Book reviews

Hypertensive Intracerebral Hemorrhage. Edited by Masahiro Mizukami, Haruyuki Kanaya, Kyuya Kogure and Yukio Yamori. (Pp 272; \$53.50.) New York: Raven Press, 1983.

The title of this multi-author volume is misleading. Other aspects of cerebral vascular disease are discussed, including aneurysms, arterio-venous malformations and balloon closure techniques; and transient ischaemic attacks and indications for endarterectomy. Thalamic haemorrhage is graded according to its extension in neighbouring areas, but most British neurosurgeons would agree that there is little place for their surgical removal. No mention is made of that most intractable complication, thalamic pain. However, most chapters usefully review their subject and the references are up to date.

JOHN ANDREW

Electroencephalography: Basic Principles, Clinical Applications and Related Fields. Edited by Ernst Niedermeyer & Fernando Lopes da Silva. (Pp 751; £58.00.) Baltimore: Urban & Schwarzenberg, 1982.

This single, large textbook is the result of collaboration between the two principal authors and 23 other contributors, drawn almost exclusively from North America and continental Europe. The first several chapters concern themselves with the neurophysiological basis of the EEG signal, its recording, and suggested designs for EEG laboratories. Neurophysiological and mathematical principles are given in depth, though some readers may find the amalgam of technical, American and northern European idiom, in a few of these early sections, difficult to digest.

The next and largest part of the book discusses the normal EEG, specific and non-specific abnormal EEG patterns and then there are several chapters related to different neurological and psychiatric conditions. I suspect that for most people, these will be the chapters they will turn to most frequently. They are clearly written, in simple English, the references are copious, and in some cases vast. In particular they offer clinical knowledge and wisdom based on the contributors' years of experience. The illustrations are generally excellent so it is all the more annoying that some indistinct examples remain, but then only

from one or two contributors. Obviously in a textbook of electroencephalography, every EEG example must be crystal clear, and the next edition should put this right. We are warned in the preface that no effort has been made to achieve the strictest standardisation of symbols and terminology, e.g. 10 cps or 10 Hz, and nearly every EEG example is given in the American format of left before right.

The remainder of the book deals briefly with special fields and related techniques, and includes compact discussion on event-related potentials and their clinical evaluation, polygraphy, sleep and sleep disorders, and three pages on the EEG in aviation, space exploration and diving!

This large and comprehensive text is firmly recommended, notwithstanding the few limitations noted above. Neurologists, neurophysiologists and technical staff alike, should find it a helpful and valuable companion.

NP SHEEHY

Epilepsy Guide: Diagnosis and Treatment of Epileptic Seizure Disorders. By Ernst Niedermeyer. (Pp 245; £14.95.) Baltimore: Urban & Schwarzenberg; UK Distrib: Pitman Books Ltd, 1983.

This is a concise, individual, American view of epilepsy and its treatment. It is divided into two sections the first of which deals with the diagnosis of epilepsy, the classification of seizures and epilepsies, and their differentiation from other episodes of altered consciousness. The second deals with the treatment of seizure disorders concentrating on drug therapy but with short chapters on neurosurgical and other forms of treatment.

The style is somewhat terse and dogmatic. Use is made of some line drawings to illustrate seizure classification but these tend to be crude, and convey very little of the dynamic nature of the motor components of particular seizure types. Throughout the book major points are emphasised by the use of tables which vary in their effectiveness. A reasonable example of this is a four line table at the end of the book.

"The essence of this book.

Find a proper diagnostic category,
Treat adequately.

Avoid chronic toxic states."

The book certainly contains a large amount of useful information for physicians without a specific interest in neurology or epilepsy, and the information is presented in a style which is easily absorbed. How-

ever, the didactic style fails to emphasise areas of relative uncertainty which are replaced by the author's conviction that his own personal approach to a problem is the correct one. The book reflects a generally American outlook and there are some statements which would certainly raise the eyebrows of many European neurologists and epileptologists. This is particularly reflected in an enthusiasm for the investigation of patients with epilepsy which reflects the luxurious provision of investigational facilities in the United States. It is suggested that "every epileptic with an onset of seizures past the age of 10 years should have a CT scan". The relatively low yield of such a policy in terms of the identification of treatable progressive structural pathology is not emphasised nor are the clinical and electroencephalographic criteria that significantly increase the proportion of scans identifying structural lesions. Such blind investigational enthusiasm will be beyond the economic scope of many European centres.

In contrast the section on therapy reflects the possibly outdated views of anticonvulsant therapy resulting from the highly protective policy of the American FDA. The author is clearly aware that there is little in the way of scientific evidence to differentiate between the efficacy of many anticonvulsant drugs, but continues to prefer anecdotal evidence about the indications for the use of particular drugs. Some of his preferences will be regarded as idiosyncratic by European authorities. As an example is the clear preference to ethosuximide as opposed to valproate in the treatment of petit mal seizures, and a somewhat surprising preference for primidone over carbamazepine in the treatment of complex partial seizures.

Whilst the book is concise and comprehensive and gives an interesting insight into American practice, its relevance to the management of the epileptic patient on this side of the Atlantic may be slightly questionable.

DW CHADWICK

Life Sciences Research Report 24. Repair and Regeneration of the Nervous System. Edited by JG Nicholls. (Pp 411; \$23.10.) Heidelberg: Springer-Verlag, 1982.

This volume comprises a series of review papers on a range of topics relevant to repair and regeneration of both peripheral and central nervous systems from molecu-

lar to clinical levels. It represents the proceedings of a Dahlem conference held in 1981. The participants considered four major problems. First, normal and abnormal development of the nervous system; second, mechanisms of axon guidance after injury; third, factors involved in the reformation of specific connections; and fourth, restoration of function. A series of papers is followed by group reports covering the four main topics.

The opening chapter by Cowan provides an excellent account of vertebrate central neurogenesis. Cowan draws attention to the fact that it is a big assumption that the processes of repair and regeneration have much in common with neurogenesis. Herschkowitz and McKhann survey human brain development and conclude that the important questions concerning the flexibility of cytoarchitecture in development, the biochemical mechanisms underlying genetically determined disorders of neuronal migration, and neurotransmitters in different pathways, are largely unanswered. The biochemistry and pathology of the demyelinating disorders such as metachromatic leucodystrophy, Krabbe's disease and adrenoleucodystrophy remain the best understood examples of hereditary disorders. Horwitz reviews nervous development in nematodes, presenting evidence that specific positional or temporal signals, or both, are essential in development.

Kreutzberg considers the acute microscopic and histochemical reactions to injury in motor neurons, and Willard and Skene review molecular events in regenerating axons, commenting on differences between quiescent and regenerating axons, the timing of RNA synthesis, the various types of transport, and some of the signals involved. This is a very clear introduction to a complex subject. Aguayo summarises the results of the experiments of his group up to that time. His work, showing that CNS neurons have the capacity to regenerate if allowed to enter a peripheral nerve Schwann cell environment shatters the previously widely held view that CNS neurons are incapable of more than token efforts at regeneration. That functional connections can result when CNS neurons regenerate along peripheral nerve grafts remains to be shown. It is a pity that Bjorklund was not present at this conference, since his work, showing that embryonic CNS cell transplants are capable of restoration of both structure and function, together with Aguayo's experiments are currently the

most exciting in the field of CNS regeneration.

Purves reviews axon guidance mechanisms, pointing out that the biggest unsolved problem is how axons sense their position within the matrix of cells through which they must grow. Sanes discusses the regeneration of synapses stressing the multiplicity of interdependent factors which regulate their formation and maintenance with reference mainly to the neuromuscular junction. Muller reviews aspects of invertebrate axon regeneration, particularly the ability to relocate and innervate old targets; it is clear that the capacity for restoring connections is greater than in vertebrates. Thoenen *et al* present evidence that nerve growth factor is important in regeneration as well as in development.

Useful papers on clinical aspects follow by Freund and Bauer, Singer and Crill and Raichle. Frank and Mendell then discuss problems of spinal cord regeneration, the former drawing a similar conclusion to Aguayo, namely that it is the glial environment which appears to be preventing spinal cord neuron regeneration, and he discusses the evidence that spinal cord regeneration does occur in lower vertebrates such as the goldfish and toad. Mendell's paper is concerned with the temporal anatomical and physiological changes after spinal cord injury. He concludes that there is no single sequence of events which occurs in all pathways. Finally, Nashold reviews the contribution of electroneuroprostheses in rehabilitation, examining those for improving limb function in paralysis or amputation, for controlling bladder function, for restoring visual perception in the blind, for diaphragmatic paralysis and for pain.

Whether the four group reports which follow really represent the shared views of members of the groups is not altogether clear, but each is longer than the individual papers and reviews further the four main topics of the conference. I found these particularly helpful, not only in presenting further evidence but in clarifying and discussing a number of the crucial issues in regeneration.

Although already out of date concerning some aspects of CNS regeneration this book is nevertheless valuable in covering major topics in a series of short readable review papers. The Dahlem conference workshop model, involving precirculation of papers, leads to less repetition and a much more readable volume than the usual multiple author symposium proceedings, and contributes to the success of this book.

Much factual information is contained in it, and at its relatively cheap price, can be highly recommended to anyone interested in the problems of repair of nervous tissue.

JW SCADDING

Antiepileptic Drugs (2nd ed). Edited by Dixon M Woodbury, J Kiffin Penry, CE Pippenger. (Pp 1040; \$88.40.) New York: Raven Press, 1982.

The first edition of this volume was published in 1972 and rapidly established itself as the classic in the field, because of its comprehensive and authoritative reviews of the pharmacokinetics, biotransformation, clinical use and toxicity of the major antiepileptic drugs. This volume is a totally revised version that is 60% longer than the first edition. It is also qualitatively better. It will prove invaluable to every neurologist treating patients with epilepsy and be of great assistance to pharmacologists and other research scientists.

Major differences from the first edition include the decline in the space allotted to phenytoin, and the substantial contributions now devoted to carbamazepine, valproate, and the benzodiazepines. Valproate did not feature in the first edition, and carbamazepine and the benzodiazepines had only one short chapter each. Forecasting the future is never easy. The last five chapters in this edition are devoted to "potential antiepileptic drugs or anticonvulsants" and already the selection looks doubtful.

Another innovation is a chapter on "Mechanisms of Action" for each major drug. Wisely no attempt of this kind was made in the first edition. Now much more is known about the effects of anticonvulsants on ionic movements and on synaptic function, and the contributions on this are most welcome, even if many of the findings discussed are likely to be rapidly outdated.

The editors and Raven Press deserve the highest praise for providing us with this superb volume.

BS MELDRUM

The Dementias. (Advances in Neurology, Vol. 38). Edited by Richard Mayeux and Wilma G Rosen. (Pp 288; \$45.00.) New York: Raven Press, 1983.

There are 31 contributors to the 18 chapters in this book. The editors point out that understanding and treatment of the dementias is far from adequate. The book