

Book reviews

Advances in Neurosurgery, Volume 4. Lumbar Disc, Adult Hydrocephalus Edited by R. Wüllenweber, M. Brock, J. Hamer, M. Klinger, and O. Spoerri. (Pp. 338; illustrated; DM76, \$33.50.) Springer-Verlag: Berlin, Heidelberg, New York. 1977.

The German Neurosurgical Society has in recent years published the proceedings of its annual meeting as a Congress monograph. While the brevity of each individual paper is inevitable in such a format, the concentration of the Society on at most two main themes in their Congress ensures a presentation of current German thinking on major neurosurgical topics. In this respect the present volume is no exception. The two themes discussed are the problems of lumbar disc and adult hydrocephalus. The report on no less than six series consisting of more than 1000 cases of lumbar disc disease approached by standard methods, and one collaborative series with over 3500 cases, must be unique in European literature. It is particularly valuable that this body of data is presented in conjunction with two reports of the newly developed and still somewhat controversial microsurgical approach to the lumbar spine. It seems clear that a considerably greater number of cases require to be analysed in relation to this new technique to assure the neurosurgical world at large that as high a proportion of satisfactory results and as low a proportion of recurrences will be available by this technique as with the proven although more traumatic extensive exposures.

The series of papers on normal pressure hydrocephalus presents the German view of the universally fairly confused situation regarding the diagnosis and indications for treatment of this condition. It emerges that in Germany, as elsewhere, long-term measurement of intracranial pressure showing some definite abnormality, in conjunction with a suggestive clinical picture and perhaps one of the other tests, such as Metrisamide cisternograms with CT, or the infusion test are employed by most clinics to differentiate those patients who are likely to benefit from shunting from those who are not.

There is a further section on free communications, including a group of three or four papers concerned with the effects of dexamethazone on head injuries, which is of considerable current interest. The volume also includes a brief tribute by Helmut Penzholz to the late Wilhelm Umbach, President of the Congress, whose untimely death is mourned throughout the neurosurgical world.

LINDSAY SYMON

Radiology of the Skull and Brain. Volume 3. Anatomy and Pathology Edited by T. H. Newton and D. G. Potts. (Pp. 335; illustrated; £37.45.) C. V. Mosby: St Louis. 1977.

This book presents the anatomical and pathological basis of the expanding science of neuroradiology with the same clarity and balanced high standards which have distinguished the other volumes of the series.

The normal and morbid anatomy, which correlates with radiological appearances, is well covered, and the authors present much recent work in this field which is not readily available in standard neuropathology texts.

An excellent chapter on the phylogeny and ontogeny of the ventricles by E. Leon Kier not only presents an enormous mass of knowledge in a way that stresses its relevance to the final anatomy and its variation, but also demonstrates the advantages of radiology in teaching these subjects. This chapter, together with those dealing with the modern concept of the physiology of cerebrospinal fluid by Gordon Potts and Daniel Gomez, and hydrocephalus and atrophy by Charles Hughes and Mokhtar Gado, are commended to students of anatomy and physiology.

The inclusion of allergic and demyelinating diseases, and the detailed consideration of parenchymal changes in vascular insufficiency and craniocerebral injuries cater admirably for the extensions of the neuroradiological field since the introduction of computed tomography.

Maximum use is made of diagrams and illustrations which are all relevant

and of good quality, and the references are up to date.

The work is essential reading for the study of neuroradiology, but the volume goes far beyond such basic requirements and should appeal to a much wider audience.

B. KENDALL

Movements of the Eyes By R. H. S. Carpenter. (Pp. 420; illustrated; £13.50.) Pion: London. 1977.

This book is a clear, well-documented and comprehensive account of the physiology of eye movement. It is addressed to medical students, physiologists, psychologists, and research workers. This range of readers might seem extravagant but it is justified by the exposition of fundamental principles and basic experimental findings placed in historical perspective.

The work is divided into three parts. In the first there is discussion of vestibular eye movements, tracking, saccades, vergence, and miniature movements. The second is concerned with the structure of extraocular muscles and central connections. The third part considers the system as a whole including proprioceptive input, eye movements, and vision. In the final chapter a synthesis is attempted. There are useful appendices on methods of measuring eye movement and system analysis. The depth of the study is confirmed by the 1100 references. There is an adequate index and the production of the book is of high quality. The diagrams are excellent.

Any neurologist who is fascinated by the physiology of vision and eye movement will find much illuminating discussion. As a guide to this field it could hardly be bettered. The book can be recommended most strongly to any library or individual seeking a single volume on this subject.

BRYAN ASHWORTH

The Brain and Regulation of Eye Movement By A. R. Shakhnovich. (Pp. 189; illustrated; £15.75.) Plenum Press: New York. 1977.

The author of this work from Moscow is described on the cover as a clinical

neuropathologist. The book is concerned with the mechanism of eye movement and particularly "goal-directed behaviour." The translation reads well, and there are about 300 references of which a fifth are taken from the Russian literature. The chapters deal with structure and function of eye muscles, fixation, tracking, saccadic movements, convergence, and the higher cortical functions.

Despite the conventional arrangement of the book it cannot be regarded as a satisfactory guide to modern knowledge of control of eye movements. Much of the text is concerned with the author's own observations. There are descriptions of disturbed eye movement in patients with aneurysm and other circulatory disorders which are attributed to local alterations in blood flow. Measurements of cerebral blood flow are correlated with "functional loads" such as optokinetic nystagmus and arithmetic. His observations on single motor unit discharge in the rabbit are given in some detail. There are various recordings of rapid eye tremor which do not accord with other publications.

The book is well produced and the index is satisfactory. Its main value is in providing information about work in Russia and the attempts to develop a unifying concept to explain eye movement.

BRYAN ASHWORTH

Circulation of the Blood Edited by D. Geraint James. (Pp. 495; illustrated; £25.00.) Pitman Medical: Tunbridge Wells. 1978.

This handsome volume contains a wide ranging series of papers on various facets of the circulation collected together as a memorial to William Harvey on the occasion of the quarto-centenary of his birth. In some instances the contributions are incisive and authoritative—for example, Professor Sherlock's review of the portal circulation and Professor Browse's incisive coverage of the problem of thrombo-embolism—but most workers in the circulatory field will find something of interest in the volume although the very generality of its coverage and its price, may inhibit distribution of a rather handsome memorial.

LINDSAY SYMON

Atlas of Neonatal Electroencephalography By Sarah S. Werner, Janet E. Stockard and Reginald G. Bickford. (Pp. xii+211; illustrated; price not stated.) Raven Press: New York. 1977. This is a most welcome Atlas, beautifully illustrated and clearly printed. Much attention is given to the recognition of various types of artefacts. The illustrations are selected very carefully, probably from a fairly large material. The so-called "10–20" electrode placement has been modified very sensibly and in addition to the EEG respiratory excursions, electromyography eye movements are displayed polygraphically. Both normal and abnormal features in the EEGs of premature babies from 24 weeks gestation onwards are presented as well as the normal and abnormal features of babies born at term. In addition to ordinary EEG techniques, the last chapter of the book includes a series of "Spectral Monitoring" as applied to the newborn as an alternative type of EEG display.

This Atlas will be most useful not only to clinical neurophysiologists but also to neonatologists. Its format, though convenient for a large desk, may be rather awkward for most bookcases. Both authors and publishers should be congratulated for such an elegant presentation.

G. PAMPIGLIONE

The Neurological Examination of the Full-Term Newborn Infant Second edition. By Heinz F. R. Precht. (Pp. 68; illustrated; price not stated.) Spastics International Medical Publications and William Heinemann Medical: London. 1977.

The revision of this well-known monograph will add to its admirers. As number 63 of *Clinics in Developmental Medicine*, it needs no introduction to paediatricians, but the adult neurologist would find it profitable to read the first 10 pages and to consider how the concepts of optimal performance might apply to older subjects. Dr Precht's book is not a guide to the localisation of brain disease, but an application of system theory to assess the neonatal nervous system as an information processing system. The method is now quantitative but the user must not extrapolate the normal values given to later age groups.

J. A. SIMPSON

Letters

Human muscle afferent responses to tendon taps

SIR,—The two recent papers by Murthy *et al.* (1978a, b) are of some interest as they describe a relatively simple method for recording the afferent responses elicited by tendon percussion in intact human subjects. Unfortunately criticisms can be made, both of experimental method and assumed facts such that the results presented and conclusions reached cannot be accepted as valid.

1. Their "indifferent" electrode is situated "over the radius," presumably close to the superficial branch of the radial nerve which supplies the skin at the site of percussion. Since they stress the advantages of differential recording they should ensure that their indifferent electrode is truly indifferent (cf. Figure and its legend on page 228).

2. Percussion of the muscle was standardised, and they made measurements of percussion force. It is difficult to determine the effect of manoeuvre when it is not known whether the stimulus remained constant.

3. With the hand placed as in Figure on page 221, even light percussion would have stimulated receptors in other intrinsic muscles of the hand and in the skin over the ulnar aspect of the hypothenar eminence. Such receptors would contribute to the evoked ulnar nerve potential, and their contribution would not be abolished by anaesthetising the skin over the percussion site. In Figure 4a on page 223, a small deflection of some 25%, occurring at the appropriate latency, is recorded on tapping skin near the muscle tendon rather than the tendon itself. This potential could be of muscle or skin origin (or both).

4. They state that the "phasic tendon tap is known to be a selective and adequate stimulus to the primary sensory endings of the muscle spindle" (page 220). This statement is incorrect. As any of the workers who have recorded from single muscle afferents in man can attest, light percussion with a finger can excite secondary spindle endings, Golgi tendon organs, and pacinian corpuscles in relaxed muscles, even if it excites primary endings better.