for these receptors, and the role of receptors and glucocorticoid binding in respect to hyaline membrane disease.

Part III: Concerning physiological development, this chapter is introduced by studies of the development of the mechanical properties of the respiratory system, by Bryan, Mansell, and Sevison. It is pointed out that pulmonary function data for infants between 1 and 6 years are almost nonexistent, which is unfortunate, because this is a critical period in lung growth: lung volume increases about thirteenfold from birth to age 6, but only threefold from 6 to adulthood. Of particular interest are the data on closing volumes in children.

Hodson, Alden and Woodrum discuss gas exchange in the developing lung and focus on the clinical and physiologic aspects of carbon dioxide and oxygen exchange. They point out that, in spite of certain difficulties in a small percentage of infants, it is remarkable that the lung of the newborn is so well prepared without prior rehearsal to carry out the necessary O_2 and CO_2 exchange within seconds of demand. Difficulties that arise are, for the most part, related to a compromised gas-exchange system. Although there is much yet to be known about hyaline membrane disease, the major anomaly appears to be an anatomic shunt due to perfusion of nonalveolarized vessels.

The physiology and pharmacology of the pulmonary circulation in the fetus and newborn are discussed by Rudolph, Heyman, and Lewis. Pulmonary blood flow adequate for gas exchange is clearly as important as alveolar respiration and, in this regard, the inclusion in this chapter of a review of methods and their limitations in studying pulmonary circulation is particularly rewarding. Much of this work has been carried out in fetal lambs.

Solute and water transfer in fetal and newborn lungs, well covered by Olver, has hitherto received scant attention. The manner and speed by which pulmonary liquid present in the potential airspaces at birth is removed is a significant puzzle that has yet to be resolved.

Appropriately, the concluding chapter by Tooley deals with four clinical conditions that can affect the lung at birth. They are: delayed absorption of lung fluid, hyaline membrane disease, pulmonary insufficiency, and apnea. The description of the characteristics of these conditions should provide a useful start for the uninitiated.

Overall, this book gives a balanced appraisal of current knowledge about the development of the lung. To the seasoned worker in the field and to the beginner alike, it is essential reading, particularly at the rather modest price of $25.00.

Edwin S. Boatman, Ph.D.
Environmental Health/Pathobiology
F-561 Health Sciences SC-34
University of Washington
Seattle, Washington 98195

Pain—New Perspectives in Measurement and Management. Edited by A. W. Harcus, R. Smith, and D. Whittle. New York, Churchill Livingstone, April 1978. Pages: 194. Price: $23.50.

This book is a compendium of presentations from a symposium held in May 1977 in England, the ostensible purpose of which was to provide a forum for the exchange of ideas by clinical, research, and pharmacology specialists on the topic pain. It also introduces a new narcotic, buprenorphine, as "a potent antagonist analgesic." The point is made that recent discoveries in analgesic pharmacology provided a scientific basis for current hypotheses about pain mechanisms and their inhibition, thus setting the scene for the emphasis on buprenorphine. At least a quarter of the book is devoted to discussing the pharmacologic aspects of this drug in man, and then relates a few, mostly anecdotal, experiences of its use, primarily in treating postoperative pain. These studies, while limited in scope, appear to confirm that buprenorphine produces little cardiovascular or respiratory depression and has no psychotomimetic effect, but does produce sedation and analgesia that lasts at least four to six hours. In further studies mentioned elsewhere, the drug also appears to have a low physical dependence liability and extremely mild withdrawal symptoms.

On the subject of pain, the book deals mostly with acute pain and makes mention of current approaches to the treatment of postoperative pain, the pain of myocardial infarction, the pain of acute trauma, and renal colic. There are two good chapters dealing with the abuse and dependence problems incurred with narcotic medications. Superficial coverage is given to the endogenous opiates. The book does not elucidate the subject of chronic pain at all. The one brief chapter devoted to this topic deals with the different approaches in the management of patients with chronic pain. Further insight into the problems of these patients can be gained from two chapters dealing with patients with pain due to cancer, but the principles involved may not be obvious to the unsophisticated reader.

The title of the book leads one to anticipate some new information about the management of pain. This expectation is enhanced by comments in the Foreword. The two chapters that deal with this, however, are disappointing in not offering any new ideas except the suggestion that measurement of the endogenous opiate substances may be useful. Lack of direction is usual when vaguely related papers prepared for conference presentation are loosely integrated.

John C. Rowlingson, M.D.
Department of Anesthesiology
University of Virginia Medical Center
Charlottesville, Virginia 22901

The Biochemical Basis of Neuropharmacology. Third edition. By J. R. Cooper, F. E. Bloom, and R. H. Roth. New York, Oxford University Press, 1978. Pages: 327. Price: $6.95.

Cooper, Bloom and Roth survey the current state of science in neuropharmacology with depth and accuracy. The authors discuss how neuropharmacology arrived at its current status, and detail that current status by transmitter systems as only those at the forefront of research and teaching could do. Their book is appropriate for the beginner as well as the expert—it will stimulate thought in the clinician and research ideas for the scientific adademician.

Each chapter discusses the historical development of a particular field, and brings the reader quickly to the present state of knowledge, stressing current areas of research and their limitations. The new edition adds chapters on receptors and polypeptide transmitters and updates other rapidly changing fields of neuropharmacology. The weakest points of this book are its skimpy referencing and indexing, but it is still the best neuropharmacology book available at any price, and *best* reading for both clinician and scientist.

Michael F. Roizen, M.D.
Anesthesia and Medicine
University of California, San Francisco
San Francisco, California 94143

Downloaded from http://asa2.silverchair.com/anesthesiology/article-pdf/50/3/279/300346/0000542-197903000-00045.pdf by guest on 17 April 2024