sequences of disease or injury are neglected.

This book will appeal to all those who are involved in the treatment and rehabilitation of brain-damaged individuals, and should be read by doctors, medical students, psychologists, medical social workers, occupational and physiotherapists. It will also appeal to many laymen with an interest in the functions of the brain. It has a good bibliography and is excellent value.

MICHAEL R. BOND

Biochemistry and Neurological Disease Edited by A. N. Davison. (Pp. 325; illustrated; £15.00.) Blackwell Scientific Publications: Oxford, 1976.

It has taken too long to review this book. Searching for a neurochemist soon revealed that most of those known to me are contributors. It was then suggested that it would be more appropriate to report on its value to a clinical neurologist. By that test it is disappointing. When used to illuminate the problems encountered in practice over several months, it has let me down on Wilson's disease, lipidosis, and peripheral neuropathy. On the other hand, my knowledge of neurotransmitters is brought up to date, and I know more about the biochemistry of the degenerating and the anoxic brain. I appreciate the complexities of the chemistry of coma and of the use of brain specific antigens, and I still find something missing from the biochemical approach to epilepsy (is it asking the wrong questions?). But, the main impression is that the book will be more rewarding for biochemists than for clinicians. In fairness, the title should not lead to other expectations, but with little addition it could have been so much more useful. Nevertheless, it is the clearest account of the subject currently available.

J. A. SIMPSON

Neurotransmitter Amino Acids Edited by Neil Davidson. (Pp. 179; illustrated; £5.80.) Academic Press: London, New York, San Francisco. 1976.

From being regarded as "putative transmitters" or general modulators of cerebral activity, the role of aminoacids as neurotransmitters has now become accepted. Probably the turning point was the recognition of Factor 1 and its

identification with GABA. That was 20 years ago, and the advances since then have been rapid. A number of reviews are now appearing and this one, from the Department of Physiology, University of Aberdeen, is one of the best. The selection from the vast literature is satisfactory, and the information is set out logically in a manner permitting quick reference. Dr Davidson's own contributions on the possible role of GABA in presynaptic inhibition are persuasive. The clinical chapters are not the best but give an adequate account of the possible role of neurotransmitters in behaviour and their disturbance in disease. Although there are references as recent as 1975, the author has unfortunately missed the major new work on endorphines and morphine receptors from his colleagues in Aberdeen, but perhaps peptides are excluded by definition. Nonetheless, it is a useful book for reference and easy to read.

J. A. SIMPSON

Local Circuit Neurons By Pasko Rakic. (Pp. 161; illustrated; £9.40.) MIT Press: Cambridge, Massachusetts and London. 1977.

This book by Dr P. Rakic is an overview of the topics discussed at an MIT sponsored Neuroscience Research Programme Workshop, held in 1973. Its title *Local Circuit Neurons* requires definition. The contributors agreed that these are neurones, including those without axons—for example, retinal amacrine cells—which make synaptic connections close to the cell body; the related term "local neuronal circuit" refers to the local transmission of activity between such neurones or parts of them, such as postulated for reciprocal (dendrodendritic) synapses. These new terms which displace the classic use of interneurons and their circuits, reflect the rapid and enormous growth of research on the microcircuitry of different regions of the central nervous system. This has occurred consequent on the development of refined micro-methods employing autoradiography, fluorescence microscopy, and electronmicroscopy especially when combined with the use of opaque intracellular markers in situations dependent on the retrograde or orthograde axonal transport of intracellular markers. Already such methods have revealed that chromosomal abnormalities, or exposure to harmful agents during

development, can lead to minute pathological changes in synaptic organisation in brains previously held to be normal. As the technical problems which at present limit the application of these methods to human material are overcome, one can anticipate that neurology, psychiatry, and the neurosciences will move closer together in their common goal of furthering understanding of brain function. In this regard, typical readers of the *Journal of Neurology, Neurosurgery, and Psychiatry* should find that Dr Rakic has provided a most useful review of the activities of the neuroscientists pioneering this new assault on structural and functional interrelationships in the central nervous system.

T. A. SEARS

Essays on Kuru Edited by R. W. Hornabrook. (Pp. 150; illustrated; £8.50.) E. W. Classey: Faringdon, Oxfordshire. 1977.

This is a delightful, succinct account of several authorities encompassing the whole story of kuru. The articles are derived to a substantial degree from a meeting of the Australian and New Zealand Association for the Advancement of Science. The orientation of the work is towards the general reader, and it successfully documents the development of knowledge in the field of slow virus infections as exemplified by kuru. Although the book is written by authors from different disciplines, it is organised in a scholarly manner which makes it pleasant to read. It is difficult to single out particular chapters but I found that by Beck and Daniel comparing the neuropathology of this disorder to other neurological diseases, and the review by Gajdusek and his colleagues on the epidemiological and virological aspects, especially stimulating.

Information on kuru gathered from diverse sources and modern theories are integrated into a general framework which gives a sound and comprehensive picture. The book will appeal to all neurologists who wish to be apprised of the most recent concepts of this prototype of slow virus infections, and the general clinician will find it an easy and entertaining introduction to the subject. It can be highly recommended.

PETER O. BEHAN