logical sciences. Early sections cover the structure and physiology of neurones, sensory receptors and the organization of peripheral nerves. Later sections deal with the structure and function of the brain and spinal cord. A final chapter deals with the clinical examination of the nervous system and its applied anatomy, and the appendices include a detailed photographic atlas of the brain and spinal cord.

The presentation is thorough and concise, and care has been taken to provide a balanced account of neuroanatomy and physiology which is reasonably up to date and clinically relevant. References are given at the end of each chapter but it is a pity that these are not cited in the text as some subjects are dealt with in considerable depth, and it is difficult to identify key references for further study. The book as a whole can be thoroughly recommended and many students will be grateful to the authors who have assembled a vast amount of information in attractive form. The illustrations are clear and the price does not seem excessive for what is offered.

J. A. R. LENMAN

EVOKED POTENTIALS IN PSYCHOLOGY, SENSORY PHYSIOLOGY AND CLINICAL MEDICINE By D. Regan. (Pp. 328; illustrated; £6.) Chapman and Hall: London. 1972.

It is 27 years since George Dawson described in this Journal a method for recording the potential change evoked in the human cerebral cortex by flashes of light. With the development of cheap methods of electronic averaging the method has been widely applied to psychovisual studies. Despite early promise the results have been disappointing to the clinician except for the measurement of conduction delays in the peripheral optic pathways. Responses to more sophisticated visual stimulation such as pattern, movement, or colour are more promising. Regan has shown that evoked potentials, and in particular the steady state potentials, are capable of precise psychophysiological correlations. Although his analytical techniques are advanced, his experimental methods are relatively simple as he has the rare gift of stripping difficult problems to their essentials. This review has been delayed as I felt it necessary to study the book carefully. It has been worth the effort and the book is highly recommended.

J. A. SIMPSON

REFLEX TESTING METHODS FOR EVALUATING C.N.S. DEVELOPMENT By M. R. Fiorentino. 2nd edn. (Pp. 57; \$6.95.) Thomas: Springfield, Ill. 1973.

The relevance of this book to the diagnosis of neurological deficit and its management in early childhood is not obvious. There is an ingenuous assumption, widespread in some professional circles, that the

practice of physiotherapy is made more rational and 'scientific', as well as more effective, if abnormalities of motor development are explained in terms of primitive reflexes.

This assumption is not well-founded. We simply do not know if Sherrington's cats and Tower's monkeys provide a good enough neurophysiological and neuropathological model for what happens to the damaged developing human brain. The fact that some schemes of physical treatment of children with, for example, cerebral palsy seem to be helpful is not proof that their underlying theory is sound.

Photographic illustrations of reflex behaviour are interesting and may help physiotherapists to understand cause and effect in motor behaviour of some handicapped children, but I reject as misleading and unhelpful talk of 'three levels of "reflexive" development'—apedal, quadrupedal, and bipedal—with its teleological underpinning.

JOHN WILSON

RESEARCH ON THE CEREBRAL CIRCULATION By J. S. Meyer, M. Reivich, H. Lechner, and O. Eichhorn. (Pp. 475; illustrated; \$35.50.) Thomas: Springfield, Ill. 1973.

The proceedings of the Salzburg Conferences on *Research on the Cerebral Circulation* are now a regular feature of the cerebral blood flow scene. This volume reports the 5th conference, held late in 1970. The basic theme is a medical one, cerebral ischaemia, in the widest sense and is regarded from many viewpoints, biochemical, physiological, epidemiological, and therapeutic to mention only some.

The book, like all conference proceedings, is somewhat of a curate's egg. The 45 papers vary in length (three to 25 pages) in format (from simple reviews to presentation of original and important data), and, inevitably, in quality of presentation. The discussion is recorded verbatim, which, although recalling the flavour of the meeting for those who attended, entails the publication of much gratuitous comment. There is no index.

The price of this volume and the delay in publication will deter most individual purchasers. This is a pity because there is much of interest to neurologists, general physicians, and workers in the field of the cerebral circulation.

J. DOUGLAS MILLER

A STUDY IN NEUROLINGUISTICS By S. Locke, D. Caplan, and L. Kellar. (Pp. 135; illustrated; \$9.75.) Thomas: Springfield, Ill. 1973.

The central and largest section of this book (80 pages) consists of the case reports of 14 patients: three with dementia, five with left hemisphere lesions, three with right hemisphere lesions, and three with schizo-

phrenia. Detailed accounts are given of the speech and language disorders in each case transcribed from multiple tape recordings. Temporal parameters of speech included words per minute, percent spontaneous speech, the dark:light ratio, frequency of repetition, the answer:question ratio, the number of different words in the first 500, Zipf curves, and the 10 most frequent words. Language was analysed with respect to its semantic, syntactical, and phonological components. Comparison of the results and cross correlations are made, and the factors limiting evaluation and interpretation are stressed.

The conclusions are '(1) Normal perceptual mechanisms of vision and audition are instrumental in the release of speech, and with dissolution of language function, these perceptual mechanisms become increasingly effective and evocative of increasingly stereotyped speech behaviour. . . . (2) Rules of grammar derived from analysis of normal language apply in decreasing amount as language deteriorates. These rules are not replaced by specific grammars of pathological language but are operative in differing degree at all levels of language production, with the structure of the product representative of the level of neurological function. . . .'

The book is useful for the distinction drawn between speech and language, and the methods of linguistic analysis in the organic and psychotic disorders will be of interest to neurologists and others concerned with brain mechanisms and their disruption. But those looking for a text that is easy to read and understand will be disappointed, unless the present reviewer's struggle with this monograph merely reflects his own neurolinguistic shortcomings.

MICHAEL ESPIR

CENTRAL PROCESSING OF VISUAL INFORMATION PART B: VISUAL CENTRES IN THE BRAIN Edited by R. Jung. (Pp. 738; illustrated; DM. 248), and VISUAL PSYCHOPHYSICS Edited by Dorothea Jameson and L. M. Hurvich. (Pp. 812; illustrated; DM. 248.) Parts 3 and 4 of Vol. VII. HANDBOOK OF SENSORY PHYSIOLOGY. Springer: Berlin. 1973.

These two volumes of the *Handbook* form a set with earlier volumes (VII/1 and VII/2) on the physiology of vision. *Central Visual Information B* is the main part of the set dealing with the function and structure of the visual centres in the brain stem and cerebral hemispheres. *Visual Psychophysics* gives good summaries of the problems of visual sensitivity, acuity, adaptation, eye-movements, and spatial localization, flicker, colour-vision, and colour deficiencies.

This series is possibly too esoteric for clinical purposes but it is required reading for experimenters

on visual evoked potentials, image stabilization, etc. Simplistic views of central visual functions and oculomotor control are just not good enough.

J. A. SIMPSON

BRAIN DAMAGE AND MENTAL RETARDATION 2nd edn By J. L. Khanna. (Pp. 227; \$8.75.) Thomas: Springfield, Ill. 1973.

This book is a revised edition of a collection of papers first published in 1966. These papers were presented initially at an 'institute' held at the University of Tennessee, on problems of mental retardation with reference to brain damage. The nine chapters—unfortunately, only two of which have been brought up to date—deal with widely differing topics, ranging from a most astute examination of conceptual issues in the evaluation of brain damage, by Dr. Alan Ross, to an all too brief account of problems in the evaluation of residual effects of head injury, by Dr. R. W. Mackey. In general, although many of the chapters are interesting and stimulating, the link between the title of the institute and the content of the chapters is often tenuous in the extreme. This is particularly noticeable in the chapter by Dr. W. Quast on the role of interpretative parent interview in the diagnosis of children, where the problems posed by brain damage and mental retardation are dealt with by ignoring them. In the chapter by Dr. Reitan on the psychological assessment of deficits associated with brain lesions, the topic of brain damage is dealt with in his usual highly competent manner, whereas problems of mental retardation are barely mentioned.

At \$8.75 (no British price is quoted) this book is reasonable value for money, although not as up-to-date as one would like to have seen. It will provide useful reading for all those involved in the diagnosis, assessment, and management of the mentally retarded.

D. NEIL BROOKS

NOTICES

INTERNATIONAL WORKSHOP ON CONTROLLED TRIALS OF ANTI-EPILEPTIC DRUGS Held by Danish Epilepsy Society, Copenhagen, 13 September 1974. Apply to Dr. Mogens Dam, Department of Neurology, Rigshospitalet, Blegdamsvej, DK 2100 Copenhagen, Denmark.

IVth WORLD CONGRESS OF PSYCHIATRIC SURGERY Madrid, 7–10 September 1975, organized by International Society of Psychiatric Surgery. Details from President, Dr. S. Obrador, or Secretaries, Dr. J. G. Martin-Rodriguez and Dr. J. Santo-Domingo, Apartado Postal 46142, Madrid, Spain.