chapters cover techniques of brain stimulation, discussing types of electrodes, stimulators and electrode configurations. These are followed by three chapters on the detailed application of brain stimulation to the analysis of motivation and reinforcement, memory research and the relation of the results of stimulation experiments to those produced by lesions. The next chapter, an apologia for the use of electroconvulsive therapy, is certainly the odd-man-out in the book, there being very little indeed to say about the technique involved, except that as a general rule far too much electricity is given than is good for the brain. Finally, there are two excellent reviews of peripheral nerve stimulation and grid-shock stimulation.

These are the good points; however, this book, like so many other collections of reviews, is not a coherent whole. The individual contributions have not been cross-referenced (I counted only three in the whole book) and many chapters cover the same material. Arguments over the theoretical best electrode configurations and stimulus parameters are presented repeatedly, and when one finds that, for example, chapters 6 and 7 come to opposite conclusions on the efficacy of monopolar and bipolar brain stimulation, lack of editorial guidance becomes more than a minor annoyance. Also the contributions seem to have been written some four or more years ago, from the dates of the cited references, which seems an unduly long time even for the publication of a book. The articles are good: the book is disappointing.

J ROTHWELL

Brain Neurotransmitters and Receptors in Aging and Age-related Disorders (Aging Vol. 17). Edited by SJ Enna, T Samorajski and Bernard Beer. (Pp 292; \$43.52.) New York: Raven Press, 1981.

The series on aging published by Raven Press began life in 1975, but already has reached its 17th volume. This is a tribute to the awakening social concern of doctors, scientists and sociologists over the problems of the rising tide of the elderly in Western civilisation. Also it is a tribute to the power of politicians to dictate trends in research by providing money for some ventures while denying others. This is a symproc describing the outcome of a meeting hosted jointly by the American Aging Association and the Texas Research Institute of Mental Sciences in Houston in

October 1980. A galaxy of American contributors turn their attentions and various expertises to the aging brain. The result is the usual medley of the symproc, with some good and exciting chapters amidst many contributions of data published *in extenso* elsewhere. Much of the work describes observations on the aging rat's brain, although Arnold Scheibel describes the cellular changes in the aging human brain, Yamamura briefly reviews changes in brain neurotransmitter receptors identified by radioactive ligands in Huntington's disease, Parkinson's disease and Alzheimer's disease, Appel briefly highlights those areas of Alzheimer's disease of current research interest (hinting that Alzheimer patients, like those with Parkinson's disease, tend to be non-smokers), and Drachman in the final chapter reviews the role of the cholinergic system in memory and aging. In general, however, this is a book on rodent geriatrics which will be essential reading to all research workers in this field. As usual, the volume is superbly produced.

CD MARSDEN

Frontiers of Knowledge in Mental Retardation Volume 1: Social, Educational and Behavioral Aspects. Edited by Peter Mittler and Jean M de Jong. (Pp 467; £20.50.) Lancaster: MTP Press Ltd, 1981.

The value of conference proceedings, particularly those arising from large international jamborees, varies. At their best, as in the case of this first of two volumes of contributions to the Fifth Congress of the International Association for the Scientific Study of Mental Deficiency held in Jerusalem in August 1979, they provide an outstanding up-to-date reference work covering the main growing points of a wide range of subjects. Much of the value of such meetings lies in the discussion which takes place in the corridors outside the main conference rooms and this meeting was memorable for the way in which workers in different disciplines came together to share their ideas and develop new insights into areas of possible scientific advance.

The papers published in these two volumes, the second covering "Biomedical Aspects", have been carefully selected by the editors so that only 74 of the original 250 manuscripts have been included, although all contributions are listed. The care and persistence of the Senior Editor, beginning this procession

before and during the conference has ensured a particularly high quality in the final selection. Particularly outstanding in this first volume are the contributions on early assessment and intervention. The first section also includes accounts of recent research on cognitive processes, language and communication, while the second half is devoted to the impact of integration and treatment for parents and families and the provision of care. Hopefully in the next conference there will be wider coverage of day care and training.

As Begab points out in his presidential address on the theme of the conference, this book provides an opportunity to hear from the "bold frontiers men" of knowledge on mental retardation. Once again Professor Mittler and his colleagues have produced an outstanding review of progress which like its predecessor will I hope remain available on library shelves as a work of reference to mark scientific progress in mental retardation, when more ephemeral works will be gathering dust out of sight.

JA CORBETT

Monoamine Oxidase Inhibitors. The State of the Art. Edited by MBH Youdim and ES Paykel. (Pp 210; £13.00.) Chichester: John Wiley & Sons, 1981.

The discovery that monoamine oxidase in brain exists in two major forms having different substrate specificities and inhibitor sensitivity has added impetus to the design of selective inhibitors of these enzyme forms in the hope of achieving specific neuropharmacological action. The volume represents the proceedings of a symposium held at the 12th CINP meeting in Gothenberg in 1980. It is a comprehensive survey of the present research being carried out on monoamine oxidase inhibitors, both at a basic science level and in man. Much of the information contained in the book can be found elsewhere but it provides a good reference volume for those interested in the selective monoamine oxidase inhibitors now being produced. The first half of the book is devoted to mechanisms of inhibition of monoamine oxidase types A and B and the pharmacology of selective inhibitors. Emphasis is placed then on deprenyl, a selective inhibitor of monoamine oxidase B in human brain, which is finding use in the treatment of Parkinson's disease. Subsequent chapters deal with the titration of monoamine oxidase activity in man, animal experiments demonstrating

the persistent long-term effects of selective monoamine oxidase inhibitors, and interesting studies on the possibility of producing a reversible MAO inhibitor with high affinity for the type A enzyme. A series of papers follows dealing with the effectiveness of established monoamine oxidase inhibitors in the treatment of depression where, in general, the drugs were superior to placebo and as effective as tricyclic antidepressants, although questions of efficacy in some forms of depression remain unanswered. In contrast Lader and Savage found in a large group of patients that tricyclic antidepressants were consistently superior to monoamine oxidase inhibitor therapy or to combined tricyclic-monoamine oxidase inhibitor treatment. However, Tyrer and colleagues emphasise the need for adequate dosage taking into account pharmacokinetic factors as a critical factor in achieving clinical effect. The later chapters deal with the emergence of selective monoamine oxidase inhibitors. The chapters by Mendis and colleagues and by Mendlewicz and Youdim suggest that deprenyl itself, at least, is not useful in the treatment of depression although it may have a place in combination with L-5-hydroxytryptophan. In contrast, Murphy and colleagues working with the selective monoamine oxidase A inhibitor, chlorgyline, and B inhibitor pargyline, find antidepressant efficacy clearly associated with type A enzyme. The book is concluded by a contribution from Merton Sandler who rightly states that selective inhibitors, at least, do not yet have an established place in antidepressant therapy, although compounds such as deprenyl may be of value in the treatment of Parkinson's disease. This is a wide-ranging book containing much useful information and is recommended to those working in this area.

PG JENNER

Pain: A Spike-Interval Coded Message in the Brain. By Raimond Emmers. (Pp 144; \$34.00.) New York: Raven Press, 1981.

This is a very idiosyncratic book. It contains the equivalent of three papers in Brain Research. The author somehow persuaded the publishers to produce this book and thereby to bypass the tedium of argument with referees. I sympathise with him but it has had the effect of insulating him from the normal criticism and I suspect from the normal readership. The scientific results are straightforward. In anaesthetised rats, there are cells in the

posterior part of the VPL nucleus in the thalamus which fire with a characteristic repetitive burst if an intense shock is given to the sciatic nerve. The repetitive burst is generated by interaction with the nuclei CM-Pf. Lastly he shows that if anaesthesia is increased or narcotics are given or the periaqueductal grey is stimulated or dorsal columns are stimulated, the characteristic repetitive response of the cells declines. This is good standard stuff already mainly published by the author who reasonably points out that the repetitive discharge of these cells increases and decreases under conditions where one might expect pain to increase or decrease. Unfortunately the book then turns to a series of excited shouts of "Eureka, I have discovered the code for pain". With only 46 references, the work of others in the past 20 years is largely ignored. The simplest of checks to challenge his own conviction even for an anaesthetised rat are not carried out. For example, all but some experimental pain is produced by asynchronous afferent barrages and yet it seems from his own data that this would not produce the "spike interval coded message in the brain" which is part of his title. Almost everyone has abandoned the classical view that pain is to be explained by the presence or absence of activity in modality specific cells. In that sense, Dr Emmers joins the majority but for the majority to join Dr Emmers in his intuitive conviction that he knows the code will require much more evidence which I am sure he is investigating.

PD WALL

The Effects of Taurine on Excitable Tissues. Edited by SW Schaffer, Steven I Baskin and James J Kocsis. (Pp 446; £35.50.) Lancaster: MTP Press Ltd, 1981.

This volume presents the proceedings of the 21st AN Richards Symposium held in Valley Forge Pennsylvania in April 1979. It contains 29 research reports, mostly of a rather fragmentary nature, grouped under four headings ("Metabolism and Function of Taurine Analogues", "Actions of Taurine—in the Central Nervous System",—"in the Cardiovascular System", "Clinical Implications of Taurine"). A brief edited Discussion of each section is included.

The section on the Central Nervous System includes one contribution on platelets, one on the pineal gland and three on the retina. Among the latter

the review by Mary Voaden and colleagues is informative and a pleasure to read.

The overall quality of the contributions to this volume is regrettably low. This is only partly a reflection of the state of the art in taurine research. The editors may not have been able to exercise the selection and control they would have wished. However, they could have noticed that the list of references at the end of Chapter 4 does not correspond with those quoted in the text.

What taurine does in excitable membranes and why the retina degenerates in taurine deficient cats remain intriguing mysteries. Will research on taurine provide the key to spino-cerebellar degenerative disorders or to epilepsy? The answers to these problems are certainly not evident in this volume. Some of the footnotes might provide vital clues to the research worker. However, readers seeking a general guide to the uncertain territory of taurine and its role in cerebral function in health and disease are likely to prefer the 1978 volume edited by Barbeau and Huxtable.

BRIAN MELDRUM

Modern Practical Neurology: An Introduction to Diagnosis and Management of Common Neurologic Disorders—2nd ed. By Peritz Scheinberg. (Pp 360; \$39.44.) New York: Raven Press, 1981.

This is one more short textbook to join the hosts of others that fill the libraries. Most of these are very adequate, all of them reflect the author's particular interests, foibles and biases; the reviewer suspects that the principal aim in most of them is to satisfy the author's ego rather than to instruct. This generalisation is really to explain why it is absolutely necessary to demand what it is that a fresh textbook offers that separates it from the rest and justifies the labour that has gone into its compilation. Dr Scheinberg's claim is that it is disease orientated and that a special effort has been made to explain symptoms and signs in the context of the mechanism of their causation. While it is true that this is what he has done in many of the chapters the reviewer finds it difficult to accept that this is the only textbook of neurology that sets out to do this, and while many have done it less effectively with a greater number of errors, there are others that do it as well, so that it is not a text that one reads and feels is a welcome addition to an already