its contents which makes it difficult for the reader to find his way around and by introductory sections to some of the chapters which are frankly confusing. Clarity of exposition seems to have been sacrificed for the sake of brevity, a sacrifice which need not have been made for such a short book. As the book is presumably (the authors are not clear on this point) intended for the surgeon who operates on the spine relatively infrequently, the indications for the various operations, and postoperative management and complications, could perhaps have been dealt with at greater length. Especially in the field of degenerative disease and trauma, the occasional spinal surgeon can do a great deal of mischief and nothing would have been lost by devoting more space to spelling out the complexities and problems involved in assessing patients prior to surgery. Many patients remain dissatisfied after spinal surgery and this is more often because they should not have been operated on at all, or the wrong operation was performed, than because the technique of the actual operation which was carried out was faulty.

RSM WILLIAMS

Mental Retardation and Congenital Malformations of the Central Nervous System. By Josef Warkany, Ronald J Lemire and M Michael Cohen, Jr. (Pp 459; £47.50.) London: Year Book Medical Publishers Ltd, 1981.

This handsomely set out reference book provides a valuable adjunct for both pathologists and clinicians to the already available atlases of mental retardation syndromes. Based on a series of review articles previously published in the annual review of "Mental Retardation and Developmental Disabilities" on topics such as microcephaly, hydrocephaly, hydroanencephaly, megalencephaly and anomalies of the corpus collosum, it has been extended to include other congenital abnormalities of the central nervous system malformations with an account of the most important dematoglyphic findings and chromosomal syndromes.

With the increasing use of CT scanning in the diagnosis of mental retardation and the early detection and prevention of in-born errors of metabolism and other environmental causes, it seems likely that we shall continue to see a change in the differential pattern of morbidity in severe mental retardation with a resurgence of

interest in congenital malformations of the central nervous system of a non-lethal type which will present an increasing challenge both diagnostically and from the point of view of prevention. For this reason this volume is assured of a place as a standard reference for paediatric neurologists and other clinicians and teachers working in the field of mental retardation.

It is difficult to evaluate the coverage of such a work until it has been well used in practice, but the extensive and up to date bibliography augurs well. Perhaps the most obvious criticism of such an expensively produced volume is the poor quality of some of the illustrations, but hopefully as its reputation becomes established this will be rectified in future editions.

JOHN CORBETT

Psychopharmacology of Sleep. Edited by David Wheatley. (Pp 256; \$39.44.) New York: Raven Press, 1981.

Somnopharmacology! The title is a little misleading. The book is really a symposium proceedings from the British Association of Psychopharmacology meeting in Exeter in 1980. The contents are divided into two equal parts, the first concerned with the nature of sleep, and the second with the effects of drugs on sleep. The book is not a comprehensive manual of the pharmacology of hypnotic and central stimulant drugs nor a practical prescribing guide but a selection of well-edited essays on topics as diverse as sleep peptides, air travel, benzodiazepine receptors, and new hypnotics. It begins with a marvellous account of sleep in animals by Bruce Durie. Of the snakes, EEG records are available only for the African python, whilst only the small caymans of the crocodillians have been investigated, perhaps not surprising facts! Durie points out that much of the animal data is fragile, as with the Brazilian tapir's sleep which was characterised by observing two animals for one day with twitching taken as evidence for paradoxical sleep. The search for sleep-inducing substances has taken three approaches, the investigation of herbs and plants, the study of conventional neurotransmitters, and the search for endogenous hypnotoxins, peptides, or sleep factors. Koella and Druker-Colin discuss the last of these topics although it is sometimes difficult to evaluate all the evidence such as the injection

by Pavel *et al* of 10^{-6} pg of either synthetic or partially purified pineal vasotocin into the third ventricle of cats who then curl up in the corner of the cage and fall asleep. It is evident that the existence of a specific peptide that causes sleep has yet to be conclusively shown. Alain Reinberg discusses chronopharmacology; thus purgatives and enemas are most effective given in the morning, whereas narcotic drugs are usually best at night. The second section of the book is a little more pedestrian although of greater clinical interest with stress on the value of the new short acting benzodiazepines and a discussion by Scott of daytime drowsiness, concentrating on EEG findings rather than practical therapy of narcolepsy, hypersomnolence and sleep apnoea. The book ends with the question "do we need hypnotics?" The night worker who lives in Concorde's flight path answers "Yes". A curate's egg book, not essential but fun.

JD PARKES

Electrical Stimulation Research Techniques. Edited by Michael M Patterson and Raymond P Kesner. (Pp 370; £25.80; \$39.00.) London: Academic Press Inc, 1981.

The articles collected together in this volume present refreshingly straightforward and clear summaries of various electrical stimulation techniques from microstimulation of the cerebral cortex to grid shock stimulation of the whole animal. Only two chapters (one of them co-authored by one of the editors) stray into a literature review of experimental results. The other authors limit themselves to detailed explanations and descriptions of the techniques involved, with much useful discussion of the limitations of each method. The advice in most instances is the result of many years of experience in the field and one finishes the book with the feeling of having attended eleven good undergraduate lectures on nerve stimulation. As a result, this volume should be of interest to anyone about to begin research in this field, and will be refreshing to those who have become so familiar with the techniques they use that they overlook some of their limitations.

The book can be divided into four main sections. It begins with two chapters on the theoretical aspects of extracellular and intracellular stimulation, presented at a level that will be intelligible to anyone unfamiliar with the subject. The next three

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