

regarded as a pharmacologic model for the study of inaccessible nerve endings, since it has the ability to take up and metabolize biogenic amines.

This book provides interesting reading but may prove difficult for those unfamiliar with recent advances in the fields discussed. As the editors suggest, the book is intended for the hematologist, physiologist, pharmacologist and cell biologist.

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Clinical Aspects of Respiratory Physiology. BY CLARENCE A. GUENTER, MARTIN H. WELCH, AND JAMES C. HOGG. Philadelphia, J. B. Lippincott, 1977. Pages: 168. Price: \$9.50.

The content of this book was extracted from the introduction to Part I one of the authors' major work, *Pulmonary Medicine*, and thus is intended to provide a physiologic basis for understanding pulmonary function in the context of pulmonary disease.

The book is divided into four chapters, each dealing with a relevant aspect of pulmonary physiology. Chapter one is concerned with concepts of environmental gases and conditions that will effect the composition of alveolar gas tensions. The second chapter is designed to present a rather standard review of the anatomy and physiology of the conducting airways. Chapter three considers methods of evaluating pulmonary function in the laboratory and attempts to correlate clinical findings with the laboratory results. The final chapter deals with concepts of oxygen transport, including blood-gas analysis, interactions of gas exchange, and the chemistry of carbon dioxide elimination.

The material is presented in a concise and readable fashion. The book is comprehensive, well organized, and provides the reader with a sufficient amount of information to appreciate the important mechanisms relating to pulmonary physiology. The references are both numerous and up-to-date.

The book is directed to a wide range of readers, including medical students, nurses, respiratory therapists, and physicians. It undoubtedly will provide an excellent experience for all of those groups; however, it may be a bit disappointing to the anesthesiologist, due to the lack of coverage of specific areas such as ventilation-perfusion relationships, changes in physiology relating to change in lung volume, and the relationship between alterations in cardiovascular and pulmonary physiology, etc. As a review of basic concepts of pulmonary physiology, however, this text undoubtedly succeeds particularly well.

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The Politics of Pain. BY H. NEAL. New York, McGraw-Hill, 1978. Pages: 222. Price: \$9.95.

Ms. Neal has been a medical science writer and public relations specialist at the National Institutes of Health and is a founding member of the International Association for the Study of Pain and a charter member of the American Pain Society. Her treatise, addressed to the lay public—the consumer—is frankly tendentious; her work on the subject was precipitated by the deeply-felt personal frustration experienced while a close family member with terminal cancer suffered pain over the course of three years.

The author gives a brief summary of the history of pain control, from the shamans and witch doctors through the Melzack-Wall

spinal-gate theory to endorphins. The major portion and thrust of the book, however, is devoted to her main thesis that the medical profession and research scientists have not had an interest in chronic pain (as distinguished from acute pain) since such an interest offers no important payoffs in cures, research grants, or Nobel Prizes. The recent identification of opiate receptors in the brain and the discovery that the endogenous substance enkephalin suppresses pain (that man is born with his own supply of narcotics) has given pain research a higher status in the "snob-ridden scientific hierarchy."

Ms. Neal describes some of the techniques now being used in pain clinics and the new options for pain management in hospitals. She argues that the passive attitude of the patient, especially concerning iatrogenic pain, should be changed and that the politics of drug addiction has prevented the medical use of LSD, heroin and marijuana, the administration of which could enhance the quality of remaining life for the terminally ill. She suggests that intelligent lobbying efforts in Congress could promote funding of research to develop techniques for measuring pain and regimens of drugs that change the perception of pain, in order to improve the management of chronic pain.

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Receptor Binding Studies in Adrenergic Pharmacology. BY L. T. WILLIAMS AND R. J. LEFKOWITZ. New York, Raven Press, 1978. Pages: 157. Price \$16.50.

This is a very welcome and timely book, since it reviews, both in detail and with clarity, the current knowledge of the molecular properties of adrenergic receptors, and updates the reader on the recent rapid advances that have been made in this field.

The natural and synthetic catecholamines, and compounds that antagonize their effects, are among the most useful and versatile agents at our disposal is attested by the almost daily increase in knowledge of these compounds and their modes of action. Efforts to elucidate the way that catecholamines bring about their diverse actions date back to 1906, when H. H. Dale found that ergot alkaloids inhibit only some of the responses to catecholamines, indicating that these compounds interact in more than one way with the responsive tissue. In 1937, A. J. Clark postulated that there were specific structures on the cell surface through which catecholamines exert their action, and named them "receptors." In 1948, R. P. Ahlquist presented indirect evidence for the existence of two types of catecholamine receptors, which he called "alpha" and "beta." Within the last several years new methods of identifying and studying the adrenergic receptor sites have been developed, and recent studies have used these techniques to shed new light on the roles of receptors in physiologic responses and in disease (Jacobs S, Cuatrecasas P: Cell receptors in disease, *N Engl J Med* 297:1383-1386, 1977).

After an introduction and a brief review of the "Pharmacology of Adrenergic Receptors" and a "Theory of Ligand-Receptor Interactions," techniques using radioactive adrenergic ligands (radioligands) to study alpha- and beta-adrenergic receptors directly are described in detail. ("Ligand" is defined as an atom, group of atoms, or a molecule that binds to a macromolecule.) The authors lead one step-by-step through each technique and show how the receptors can be identified by specificity, stereospecificity, and saturability and the kinetics of their interactions with adrenergic ligands examined, and how knowledge about their role as transducer