

THE RESPIRATORY MUSCLES: Mechanics and Neural Control. 2nd edition. By E. J. M. Campbell, E. Agostoni, and J. Newsom Davis. (Pp. 348; 104 figures; £5.) Lloyd-Luke: London. 1970.

The first edition of this book was written by Dr. Campbell and was a valuable account of the respiratory movements and mechanics of breathing based on his own electromyographic studies. This new edition is virtually a new book and is now an outstanding work of scholarship. The new co-authors bring exceptional expertise on the mechanical behaviour of the respiratory system (Dr. Agostoni) and on muscle physiology and on neural control and organization (Dr. Newsom Davis). Perhaps some of the detail on general aspects of muscular physiology is a little excessive in a book of this type. I found in it some references I had been hunting for elsewhere. Though the book was lying on my desk it did not occur to me to consult it on the subject. Nevertheless, the information is sound and concisely presented. It may be rarely that a clinical neurologist will require to consult it, but when the occasion arises he will find an authoritative account here.

J. A. SIMPSON

THE STRUCTURE OF THE RETINA By Santiago Ramon y Cajal. (Pp. 175; illustrated; \$12.50.) Thomas: Springfield, Ill. 1972.

This book is an English translation of Cajal's monograph on the comparative anatomy of the retina, compiled from the three editions which appeared between 1892 and 1933. There is a short preface by the translators, a review of retinal literature by Richard Greef from the German translation of 1894, and a bibliography of Cajal's retinal work.

Cajal laid the foundation of modern understanding of retinal structure and remains the acknowledged master of the Golgi impregnation—a technique whose validity in modern retinal research is unchallenged.

The descriptions are lucid, concise and refreshingly first hand, but the findings cannot of course be applied uncritically to man.

Cajal's interpretation is uncannily shrewd, but some of the commentary is inevitably outdated and now seems tedious and discursive. Occasionally it is engagingly blunt and personal—'If Dogiel's sketches are carefully examined it can be concluded that Dogiel has deceived himself' (p. 113).

Cajal's work has not hitherto been readily available, and this book will fascinate a small but enthusiastic coterie of the profession. It has, however, little clinical appeal, and is too dated in approach and restricted in scope to be of real use to the modern oculist.

JOHN SHAW-DUNN

BRAIN AND HUMAN BEHAVIOR Edited by A. G. Karczmar and J. C. Eccles. (Pp. 475; illustrated; \$30.50.) Springer: Berlin. 1972.

This book is based on a symposium held in Loyola University of Chicago in 1969. Those who like printed symposia will find it typical of such books, and will like it. I dislike most printed symposia, including this one.

Prospective buyers should be warned that the title is misleading. Many chapters are about experiments and observations on brains, but not on human brains. Some chapters are about behaviour, but not (except for a short one by Piaget) about human behaviour. The book contains rather few attempts to relate brain and behaviour, and these few relate them in the species investigated, which (except for part of Liberson's chapter) is not man. I could find no discussion anywhere in the book of the relation between brain function and specifically human behaviour—for example, speech—and no mention of clinical evidence relating brain and behaviour in man.

Inappropriate titling afflicts some of the chapters, as well as the whole book. One chapter is called 'Data structure and algorithms in the primate somatosensory cortex'; but in fact this chapter is about ordinary neurophysiology and is written in ordinary neurophysiological language. Mathematizing jargon appears only in its last two pages, and the word 'algorithm' is to be found *solely* in the following splendid sentence: 'The third aspect of the *algorithm* which allows the data in the structure to be interpreted and meaningful' (author's italics).

G. S. BRINDLEY

CHEMICAL TRANSFER OF LEARNED INFORMATION Edited by Ejnar J. Fjeringstad. (Pp. 268; illustrated; £7.91.) North-Holland: Amsterdam. 1971.

There is little doubt that learning and memory are associated with events in brain which may ultimately be explicable in molecular terms. It is likely that any such molecular changes would be a consequence of altered activity in these cells and cell junctions involved, which may be widely distributed in brain. There is a sequential hierarchy of chemical and structural changes of varying latencies which accompany altered neuronal activity. The behavioural correlates of such changes derive their unique features in this view not from unique molecular changes, but from the site specificity of chemically unspecific change within brain; and the expression of the behavioural correlates reflects the interaction of such regional cellular and junctional change with synaptic transmission, postsynaptic potential change and impulse generation and propagation.

The converse view that a specific act of learning