

References

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Book reviews

Hand Function and the Neocortex. (Experimental Brain Research Supplementum 10.) Edited by AW Goodwin and I Darian-Smith. (Pp 345; DM98.00.) Berlin: Springer-Verlag, 1985.

The first thing one learns as a human physiologist is that the arm, and particularly the hand, is different from the leg. Despite an enormous literature on hindlimb muscles and circuitry of the lumbar spinal cord in the cat, remarkably little can be transferred without radical changes to describe function in the human arm. Cat muscle spindles in the leg are different from those in other parts of the body and the local neuronal connections within the lumbar cord are quite different from those in the cervical cord. But these differences are minor in comparison with the massive change in corticospinal control of muscles in the forearm and hand. The outcome is that if one wants to study hand function, it is almost a waste of time to consult literature about the cat. Only in higher primates does control of the hand begin to resemble that in man. Yet despite the anatomical similarity between monkey and human hand, the functional differences are enormous. The monkey may be able to make independent finger movements and execute a precision grip of thumb and forefinger, but the abilities to write, type or play musical instruments remain characteristically human.

The skill of hand movements arises from the close cooperation between sensory input and motor output. Deprived of sensation, the hand becomes virtually useless, even when visual feedback of hand position is allowed. The delicate but essential tasks of fastening a button or picking up change from a British Rail ticket office become quite impossible. It is this aspect of hand function that is tackled by the contributors to this book. A remarkable array of acknowledged experts was assembled in Melbourne two years ago as a satellite to the main IUPS Congress in Sydney. They have provided a balanced guide to the state-of-the-art in primate sensorimotor control. There are chapters on cortical responses to complex somatosensory input in both monkey and man (using blood flow studies); chapters on human psychophysical discrimination; chapters on the firing patterns of motor cortical cells in the monkey during different types of hand movement; and chapters on cerebellar influences on cortical motor output. In addition, there is a delightful chapter which describes in mathematical detail how to pick up a full mug of beer without spilling its contents. As always, there is nothing new in this book. Almost all the contributions had been published before or just after the congress in one or more other places. Despite this, the book provides a useful source for those working in the field, as do the other Experimental Brain Research Supplements in the same series. My only complaint is that after two years in production one might have expected that something other than a dot matrix machine would have been used for printing.

JOHN ROTHWELL

Neuropsychological Studies of Apraxia and Related Disorders. (Advances in Psychology Series, Vol 23.) Editor: Eric A Roy. (Pp 414; \$60.00.) New York: North-Holland, 1985.

A tradition for the series, *Advances in Psychology*, of producing first rate texts on the psychology of motor function is continued in this book. Earlier volumes in the series include "Tutorial in Motor Behaviour" (1980), "Memory and Control of Action" (1983), and "Human Motor Actions: Bernstein Reassessed". All have brought up to date this growing field of psychological research.

The present volume attacks the topic from the direction of clinical studies of abnormal

movement. The editor manages to avoid many of the pitfalls inherent in such an approach, and ends up with a well balanced and informative text which will be of great interest and value to clinicians and research workers alike.

The first chapter by Faglioni and Basso, serves both as an excellent introduction to the volume, and as an introduction to the field of apraxia in general. This, and the additional chapters in the first section of the book, focus on the various clinical aspects of apraxia, including a chapter on assessment. However, in keeping with the complex nature of the disorder, there is a repeated emphasis on the interrelationships between apraxia and disturbances of perception, language and memory.

Despite the clinical bias of the first section, there is a strong emphasis on research. A chapter by Basso *et al*, considers the methodology of the neuroanatomical and experimental study of limb apraxia, while the chapter by Kolb and Wishaw provides an excellent overview on the area of experimental studies of "apraxia" in animals.

The second section is concerned with theoretical issues relating to normal movement with the implications which these have for understanding apraxia. These chapters broaden considerably the perspective of the book. The overall effect is a book which brings together research from diverse areas, which will hopefully encourage clinicians and research workers to consider the value of a broad based approach to the study of apraxia in man.

RICHARD BROWN

The Spectrum of Psychiatric Research. Edited by Michael Shepherd. (Pp 240; £20.00.) Cambridge: Cambridge University Press, 1984.

This is a collection of some of the editorials that have appeared in *Psychological Medicine* since 1970. The editor considers that it provides a guide to psychiatric research which is not readily available elsewhere and considers that it will thus be of value to clinicians and research workers in addition to the "general reader". The articles are grouped into six sections: Neurosciences, Genetics, Psychopharmacology, Psychology, Epidemiology, General Psychopathology and Clinical Issues.

It is this grouping which, in addition to the focus on the issues underlying data collection, makes the book more coherent than