained, analyzed and evaluated; how conclusions are drawn; how hypotheses turn into concepts; how new concepts replace the previously accepted ones. . . ."

The inclusion of much experimental evidence, backed up by over 200 of the most relevant references, in effect transports the reader into the research laboratory to judge for himself. In no sense a revision of the author's widely circulated *The Lung*, the present volume is a comprehensive coverage of all the major phases of human respiratory physiology, both normal and to some extent

pathological. The topics covered include the general features of the mammalian respiratory system; the medullary respiratory centers; the peripheral and central respiratory chemoreceptors, including the recently described central hydrogen ion receptors apparently located near the ventral surface of the medulla and influenced both by composition of blood and cerebrospinal fluid; reflexes from the lungs and cardiovascular system (the Hering-Breuer reflex being only one among a dozen); reflexes from respiratory muscles, including the "gamma motor fibers" which modify the sensitivity of the muscle spindle proprioceptors; and the remarkable pulmonary surfactant, which lines the alveoli and prevents atelectasis in normal lungs. There are also discussions of respiratory mechanics, the pulmonary circulation, pulmonary gas exchange, transport of O<sub>2</sub> and CO<sub>2</sub>, the influence of pulmonary disease on respiration, and, finally, of artificial respiration and inhalation therapy. The excellent diagrams, tables, photographs of gross specimens, light and electron micrographs fit hand-in-glove with the text. Topics which have caused confusion in the past are given particular attention.

Though it reads like a "Who-Done-It," and is written so as to be understandable to all who have had some exposure to mammalian physiology, the *Physiology of Respiration* contains such a wealth of original material that it will challenge all who are concerned with respiration, be they medical student, internist or chest physician, thoracic surgeon, or indeed respiratory physiologist. For the practicing anesthesiologist it will have a special value, containing as it does a review of the latest in respiratory physiology, together with analysis of many situations specifically related to anesthesia.

JOHN F. PERKINS, JR., M.D.

**Acute Problems in Resuscitation and Hypothermia.** EDITED BY V. A. NEGOVSKII; Translated by Basil Haigh, M.A., M.B., B.Chir. \$15.00. Paper cover. Pp. 91. Consultants Bureau, New York, 1965.

This book contains the proceedings of a symposium held in Moscow on September 15-19, 1964, which dealt with the Application of Deep Hypothermia to Terminal States. The purpose was "to examine some of the most urgent problems in resuscitation practice and to discuss the use of hypothermia in the prevention and treatment of terminal states in experimental and clinical conditions." The subjects covered are: (1) current problems in resuscitation, e.g. criteria for changing from closed to open chest cardiac mas-