The Anesthesiologist's Bookshelf

Edited by MEREL H. HARMEL

Physiology and Pharmacology of Local Anesthesia. By RUDOLPH H. DE JONG. Springfield, Ill., Charles C Thomas, 1970. Pp. 267. $12.50.

Although many first-rate texts on the techniques of regional anesthesia are available, a volume devoted to the physiology and pharmacology of local anesthesia has long been needed to fill the gap between laboratory investigation and clinical application. Dr. deJong has prepared an excellent volume which appears to answer this purpose. He has attacked the problem largely through a presentation in which the focus is on cellular physiology and the alterations in activity brought about by local anesthetics. He brings to this subject the kind of physiologic understanding which over the past several years has given such impetus to our knowledge of general anesthesia and general anesthetic agents. With exceptional clarity he dissects the activities of agents on the single nerve fiber residing in a milieu of ions and chemicals, alterations in which by drugs cause changes in response. He then logically proceeds to a consideration of the pollution of the environment of the family of nerve fibers by local anesthetics, and in turn their effects on structure and activity.

To this reviewer the concept of tachyphylaxis remains an enigma which has not been resolved by Dr. deJong. Indeed, the matter seems to be confusing and confused.

This reviewer would have liked Dr. deJong to have extended his analysis and descriptive clarity to the pharmacology of the actions of neurotoxic substances such as phenol Other than indicating that phenol does "produce a differential blockage" there appears to be little (if any) correlation between this statement and the differing mechanism of action of the so-called reversible and nonreversible agents. Perhaps in later editions this matter might be pursued further. These criticisms are minor indeed, and we are indebted to Dr. deJong for bringing together this fundamental information, which will be of value to all anesthesiologists and students of the subject.

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Body Plethysmography. Progress in Respiration Research. Volume 4. EDITED BY A. B. DUBOIS AND K. P. VAN DE WOESTYNE. New York, S. Karger, 1969. Pp. 260. $18.00.

This publication incorporates papers presented at a seminar held in Nyneigan, Holland, in September 1968. Twenty-four articles, arranged under appropriate headings are presented. The headings are: I. The Design and Technical Problems; II. Measurements: Ventilation; III. Measurements: Circulation; IV. Clinical Application; V. Body Plethysmography in Japan.

This book represents the first detailed account of body plethysmography in English. In this respect, it represents a valuable contribution. The serious investigator can learn the concepts of body plethysmography and may gain from the described experiences of the authors. Most of the chapters are by European plethysmographers, not because the meeting was held in Europe, but because body plethysmography has been used for a longer time and more widely in Europe than in the United States.

The scope and depth of the articles present material for those interested in the development and design of plethysmographs. In seeking specific information, searching of the various articles is necessary. To the novice contemplating its use, the description of the many factors with which he must cope will be discouraging. Even the experienced worker using body plethysmography for clinical studies will be disheartened somewhat on reading this book, for he will feel that he has neglected many minute details. He will find detailed criticisms of the technique, including a listing of the critical requirements, multiple display of patterns of respiratory airway resistance loops, and several recommendations for interpretation of the records, all of which may create pessimism toward body plethysmography. Actually, stress is placed on precision directed toward a limited instrument—the body box; this may not be justified.

The contents of several of the articles, especially those on measurements of blood flow and airway resistance, were reported previously in journals. Some of the authors make statements and present concepts with which agreement is not universal, for example, that the technique of body plethysmography is capable of determining resistance of the small airways or time resistance.

The reader should have at least an acquaintance with mathematical equations and system circuits to understand the material presented, especially that in the first portions of the book.

This volume is a good source of information for the investigator whose interest is body plethysmography, but is inappropriate for one whose interest lies in using this technique for clinical evaluation and diagnosis. In fact, after reading this book, the novice may be discouraged from using body plethysmography.

Recently, a boy was assigned the review of a book on penguins, and his report was "This book

told me more about penguins than I wanted to know." *Body Plethysmography* may give the same thought to some readers.

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Obstetrical Anesthesia, Current Concepts and Practice. EDITED BY SOL M. SHNIDER, M.D. Baltimore, The Williams & Wilkins Company, 1970. Pp. 256. $12.00.

This collection of papers preserves the essence of an April 1969 conference at the University of California, designed to present "a concise and informative review of current, theoretical and practical aspects of obstetrical analgesia and anesthesia." The editor has revised and expanded all 34 manuscripts included in the original program. He has succeeded well in avoiding discordances in styles and opinions of the 14 authors, and in covering briefly but thoroughly most of the important clinical problems in obstetrical anesthesia and initial neonatal care.

The format of the collection is conducive to its goal. The chapters are short, generally well outlined, and contain adequate (although not uniformly current) lists of references. The graphs and illustrations are sufficient in number and clarity. They generally represent carefully selected examples from older authoritative research. The index is quite useful and well cross referenced. The total length of the book seems just right to fulfill its stated mission without becoming exhaustive.

Much of the material covered by the major authors has been presented by them in similar form in other publications. These sections are nonetheless valuable because of their familiarity. On the other hand, a few conclusions proposed by the less familiar contributors may not enjoy complete acceptance among all experts in the field.

Perhaps the most pleasing portions of the book are several contributions of recent information gathered by the editor and his group at the University of California. Of particular value is the section on perinatology, a subject all too unfamiliar to most anesthesiologists.

The work easily achieves its stated goal. It makes no attempt to supplant the excellent reference work already produced in this field by one of the contributors. Yet it is authoritative, current, and manageable in length. It is to be recommended for the anesthesiology resident or the practitioner seeking to update his knowledge in an important and rapidly advancing area of practice.

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Nervous System

CLINICAL TEMPERATURE Quantitative mechanisms that regulate normal temperature and determine its clinical aberrations have been found with the methods of gradient calorimetry and tympanic thermometry. Hemostasis is achieved by warm-sensitive neurons of a "human thermostat" or "temperature-eye" in the anterior portion of the hypothalamus. These fire and excite sweating and vasodilatation for heat loss when their temperature exceeds a sharply-determined set point near 37 C (98.7 F). Similar warm-sensitive neurons inhibit, through a synaptic station in the posterior portion of the hypothalamus, the metabolic response to cold which is excited by cold-receptors of the skin firing from thresholds at 33 to 35 C (91.4 to 95 F). Pyrogens depress or extinguish firing of central thermoreceptors. The set point is shifted and fever develops. These findings provide a basis for the understanding of clinical temperature, and the tool for its reliable measurement—tympanic, not rectal, thermometry. (*Benzinger, T. H.: Clinical Temperature. New Physiological Basis, J.A.M.A. 209: 1200 (Aug.) 1969.*)