Book reviews

Neurological Mutations Affecting Myelination Edited by Nicole Baumann (pp 570; \$85.75; Dfl. 176.00) Amsterdam: Elsevier/North Holland Bio-medical Press, 1980.

This book is one of the instant publications, by now all too customary and widely accepted. It is the proceedings of the 14th Symposium of Institut National de la Santé et de la Recherche Médicale held in April, 1980 in Seillac, France on neurological mutations of myelination. Composed of reviews and communications of varying standard and length, the book is not free of repetitions and a few disappointing contributions. It is for this reason, that its overall impact is less than the cumulative value of the constituent parts. The morphology, physico-chemical characteristics lipid and protein composition of myelin are reviewed. Separate chapters deal with the genetic aspects of myelination and the mechanisms of myelin assembly. The section on in vitro studies provides convincing evidence of the increasing importance of tissue culture in the understanding of myelination, both normal and pathological. The illustrations, including electron micrographs, are numerous and of high standard. This book will be of interest not only to those engaged in research on mutant mice, distinguished by epithets like shiverer, twitcher, jimpy, quaker, trembler, etc, but for everyone who wishes to know more about abnormalities of myelin formation.

P LANTOS

Nerve and Muscle. Membranes, Cells and Systems By Richard B Stein (pp 232; illustrated; \$18.95) New York: Plenum Press 1980.

This textbook is a quantitative treatment of electrophysiology for graduate and final year undergraduate courses. It progresses from the structure and properties of biological membranes, through nerve and muscle, up to the reflex control of movement. Although it is intended as a student textbook, I expect that many research workers in related fields will find it valuable as a concise, and authoritative source on the kinds of quantitative analysis applied to physiological problems with increasing frequency.

A remarkable amount of material is packed into this relatively short

volume. Fortunately the presentation is precise, economical and readable. The necessarily concentrated treatment does restrict discussion of some controversial and other topics to one or two sentences, but these can easily be followed up through the references provided throughout. These are reasonably up to date (up to 1978/9). Indeed this book will have achieved much if it can stimulate further reading and discussion. Overall it succeeds in its aims and would be an effective component of courses on the biophysics of nerve and muscle systems. Care would be needed in the design of such a course as I suspect that many students would need supplementary material to benefit fully. In particular, biologists may need help with the mathematical methods central to this book, while physicists and engineers may benefit from more basic biology. However, that is a problem for the curriculum in general and not for any one textbook.

PM JEFFERYS

Brain Dysfunction in Children—Etiology, Diagnosis and Management Edited by Perry Black (pp 320; \$47.60) New York: Raven Press, 1981.

The topic of brain dysfunction in children continues to be an important one in which there have been important advances during this last decade. Unfortunately, these are not adequately reflected in this volume, which is disappointingly out of touch with current developments. Indeed, some of the chapters must have been written many years ago (one is by the great Herbert Birch who died in 1973 in mid-career). The controversial new tools of "neurometrics" are not mentioned; psychiatric approaches are largely ignored; the recent findings which question the validity of the "MBD" concept are not discussed; biochemical studies and animal models of MBD are neglected; the chapter on malnutrition fails to consider the investigation of acute starvation in war-time Netherlands; lead poisoning is dismissed in less than 10 lines; the possible effects of food additives are not mentioned; and there is no critique of the psychiatric sequelae of localised or generalised brain damage. Of course, there are some useful chapters, and the book includes much relevant information on brain dysfunction in childhood. Nevertheless,

sadly it must be said that readers wanting either a "state of the art" review or a practical clinical account will have to look elsewhere.

MICHAEL RUTTER

Neurophysiology By P P Newman (pp 516; £14.95) Lancaster: MTP Press Ltd. 1980.

The preface to this book states that it has been developed from a course of lectures and practicals given to first-year and second-year medical students at the author's university. It is therefore not surprising that it should retain a strongly elementary approach. All technical terms are explained as simply as possible. Techniques are described as we proceed through the book, which does lead to some odd impressions as for example where the technique of micro-iontophoresis is introduced in the penultimate chapter in dealing with the effect of ACh on reticular neurons; one gains no notion that the technique may be used elsewhere. In some parts the simple generalised approach does degenerate into woolliness; for example we are led to conclude of the hippocampus that it "... may form part of a neuronal system that exerts an inhibitory control over behavior". Some inaccuracies have crept in as a result of oversimplification that may confuse the student: when we are told that "the main function of the large intestine is to act as a terminal reservoir ..." we have to suppose that the rectum is intended. Carelessness with words has led to a "receptor with nicotine-like properties" and the general statement that "pharmacological substances that act as the same receptor (as the transmitter substance) are known as competitive inhibitors". In the eye, we are told that there are *no* cones outside the macula. In the chapter on learning, the example of Pavlovian conditioning given is in fact an example of conditioning, and the paragraph on self-stimulation is quite misleading.

Where the author deals with what I suspect is his own subject, visceral afferent and efferent central connections, the treatment is rather fuller and more rewarding; these two chapters are longer than the chapters on the central processes of vision and hearing respectively, which is refreshing. On the whole this book will serve its intended purpose. There are selected references