

# The Anesthesiologist's Bookshelf

Edited by MEREL H. HARMEL

**Pharmacology of Anesthetic Agents and Their Measurement.** EDITED BY V. L. BRECHNER AND C. M. BALLINGER. Salt Lake City, University of Utah Press, 1969. \$7.

This book is a record of the proceedings of the 1967 Biennial Western Conference on Anesthesiology. The fourteen papers presented cover a wide spectrum of diverse topics related to the pharmacology of anesthetics. The value of such a volume is to provide a reader not intimately connected with the field with a source where he might be able to pick up easily what is currently going on. To this end the papers must be practical, up-to-date, and better than alternatives. In this, the authors have largely succeeded, although, as might be expected, some papers are more useful than others.

E. N. Cohen presents three discussions of methods useful in anesthesia research. Specifically, he covers autoradiographic, radioactive tracer, and gas chromatographic techniques. The first of these may induce a feeling of *déjà vu* in the reader already familiar with Waser's publications on this topic. Those unacquainted with this work will find the material fascinating. Dr. Cohen then discusses the uses and limitations of radioisotopes and whole-body autoradiographic techniques in the measurement of anesthetic drug distribution and metabolism. In his final article, he describes clearly and succinctly the methods and limitations of gas chromatography. Throughout his papers, Dr. Cohen gives the reader a feeling for the technical problems involved in such a way that the final results are not so dissociated from the parent experiments as to lose the excitement of investigation.

In the first of three papers, N. M. Greene reviews drug metabolism, a topic which he has covered recently in this Journal (29:127; 327, 1968) in greater detail. He then goes on to survey drug interactions, especially those associated with enzyme induction and inhibition. Finally, he discusses "Measurement of Anesthetic Drugs." (The title may create images in the reader's mind of a micrometer being applied to drug molecules, but what is meant is that concentrations of the drugs are being measured.) Specifically, he discusses sampling techniques and interpretation of values obtained. Consideration of these topics is essential not only if one is involved in research in anesthesiology, but even if one is to be able to read the current literature intelligently.

The papers by John C. Krantz are interesting from an historical point of view, but otherwise contain much that is irrelevant to clinical anesthesia or the underlying pharmacology. For example, a figure of "atomic configurations of hydrogen, carbon and fluorine atoms" is presented without comment (apparently even the author could not relate the figure to the text). Structure-activity relationships are discussed in pseudochemical terms (what is "negative activity"?). I suspect that one should view cautiously some of the "theories" presented. For example, a discussion of the difference between C-C and C=C bonds mentions only the bond length. Since many other features such as freedom of rotation and charge configuration also differ, it is hard to see the justification for looking only at bond length. The clinician may also wince at the idea of rendering a patient unconscious with the intravenous administration of a volatile anesthetic so that "flammability hazard is eliminated . . . and the necessity for an anesthetic machine is obviated." Since the agent will still be excreted by the lungs, the possibility of its presence there in flammable concentration still exists. And is it desirable to try to manage an anesthetized patient without an anesthetic machine?

J. F. Nunn covers oxygen and carbon dioxide as drugs, the origin, effects, and treatment of poisoning by contamination of nitrous oxide by higher oxides of nitrogen, and the relationship between the narcotic and physical properties of inhalation anesthetics. He has managed to give four consistently clear and concise reviews. For example, he covers the theories of anesthesia, a topic so often associated with dull discussion, without getting bogged down in irrelevancies.

D. B. Taylor's article, "The Relationship Between the Modes of Action of *d*-Tubocurarine on Voluntary Muscle and Morphine on the Central Nervous System" is intriguing, but too cryptic. I should have liked a more complete summary of the work of this group.

In general, this book provides a convenient survey of recent developments in anesthetic pharmacology, especially for someone like the resident or the practitioner who finds himself somewhat behind in his reading.

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