

Book reviews

Electrophysiology of Isolated Mammalian CNS Preparations. Edited by GA Kerkut and HV Wheal. (Pp 402; £27.80, \$67.00.) London; Academic Press Inc Ltd, 1981.

This is a multi-author text, but the authors are distinguished and well-chosen, and there is not a dud chapter in the book. The authorship is international but the English is excellent. There are many figures; the book is good-looking with an acceptable number of printing errors.

One of the editors supplies an introductory chapter reviewing the historical development of the techniques of preparation and neurophysiological and neuropharmacological study of brain slices *in vitro*, followed by a synopsis of the other chapters. In the other chapters are described results using the hippocampal slice, olfactory cortex slice, dentate gyrus slice, lateral geniculate slice, diencephalic interpeduncular nucleus slice, striatal and limbic slices and the hemisectioned cord, all in various rodents; and the perfused cord and perfused brainstem in the rat and kitten. Each author gives a full description of his method and several discuss the advantages and disadvantages of *in vitro* slice preparations of central nervous tissue. The useful preparations usually comprise an input pathway (which can be stimulated electrically), a synapse type (which can be studied with extracellular or intracellular recording and manipulated electrically, pharmacologically, iontophoretically or by a change in the composition of the bathing solution), perhaps some intrinsic circuitry such as a recurrent pathway, and perhaps an output pathway that can be recorded.

The advantages of *in vitro* preparations of this kind over *in vivo* preparations clearly include the rapid setting up and stabilisation of the preparation and its improved standardisation, the elimination of anaesthetic agents and brain pulsation, the improved electrode placing allowed direct visualisation of the tissue, and the direct access to ionic and pharmacological manipulation of the extracellular space. The simplification of the system under study may be advantageous or disadvantageous. Other obvious disadvantages include the separation of the tissue from its normal inputs and outputs,

tissue damage during slicing (which leads to a state of "neural shock" from a few minutes to an hour) and the limited life of the preparation (up to 24 hours or more). The CNS slice preparation, after a slow start in popularity despite McIlwain's pioneering work, has now clearly gained wide acceptance, within its limitations, and will continue to become increasingly popular among neurophysiologists and (perhaps particularly) neuropharmacologists, who should all read this book carefully, and think whether the technique can solve their problems related to standardisation, anaesthesia and so on. Rapid preparation, the availability of many slices from one brain, elimination of anaesthesia and technical simplification in recordings also make the method potentially peculiarly suitable for use in schools of medicine and physiology, and teachers should consider whether much student practical work might with advantage be done using brain slices.

D RUSHTON

Neurological Complications in Clinical Haematology. By GAB Davies-Jones, FE Preston and WR Timperley. (Pp 236; £18.50.) Oxford: Blackwell Scientific Publication, 1980.

Many disorders of blood affect the nervous system producing a wide range of manifestations. Some of these disorders, such as B12 deficiency, are well recognised and nowadays rarely seen in uncomplicated forms. Other disorders are less well known, frequently unrecognised and many, such as hyperviscosity syndromes and neurological disorders complicating leukaemias and coagulopathies have only relatively recently been described.

This book describes the effect of various haematological disorders on the nervous system. Chapters review the neurological complications of anaemia, leukaemia, myelomatosis, lymphomas, myeloproliferative disorders, haemorrhagic disorders, thrombo-embolic disorders, disseminated intravascular coagulation and porphyria. Each section summarises the pathophysiology and general clinical features of the haematological disorder and outlines the neurological complications. Where applicable, there is a useful section on the complications of the therapy itself. Each chapter carries a short but comprehensive reference list. This is a most useful book. It is well written and well illustrated and is strongly recom-

mended as a reference for haematologists, neurologists and general physicians.

LS ILLIS

Clinical Psychology and Medicine: an interdisciplinary approach. By Frank James Vingoe. (Pp 361; £14.) Oxford Medical Publications, 1981.

In his introduction the author states that the book is primarily intended for medical students and those preparing for higher examinations in psychiatry. Some parts of the book are likely to be quite incomprehensible to those who are not already familiar with the psychological literature. There is considerable use of jargon and critical issues are often neglected and replaced by numerous references presented in an indigestible form. A glossary is included in the back of the book which merely serves to baffle the reader further. The following may serve as an example:

"Life review: An inner introspective-like process in which the individual reminisces over his past life". p 418.

The book leads the reader to expect that clinical psychologists are mainly concerned with, and actively carrying out research in, behaviour therapy. There is an overemphasis on the treatment of adult psychiatric patients which does not do justice to the wide variety of specialities present within clinical psychology. Current research is neglected within such areas as primary care, child health and neuropsychology. The importance of an assessment of the cognitive strengths and weaknesses of children and adults with special handicaps is undermined (for example, head injury victims, the physically handicapped). It is likely that the medically trained person will still be unclear about when it is appropriate to seek a psychologist's help for his patients. The book does not give a balanced view of the profession of clinical psychology as a whole, and as such I would not recommend it as a general text. Those with a specific interest in the behaviour therapies may find it a useful source of references.

DOREEN M BAXTER

Cerebral Metabolism and Neural Function. Edited by Janet V Passonneau, Richard A Hawkins, W David Lust, and Frank A Welsh. (Pp 412; \$68.50.) Baltimore: Williams and Wilkins, 1980.

The tremendous advances over the past few years in our knowledge of the neurochemistry and pharmacology of synaptic transmission has tended to overshadow research into brain energy metabolism in relation to cerebral function. Yet significant and fascinating progress has been made in the study of these aspects over the last decade, as this excellent volume amply testifies. Born out of a recent symposium it contains 44 first class papers divided into seven sections. There is much of interest to the clinician in this book especially in the sections on cerebral blood flow, utilisation of substrates and cerebral metabolic rate. New developments in non-invasive methods for studying cerebral metabolism in man, in particular positron emission tomography, are described. On a more basic level several papers concern recent applications of the powerful 2-deoxyglucose method for studying regional brain metabolism. The book is exceptionally well produced and illustrated and possesses an adequate index. Although expensive it is nevertheless good value.

R RODNIGHT

Spina Bifida Occulta. Orthopaedic, Radiological and Neurosurgical Aspects. By CC Michael James and LP Lassman. (Pp 230; £20.00, \$48.00.) London: Academic Press, 1981.

This monograph is by two of the principal pioneers of the study of so-called "occult" spinal dysraphism. An orthopaedic surgeon and a paediatric neurosurgeon in close partnership were able to explore the means of recognising, diagnosing, and treating these malformations at a time when little attention was paid to them elsewhere. The first 200 cases are here described in detail and provide a very helpful basis for the neurosurgeon with limited experience of the conditions that may be encountered. The excellent black and white photographs assist considerably.

As the authors mention, much has changed since the earlier experience was gained. The value of this book is therefore diminished for present-day neurosurgeons. Myodil for myelography was soon replaced by air in most clinics which in turn has been superseded by the more informative metrizamide. A short section on more up-to-date myelography is however provided. The development of bi-polar coagulation and the operating

microscope are other improvements together with the use of sensory evoked responses, while the important observation of changes in circulation, using cytochrome oxidase studies of the malformed neural structures during operation has helped us to understand better why these children may deteriorate if untreated. These advances can find no place in a book devoted to early experiences. Above all the passage of time has given us a measure of the importance of early diagnosis and treatment. The long-term outcome of these 200 early cases described in the book is very valuable and it is to be hoped will attract the attention of those who so far have not attached to "occult" spinal dysraphism the importance which it deserves.

This monograph, probably the only one on the subject, is highly recommended for neurosurgeons and orthopaedists but especially for paediatricians to whom may occur the first opportunity for recognising that which is not really "occult" but apparent to the alert eye.

KENNETH TILL