through the book), more about the surgical risks and endocrine management of pituitary tumours, more about haemangioblastoma, suprasellar germinoma ('atypical teratoma') and the tumours of the pineal region; and more on the treatment of brain stem tumours, the results of which—for example, those reported from the Mayo Clinic in 1969—are not as 'uniformly depressing' as is suggested.

T. B. BREWIN

BRAIN BIOCHEMISTRY By H. S. Bachelard. (Pp. 71; 95p.) Chapman and Hall: London. 1974. *

There is a growing interest within universities in the subject of neurochemistry. The timely publication of this short inexpensive booklet, provides an ideal supplement to introductory lectures in brain biochemistry for both science and medical students. The short introductory chapter on the anatomy and morphology of the brain provides the basis for the remainder of the book, which concentrates on describing the chemical events related to excitability within nervous tissue. Besides referring to metabolism of neurotransmitters, the author summarizes current ideas on cyclic AMP, the nature of cholinergic receptors, and the concept of neuronal-axonal transport. The final chapter describes adaptive processes in the brain. One example of this form of neuronal plasticity is the inducibility of a key 'transmitter-enzyme' tyrosine hydroxylase following release of noradrenaline. Another illustration is adaptation to specific substrates—for example, following ketosis during development, or after administration of glutamate. Control of cerebral enzyme activity is also affected by hormones. These relatively new findings have a special significance to the problem of drug tolerance and dependence discussed in the final few pages of the monograph. The book can be strongly recommended to students and medical graduates who wish to acquire a well-balanced, up-to-date and yet brief account of the essentials of modern neurochemistry. It is well-produced, and the figures and text are both clear and readable.

A. N. DAVISON

HANDBUCH DER NEUROCHIRURGIE VOL. 7, PT 3. PERIPHERES UND SYMPATISCHES NERVENSYSTEM. Edited by H. Olivecrona, W. Tönnis, W. Krenkel, W. Krücke, D. A. Loose, K. E. Loose, K. Pisco, P. Röttgen, O. Stochdorph, and R. Wüllenweber. (Pp. 24; illustrated; DM 620.) Springer: Berlin. 1974.

This tome could have been dedicated to the memory of Foerster: his lasting influence on German neurol-

ogy is apparent in almost every section. All contributors are German, and they cover some aspects of neurosurgery which are the domain of general and orthopaedic surgeons in this country—that is, peripheral and sympathetic nerve procedures.

The first 240 pages by Krücke on the micro-anatomy and pathology of peripheral nerves is inclusive, and beautifully illustrated, and lists over 800 references: he criticizes the confused nomenclature of neuromas, neurinomas, neurofibromas, and Schwannomas of different, and sometimes the same, authors.

The chapter by Röttgen and Wüllenweber on peripheral nerve surgery of about the same length (1 500 references) seems largely in agreement with the work of Seddon and the teams of the Medical Research Council in the last war. Surgery is contra-indicated in phantom limb pain, but advised in the carpal tunnel syndrome; conservative treatment of the latter is dismissed as a waste of time. Lesions of the lateral popliteal nerve are blamed on a combination of slimming and TV gazing.

Stochdorph's 30 pages on the pathology of the vegetative nervous system are disappointing: there is almost nothing about the autonomic neuropathies, and no mention of the exciting experimental work of Levi-Montalcini. Loose and Loose's chapter on surgery of the sympathetic nervous system is uncontroverted, and rightly relegates sympathectomy for hypertension to limbo.

It is a pity that Pisco's outstanding review of operations for the relief of pain should have been misplaced in this volume, as it deals almost exclusively with operations on the cord. His historical review, his excellent account of the physiology of pain, and his critique of the various procedures up to dorsal column stimulation, deserve careful study by medical and surgical neurologists.

E. H. JELLINEK

CLINICAL NEUROSURGERY Vol. 20. Congress of Neurological Surgeons. (Pp. 500; illustrated; \$22.50.) Williams and Wilkins: Baltimore. 1972.

This book, the 20th volume in a series published annually, records some of the papers presented by distinguished contributors at the meeting of the Congress of Neurological Surgeons in Denver, Colorado in 1972.

This volume is devoted mainly to the treatment of traumatic and degenerative lesions of the spine. There are contributions on the management of lumbar discs, stenosis of the lumbar canal, and on the implications for spinal fusion. Problems in the treatment of cervical spondylosis and cervical disc protrusion are extensively considered, and there are

useful descriptions of the different surgical approaches to the cervical and dorsal spines.

Several papers review the current status of treatment of severe congenital abnormalities of the spine, and discuss alternatives to immediate closure of meningocele. There are contributions on the blood supply of the spinal cord, the mechanism of syringomyelia and syringobulbia, and on the use of evoked potentials for prognosis in spinal cord injury.

The volume ends with an important contribution on mechanisms and management of spinal cord injury. References are given after each section. Although most of the work is already published, the sections provide stimulating reading about some of the more difficult aspects of spinal surgery. The volume should be of value to orthopaedic and paediatric surgeons, as well as to neurosurgeons.

R. D. ILLINGWORTH

BIOCHEMICAL ASPECTS OF NERVOUS DISEASES Edited by J. N. Cumings. (Pp. 265; price not stated.) Plenum Press: London. 1972.

The scope of this book is best indicated by listing its contents: metabolic aspects of some diseases of peripheral nerves (J. Wilson and R. H. S. Thompson), biochemistry of muscle diseases (R. J. T. Pennington), biochemistry of demyelination and demyelinating diseases (B. Gerstl), biochemistry of copper in man and its role in the pathogenesis of Wilson's disease (J. M. Walshe), brain amine metabolism in some neurological and psychiatric disorders (G. Curzon), biochemical neurological disease in children (L. I. Wolf).

Most chapters present their material in a form suitable for the clinician, but it must be conceded that certain aspects of biochemistry cannot be simplified without loss of precision. Nevertheless, many practising neurologists will be glad to have this useful summary available for consultation. It is well edited and the production is good.

J. A. SIMPSON

DICTIONARY OF BEHAVIORAL SCIENCE By B. B. Wolman. (Pp. 478; illustrated; £5.95.) Mac-Millan: London. 1974.

Dictionaries in the behavioral sciences are rare indeed, and any new dictionary warrants careful examination. This dictionary has been prepared with the help of 99 scholars who aimed to cover fields ranging widely from psychology to endocrinology. Any dictionary has limitations, and this one is no exception. In areas with which the reviewer is familiar, some of the definitions appeared so short and terse as to lose completely the flavour of the defined concept, whereas others merely juggled words—for example, 'ejaculatio deficiens' is defined

as 'inadequate ejaculation'. A further criticism is that, in psychology at least, the approach is very much North American, reflecting a stress on psychodynamic approaches, and on psychometrics. However, these criticisms are a little unfair, for it is very rare indeed to be able to find such diverse topics as signal detection theory, and psycho-analytic theory dealt with in the same book.

At the price (nearly £6) for 478 pages, this is certainly good value for money, although the price may put it beyond the reach of many of the undergraduates for whom it would be most valuable. Certainly this dictionary should find a place in any university library, and in many specialist departmental libraries.

D. NEIL BROOKS

KETAMIN By M. Gemperle, H. Kreuscher, and D. Langrehr. (Pp. 464; illustrated; \$25.20.) Springer: Berlin, Heidelberg, New York. 1973.

The pharmacology of anaesthetic drugs is sometimes presented as a progression of decreasing CNS excitability leading to marked depression and death. On the other hand, increasing irritability represents a continual process in the opposite direction leading to hyperexcitability and death. Anaesthetic agents are usually regarded as depressants but some are, in fact, CNS stimulants capable of inducing hallucinations. Ketamine and gamma-hydroxybutyric acid are examples of the latter.

The book on ketamine contains the Proceedings of the 2nd Ketamine Symposium held in Mainz, West Germany, in April 1972 and is concerned mainly with three broad aspects of pharmacology—namely, cardiovascular effects, actions on the central nervous system, and clinical applications. It is generally agreed that ketamine causes a significant rise in blood pressure, which is interpreted in various papers as being due to a direct stimulation of the myocardium, alpha stimulation, or increasing effectiveness of endogenous and exogenous catecholamines. Ketamine also causes a rise in intracranial pressure and several papers advise that this agent should not be used in patients with space-occupying lesions. To avoid untoward effects, it seems that there is a need to resort to polypharmacy. It is suggested, for example, that the frequency and severity of psychomotor activity and hallucinatory dreams can be reduced by various drugs including dehydrobenzperidol. This drug is also recommended to produce adrenergic α -blockade to counteract hypertensive effects of ketamine, but it is not emphasized that this action is only transient.

Although there is some enthusiasm for ketamine in clinical practice, there is concern about emergence