

Book Reviews

Molecular Pharmacology of Neurotransmitter Receptors. Advance in Biochemical Psychopharmacology Volume 36. Edited by Tomio Segawa, Henry I Yamamura, Kinya Kuriyama. (Pp 320; \$54.56.) New York: Haven Press, 1983.

The concept of drugs acting by an interaction with specific receptors was put forward by Langley in 1905. Since that time this classical pharmacological concept has received uninterrupted attention. The advent of ligand binding techniques for the identification of receptors over the past ten years has caused an explosion in the amount of literature published on this topic. It is, however, unfortunate that while such ligand binding experiments are readily carried out their interpretation is fraught with difficulties which has led to much confusion in this area.

The present volume emphasises a number of the advances which are being made in the area of neurotransmitter receptors. Clearly, much of the research effort is based on the concept of multiple sub-types of receptors. If distinct molecular entities are not found for a receptor class then different affinity forms of a single class of receptors can be demonstrated. However, one wonders how much of the classification of receptors relates to the experimental conditions under which such studies are carried out and how much represents what is truly physiological. In my own area of interest we have seen the classification of dopamine receptors expand from a single class to five "clearly distinct" sub-types and then recede to a more modest two receptor population.

More recently, purification of receptors has become a more crucial issue with the emphasis being placed on the molecular nature of the receptors. In the studies of acetylcholine receptors described advances are being made which cannot yet be applied to other areas of receptor studies.

The chapters of this volume deal with acetylcholine, adrenergic, 5HT, dopamine, benzodiazepine and amino acid receptors. One notable omission is the lack of information on GABA receptors. A whole variety of approaches to studying receptors are described but there appears to be no consistent theme between the chapters. The state of the art varies from the sophistication of cholinergic receptor purification and the classification of the benzodiazepine receptor complex to the problems of even trying to identify receptors for excitatory amino acids.

As part of a series, this book will no doubt be bought by libraries. Otherwise, it would seem, on the one hand, not to be of sufficient general interest to warrant purchase by those with a passing interest in the nature of receptors and on the other, to be too diverse to be bought by the specialist.

P JENNER

Neural Mechanisms of Pain. (Advances in Pain Research and Therapy, Vol 6) Edited by Lawrence Kruger, John C Liebeskind, (Pp 384; \$61.00.) New York: Raven Press, 1983.

This is a very good book indeed. It contains the contributions delivered at a symposium on "Neural Mechanisms of Pain" of the Intra-Science Research Foundation held in February 1983. Its distinguished editors have indeed fulfilled the aims stated in the Preface: rather than attempt an all-embracing view of pain research, it was decided to select certain specific areas and invite experts to review those fields. The contributors are renowned for their own work on pain, the papers are well written, and the book is beautifully produced, as we have come to expect from Raven Press.

The range of topics is fairly wide within the areas selected for discussion. The 21 chapters include a consideration of peripheral nociceptors and nociceptor mechanisms and the effects of injury, neural circuitry and nociceptor inhibitory mechanisms in the spinal cord and brain, various chapters on spinothalamic tract function, opioid and non-opioid mechanisms, electric stimulation of the brain, and two chapters on neuropsychological aspects of pain and its mechanisms. The volume is dedicated to Dr John Bonica in recognition of his major contributions to the study of pain and the development of the subject, and he contributes an overview which adds an interesting and personal perspective on work in the field over the past 40 years. It is difficult to select individual chapters of special interest and every reader will find particular aspects they find valuable. Of particular personal interest were the chapters on neurotransmitters and neuronal markers at dorsal horn synapses (Jessell and colleagues), the role of paleospinothalamic projection areas in human deafferentation pain syndromes (Albe-Fessard and colleagues), and peripheral unmyelinated units in man (Ochoa).

In summary, this is a first-rate book and it can be highly recommended to anyone if not everyone with an interest in pain and

its mechanisms. Editors, contributors and publisher are to be congratulated.

GD SCHOTT

Biopsy Pathology of Muscle. Biopsy Pathology Series. By M Swash and MS Schwartz. (Pp 206; £20.00.) London: Chapman and Hall, 1984.

This work of 206 pages has been written with the needs of the young histopathologist in mind, and is certain to be welcomed. The growing importance of myopathology within morbid anatomy is now realised, not only as an examination subject but as a service to clinicians. Ever since the histochemistry and ultrastructure of muscle have been used in the study of muscle disease a number of specialists in different disciplines have interested themselves in every one of its aspects—clinical, histochemical and neurophysiological as well as structural. They have performed or at least read their own biopsies and made notable contributions to the literature. It is fitting that two of them should write a concise book to help the histopathologist who wants to follow their example.

The book is the essence of a large experience of muscle biopsy pathology. It comprises a well illustrated account of the reactions of the muscle tissue in disease, the features diagnostic of neurogenic disease and of the now numerous myopathies and a mention of tumours of muscle. All are preceded by a description of biopsy and laboratory methods. It is disappointing here to find advocacy of the needle biopsy technique, limited in value when used as the sole biopsy examination, and safe only when confined to the vastus lateralis. When examination of a second site is necessary, a biopsy taken under vision through a small incision is more satisfactory and is unrestricted in site. The authors have virtually abandoned paraffin embedding, admittedly much inferior to the transverse frozen section but to omit it rules out the information that can only be given by longitudinal sections which are almost impossible to obtain from frozen tissue.

The examination of the motor nerve supply is mentioned, but its advantages especially in distinguishing neurogenic disease from primary muscle disease in difficult cases not recorded. On the other hand the pathology of the muscle spindle, seldom examined, is beautifully illustrated. The authors of course are well known for their contributions to research in this field.

The description of the disorders covered