Book reviews

PERSPECTIVES IN NEUROPHARMACOLOGY: A tribute to Julius Axelrod Edited by S. H. Snyder. (Pp. 404; illustrated; £7.75.) Oxford University Press: London. 1972.

The concept of chemical transmission began with adrenergic nerves but the major triumphs of its first 50 years were with peripheral cholinergic nerves. In contrast, the most spectacular developments of the past 20 years have been in adrenergic and central transmission. To these, Julius Axelrod has made a unique contribution. This book, a personal tribute to him by former colleagues, comprises articles by these colleagues in the main on adrenergic transmission but extending beyond this to central transmission, and to clinical applications. The importance of the mechanisms described to neurology and psychiatry are self evident; they provide not only a practical appreciation of the mode of action of many drugs used in these specialties but also a speculative basis for the origin of neurological and psychiatric disturbance which may provide the springboard for further advances.

The fundamental nature of the autonomic and central control mechanisms described extends the clinical relevance of the book beyond neurology, neuropharmacology, and psychiatry, in all of which disciplines it should be obligatory reading—for example, to those whose interests lie in the cardiovascular system and the origin of hypertension or to endocrinologists interested in the mode of action of oral contraceptives in the hypothalamo-pituitary complex. To all of these, this book can be recommended as a compilation of articles not only authoritative and up-to-date, but also as a fascinating account of recent exciting developments in clinical science.

J. S. GILLESPIE

HANDBOOK OF SENSORY PHYSIOLOGY, Vol. 3: Enteroceptors Edited by E. Neil (Pp. 233; 91 figures; £9.45.) Springer: Berlin. 1972.

The present volume is part of the Springer *Handbook of Sensory Physiology* and, in six concise chapters, covers the enteroceptors. It provides a very satisfactory unified, comprehensive, and authoritative account of cardiovascular mechanoreceptors by Paintal, chemoreceptors by Neil and Howe, and airway and lung receptors by Widdicome and Fielding, in a manner which reduces to a minimum the confusion and controversy engendered by the technical

difficulties imposed by the small size and general inaccessibility of the afferent fibres and receptors. The histology and physiology of these receptor systems is covered fully, in particular, the situations that lead to excitation and discharge of afferent impulses, with only passing comments on the sensory consequences of activation of the receptors. Abdominal visceral receptors are reviewed by Leek with, because of their general theoretical interest, an extensive account of intramural receptors in the ruminant fore-stomach. The properties of the diverse mechanoreceptors and chemoreceptors in the stomach, intestine, and bladder are detailed, followed by an analysis of the reflexes to which they contribute. The sensory functions of abdominal visceral receptors are more conspicuous than those of the thoracic visceral receptors and accordingly there is a more extensive account of them.

The last two chapters deal with 'central enteroceptors' concerned in thermoregulation and with satiety, hunger, and thirst. Hellon gives an account of the 'central thermoreceptors' in thermoregulation. New results relating to the presence of 'temperature regulating systems' in the hypothalamus and spinal cord are presented, followed by a detailed account of the so-far limited information on unit responses to peripheral and central heating. The sensory responses to heating and cooling of the periphery are reported elsewhere in the *Handbook* series. Finally, the central enteroceptors in the hypothalamus that affect satiety, hunger, and thirst are reviewed by Andersson, followed by a stimulating account of the way in which these central regulatory mechanisms may function.

This book is produced with the usual meticulous attention to detail that characterizes Springer publications. It should be required reading for physicians, neurologists, and related disciplines who are interested in the clinical significance of the ways in which the central nervous system is informed about the viscera and regulates their activity, and particularly to research workers, and graduate students working in physiology and related disciplines.

A. IGGO

NEUROLOGIE By K. Poeck. (Pp. 572; 81 figures; DM. 48.) Springer: Berlin. 1972.

The imminence of the Common Market makes this text good reading as an indicator of the practice of