Book reviews

Glutamate as a Neurotransmitter (Advances in Biochemical Psychopharmacology, Vol 27) Edited by G Di Chiara and GL Gessa (pp 452; \$55.76) New York: Raven Press, 1980.

This is a volume forming part of the proceedings of an excellent meeting on "GABA and Glutamate as Transmitters" held in Sardinia in May 1980. A companion volume on GABA has already appeared and a further volume on the basal ganglia work presented at the meeting is imminent. The book is well timed since the meeting was held almost 20 years after the first demonstration of glutamate as a transmitter substance. It carries the spirit of the meeting from which it came and which I attended. It was an exciting and well organised meeting and this too applies to the volume on glutamate. It is the most comprehensive and up-to-date work on glutamate currently available. Every aspect of glutamate function in the CNS is covered; distribution, synthesis, uptake and release, metabolic changes, receptors and the toxicologic changes induced by kainic acid and other glutamate analogues are all covered. In such a work it is difficult to commend individual presentations. Cotman and colleagues provide an excellent introduction leading to the comprehensive chapters by Fonnum and by Storm-Mathisen on glutamatergic pathways. McLennan, Watkins, Davies, Krogsgaard-Larsen and Roberts all provide a spectrum of enlightening studies on glutamate receptors. Coyle, Di Chiara, Olney, Ben-Ari and Schwarcz emphasise toxicological aspects of glutamate function by presentation on kainic acid and other neurotoxins. Lastly, the relationship of neuronal glutamate function to neurological diseases including epilepsy, Huntington's chorea and Picks disease are discussed.

The volume emphasises the comprehensive studies that are being carried out on this excitatory neurotransmitter, which is fascinating because of its involvement both in neurotransmission and as an intermediate normal metabolic pathway. This book is a must for

all those working in this field and also is excellent value at £28 for 452 pages.

PG JENNER

Fundamentals of Human Neuropsychology By Bryan Kolb and Ian Q Wishaw (pp 501; £11.10) Oxford: WH Freeman & Co, 1980.

This is an introductory text intended primarily for undergraduate students with little knowledge of basic neuroscience or psychology which extends the traditional approach of comparative and physiological psychology to the study of human brain function. There are excellent (for the intended readership) sections on the nervous system, basic neurology and the techniques and problems of neuropsychological research. As befits their theoretical perspective the authors devote chapters to the sensory and motor systems which are sometimes overlooked in human neuropsychology, and throughout the book they emphasise the continuity between animal and human studies. This is a legitimate point of view and one which has hitherto been under-represented in the neuropsychological literature but there are other, equally fundamental aspects of the subject which the authors totally disregard. There is virtually no discussion of recent experimental investigations of the amnesic syndrome, linguistic analyses of dysphasia are dismissed in a single sentence and the acquired dyslexias, which are now of great interest to cognitive psychologists, are mentioned only in the context of disconnection syndromes. There are several brief and informal case reports which illustrate particular points rather clearly but much relevant data from studies of patients with cerebral lesions is omitted or discussed only in the most superficial and general terms. The authors are rightly sceptical about some of the exaggerated claims made for the power of neuropsychological assessment as a diagnostic tool and their comments on the design of test batteries could usefully be brought to the attention of some practising clinical neuropsychologists; but this is by no means a handbook of clinical practice.

In short, Kolb and Wishaw have produced a textbook suitable for the

readership they intended to attract—undergraduates interested in extending their knowledge of physiological psychology further up the phylogenetic scale.

G RATCLIFF

Central Neurotransmitter Turnover Edited by CJ Pycock and RV Taberner (pp 189; £11.95) London: Croom Helm, Ltd, 1980.

This volume in part is the proceedings of a Symposium held at the British Pharmacological Meeting at the University of Bristol, April 1980. The book contains chapters on the determination of turnover of catecholamines, 5HT, acetylcholine, aminoacids and peptides, with shorter chapters on the application of such techniques appended. The introductory chapter by Korf is an excellent review of this topic but overlaps with the following works by Sharman (catecholamines) and Curzon (5HT), each of whom provide interesting comments on the state of the art in these fields. Each author clearly outlines the application of the currently available techniques and indeed point to the most applicable methods of assessing transmitter turnover. Ansell emphasises the more exact knowledge of acetylcholine turnover while Fonnum's chapter emphasises the difficulties involved in assessing aminoacid turnover. Indeed, only GABA has received major emphasis but the topic is well reviewed. The last major chapter by Harmar and Keen was not presented at the original meeting but is probably the best contribution to this book. It is an excellent account of peptide turnover and although highlighting the dearth of knowledge at present I learned much from this review. The application papers are clearly used to enlarge the book to a reasonable size but add little. This is not the fault of the authors who have presented their studies well within the space provided, but the idea of application of the techniques does not come across. It is a pity that the editors did not try to enlarge the original contributions or add further chapters in the same vein. However, overall, an excellent little volume to interest the many workers in this field. I certainly will recommend it to