

Festschrift for McIntyre

Studies in Neurophysiology –
Presented to A. K. McIntyre

edited by R. Porter, Cambridge University Press, London, New York and Melbourne, 1978. £32.50 (xiv + 440 pages) ISBN 0 521 22019 X

Despite my sceptical attitude to the *Festschrift* as a form of publication, I am compelled to admit that there are several highly readable contributions in this one honouring the physiologist A. K. McIntyre on his retirement from Monash University (Australia). One can only hope that the work escapes getting drowned in today's torrential output of neurophysiological publications. This had already tended to be the fate of *Festschriften*, even before the present onrush of new information.

Books of this kind get their substance from authors with enough erudition and experience to be able to review a theme lucidly, while at the same time making the best of being released from the strictures imposed by scientific journals. In other words, a more personal approach, a greater willingness to generalize rather than particularize – this is what one expects. Several contributions to the book also pass this criterion. Some examples: Bernard Katz on the present state of the vesicular hypothesis; Iggo on nociception; Somjen on extracellular potassium and its clearing in the brain and the spinal cord; Holman on the problem of identifying neurotransmitters of smooth muscle; Sinclair on neural factors in the control of respiration; and Trewarthen on self-regulating systems in psychobiology.

Another group of readable papers consists of brief contributions by authors who approach their subject in a way for which the reader also would not find substitutes anywhere else. Thus, for instance, Eccles points out that McIntyre's interest in the interosseus nerve, a tiny strand branching off the nerve to the flexor longus digitorum, has unexpectedly been rewarded by the finding that this minute afferent is extraordinarily effective in activating cerebellar climbing fibres. Porter shows how little we really know about the role of the muscle spindle as an informant feeding back into motor control centres. J. R. Robinson writes interestingly on homeostasis, dissecting the concept; Rall is sticking out his neck on dendritic spines and synaptic potency; Mark, discussing memory, is sensible, critical, and entertaining.

The coverage of mechanoreceptors almost amounts to a minor symposium report. This seems appropriate in view of McIntyre's important contributions to this field. Laporte presents a brief but authoritative review of the motor innervation of the mammalian muscle spindle. What he does not know in this field is hardly worth knowing. He is happily supplemented by Hunt's comments on spindle response patterns in relation to generator potentials. The joint receptors, lately successfully reinvestigated by Clark and Burgess, are considered by Tracey, the Pacini bodies by Yeo, and slowly adapting mechanoreceptors by Proske. Jack, in discussing methods of selecting GrIa, GrIb, and GrII afferents, exemplifies a number of difficulties in arriving at a final conclusion as to the role of GrII spindle afferents in the spinal cord. I suspect that they are more important at various supraspinal levels. An exhaustive critical presentation of glabrous skin mechanoreceptors, written by Zimmermann, discusses them in relation to conscious perception and the need for hand movements for optimum performance.

Less complete is the coverage of enteroceptors. Paintal's J or juxta-pulmonary capillary receptors with afferents in the vagus seem to have a counterpart in the gills of the dogfish, according to Satchell; brain angiotension receptors are presented by Hubbard, and techniques for examining baroreceptor reflexes in conscious man by Ludbrook. These contributions have the character of progress reports for special journals. Eyzaguirre and Fidone return to the more general mode of presentation in their analysis of the mechanisms of excitation within the carotid body, even though the work they report on chiefly comes from Eyzaguirre's laboratory.

This list, though not complete, should suffice to indicate what a prospective reader will find in this book in the way of instruction and stimulation, but between the lines there is running also an undercurrent of affection and respect for McIntyre and what he stands for, his achievements, and his attitude to a life dedicated to the pursuit of biological research. The Dean of the Medical School at Monash, G. C. Schofield, expresses something of this in his tribute to the influence of McIntyre on physiological studies in Australia.

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