

who have elected to perform their studies on human beings.

The experiments reported by the present author were performed in supine, anesthetized dogs subjected to asphyxia of varying length. His results—which, of course, may not apply exactly to man—were that respiration fails, then circulation, and that artificial respiration might not resuscitate even though only respiration had failed. In the latter situation vasopressor drugs were effective, but pure cardiac stimulants (e.g., isoproterenol) were not. After circulatory arrest, sodium bicarbonate offered no advantage. In ventricular fibrillation, procaine amide was without value.

In the resuscitation of man, the proposed order is: (1) get oxygen into the lungs; (2) make the blood circulate; (3) give a vasopressor if (2) does not produce a palpable carotid or femoral pulse; (4) rule out ventricular fibrillation if neither (2) nor (3) produces a pulse.

In summary, this is a concise common-sense approach to an old subject. It does not pretend to deal with the moral questions surrounding the act(s) of resuscitation.

HENRY L. PRICE, M.D.

Lung Function—Assessment and Application in Medicine. By J. E. COTES, B.M. (OXON), M.R.C.P. (London), Member of Scientific Staff, Medical Research Council. Cloth. \$12.50. Pp. 541, with illustrations. F. A. Davis Co., Philadelphia, 1965.

The purpose of the book is to consolidate recent technical developments, including physical characteristics and physiological responses of lung tissue, and their relations to lung function.

The text, divided into appropriate relatively self-contained chapters, adequately and succinctly summarizes current concepts of lung function, of respiration and control thereof, and of factors related to exercise and pulmonary function. An early chapter devoted to terminology is most helpful. The illustrations contribute a great deal to the presentation. Schematic diagrams, plates and tables are clearly presented and are a welcome asset in clarifying the related text material. References are included at the end of each chapter and also at the end of the book. Author index and subject index appear adequate. The author's statements seem reliable in all areas and are well supported by adequate reference material.

Although this book presents a mass of detailed explanations it is easy to read. The material would, therefore, seem to be more easily understood by the "average" anesthesiologist than comparable books in this field. It may well, how-

ever, surpass the scope of the "average" anesthesiologist in some aspects, i.e., laboratory tests, measurements, equipment and methods. However, the presentation of each chapter as a unit makes it possible to select subject material individually and assimilate it without difficulty. This publication is an excellent source for review of basic principles of pulmonary function.

ROBERT J. COLLITON, M.D.

Cerebrospinal Fluid and the Regulation of Ventilation. The Proceedings of a Symposium held at the Downstate Medical Center, State University of New York. EDITED BY CHANDLER McC. BROOKS, FREDERICK F. KAY AND BRIAN B. LLOYD. Cloth. \$16.50. Pp. 458, with 94 illustrations. (First published in 1965 by Blackwell Scientific Publications, F. A. Davis Co., Philadelphia, 1965.)

Increasing numbers of books are being published which contain the formal presentations and general ensuing discussions related to a specific topic in which each of the participants is more or less a specialist. Such is the case here. Some 16 papers were presented at a symposium in Brooklyn on April 9 and 10, 1964, by a distinguished group, all of whom had studied aspects of the subject under consideration. A total of 47 scientists attended this symposium, of whom 11 were directly associated with Departments of Anesthesiology.

The subject matter itself is on a high scientific plane, and probably would not appeal to the anesthesiologist who is primarily a clinician. However, as a reference text, or a resumé of present thinking, this volume has much to offer. Particularly interesting to me was the fine historical introduction by John F. Perkins, Department of Physiology, University of Chicago. Salient points in the formal papers are dissected freely in the discussions which follow them: in several instances, these discussions serve to clarify present thoughts about basic issues.

The book is well put together, as one might expect of a Blackwell Scientific Publication.

C. R. STEPHEN, M.D.

Pulmonary Physiology in Clinical Practice. By WILLIAM R. PACE, JR., M.D., Seattle, Washington. Paper. \$2.95. Pp. 143, with 40 figures. F. A. Davis Co., Philadelphia, 1965.

This brief, easy-to-read volume is designed to acquaint practicing physicians with clinical pulmonary physiology. It deals mainly with pulmonary function testing, both in the office and in the clinical laboratory. It assumes that the reader has a minimum of previous knowledge of the sub-

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ject. The first four chapters discuss the causes, assessment, and significance of abnormalities of ventilation, of ventilation-perfusion ratios and of membrane permeability. Following these introductory chapters is a discussion of simple methods of pulmonary function testing suitable for office use, such as measurement of tidal volume and maximal expiratory flow, and a chapter on arterial blood sampling and arterial blood gas analysis. The author next discusses the clinical management of pulmonary insufficiency and respiratory failure, with particular emphasis on the use of modern intermittent positive pressure breathing devices. He advocates use of the endotracheal tube in preference to tracheostomy in management of acute respiratory failure, for periods of as long as a week. Also included is an explanation of the symbols used in respiratory physiology and a chapter of tables and formulas. This book is on a rather elementary level for the modern anesthesiologist; it will be more suitable for the general practitioner or internist who wants to be brought up to date.

DARIO B. DOMIZI, M.D.

Respiratory Therapy. EDITED BY PETER SAFAR, M.D., Professor and Chairman, Department of Anesthesiology, University of Pittsburgh. *Volume 1/1965 of Clinical Anesthesia Series.* JOSEPH F. ARTUNIO, M.D., EDITOR-IN-CHIEF. Cloth. \$7.50. Pp. 419, with illustrations. F. A. Davis Company, Philadelphia, 1965.

A few years ago, when this reviewer was starting a school for inhalation therapy technicians, he was dismayed to discover that very little coherent reference material existed. The subject matter of the curriculum had to be constructed almost entirely from lecture notes. The picture has changed, fortunately, and Peter Safar's volume, *Respiratory Therapy*, constitutes one of the more useful sources for assigned reading. The book is organized into 15 relatively disconnected chapters on topics ranging from anatomy and physiology to organization of an inhalation therapy service and school, and an intensive care unit. Among the eighteen authors who individually or jointly produced the chapters, are two registered inhalation therapists, Mr. James F. Whitacre, who is Editor of the journal, *Inhalation Therapy*, and Mr. Gilbert Davis. This is an encouraging sign of development of this young paramedical specialty. Included among the chapters on therapy are: Management of Airway Obstruction, Emergency Resuscitation (a favorite topic of Dr. Safar), Prolonged Artificial Ventilation, Inhalation of Oxygen (with notes on oxygen toxicity), Nebulization Therapy (a very welcome article superbly written

by Ivan Cushing and William F. Miller), Intermittent Positive Pressure Breathing, Management of the Comatose Patient, Post-operative Respiratory Complications, The Management of Chronic Respiratory Insufficiency and Management of Newborn Resuscitation and The Respiratory Distress Syndrome. There is also a chapter on Sterilization and Care of Equipment, and an Appendix of "Useful Data" which contains an assortment of tables, charts and nomograms relating to pulmonary function and therapy.

Most of the articles have been authoritatively executed by well-selected authors. It is not surprising that there are some errors of omission in a single volume which is dedicated to so large a subject. These tend to be covered by the generous lists of references at the end of each chapter. *Respiratory Therapy* is written to be a practical guide to treatment, and will be useful to all students of inhalation therapy. It should be considered a "must" for the library of those physicians who only occasionally are responsible for the management of a patient in respiratory failure and find themselves without adequate support of a specialist in this area or a competent technician team.

DUNCAN A. HOLADAY, M.D.

Respiratory Care. BY H. H. BENDIXEN, L. D. ECBERT, J. HEDLEY-WHITE, M. B. LAYER AND H. PONTOPPIDAN. From the Respiratory Unit & Anesthesia Laboratory of Harvard Medical School at Massachusetts General Hospital, Boston. Foreword by John H. Knowles, M.D. Cloth. \$15.00. Pp. 252, with illustrations. The C. V. Mosby Co., St. Louis, 1965.

"The aim of this book is improved patient care through the clinical application of the principles of respiratory physiology." A giant step forward is anticipated such as that which followed the development of the Drinker respirator, where primary interest was centered on a clear airway contributing to active pulmonary function interpreted principally in terms of lung volume, gas exchange and diffusion. This text goes beyond these parameters to include discussion of factors such as arterial oxygen content and tension, cardiac output and pulmonary circulation, permitting geographical matching of alveolar ventilation and pulmonary capillary perfusion. The discussion is extended to such topics as pH, temperature, buffer and electrolyte content, membrane permeability and tissue metabolism.

Part 2 discusses diagnosis in relation to oxygenation, ventilation, physiologic shunts, the work of breathing, blood gas measurements and acid-base balance. Emphasis is placed on the dead space and shunt equations.