carotid sinus reflex, a syndrome which badly needs re-evaluating with modern techniques. In short, if the reader wants a comparative morphology of the autonomic nervous system this is the book for him, but if he is a clinician without that special interest it is not.

J. M. K. SPALDING

MICROSURGERY APPLIED TO NEUROSURGERY By M. G. Yasargil. (Pp. xvi + 230; illustrated; £6.30.) Thieme: Stuttgart. 1970.

Microsurgical techniques in neurosurgery have been advocated for several years now and recently dealt with in some detail by Professor Krayenbuhl in his Hugh Cairns Memorial Lecture. I would think that most neurosurgeons in this country still believe that this is just a rather elaborate method of magnification and that if your eyes are good or you buy a pair of magnifying spectacles this is all you need.

This was probably my view until I read this book and came to realize that microsurgery is a totally different technique applied to neurosurgical problems. The book is a compendium of all that the neurosurgeon using these techniques needs to know. The microscopes and instruments and their use are described in detail. Techniques of suturing small vessels are excellently described and a planned programme of training on small animals is provided. The anatomy and physiology of the cerebral vasculature is described in detail and almost every conceivable operation to which this technique could be applied is described and lavishly illustrated from case material. The standard of printing and illustration are such as we have come to expect from this publishing house and could not be bettered.

I consider myself reasonably unimpressible but this book has completely convinced me of the value, indeed the absolute necessity, of adopting these techniques in the future. It may be unlikely that the older neurosurgeons will wish to undergo the rigorous training and continuing experience that are necessary to master this type of surgery and to keep in training, but they should insist their juniors do so. Every neurosurgeon must read this book, it will open for them a window on a new world in operative neurosurgery and show them prospects of treatment, particularly in vascular disorders, hitherto considered impossible.

BRODIE HUGHES

AVERAGE EVOKED POTENTIALS: Methods, Results and Evaluation. Edited by E. Donchin and D. B. Lindsley. (Pp. xviii + 400; illustrated; paperback, \$2.00.) National Aeronautics and Space Administration, Special Publication 191, U.S. Government Printing Office, Washington, D.C. 1969.

The step from recognition of a new physiological phenomenon to its measurement and utilization in clinical practice is a large one. The ability to record cerebral evoked potentials depends on the use of averaging techniques which permit recognition of time-related phenomena in the electroencephalogram by taking advantage of the randomness of the spontaneous EEG activity with respect to an external event such as an

applied stimulus. Pioneered at Queen Square by George Dawson, the technique became less esoteric with the introduction of small digital computers. The anticipated flood of papers studying the variation of evoked responses in cerebral diseases has not appeared. A major difficulty is that there is not one evoked wave but many. These vary sufficiently from one individual to another in temporal amplitude and distribution parameters to such an extent that there is no agreed nomenclature. This makes it extremely difficult to identify abnormalities, though changes in time in one subject are relatively easy.

Possibly more interesting than the primary response in receiving areas of cortex are the secondary responses. These are of wider distribution and correlated with activity of nonspecific afferent systems. Slow potential shifts, such as the negative variation discovered by Grey Walter, are certainly connected with psychological set and expectancy of particular events. Legitimate correlations between EEG activity and psychical responses seem at last to be possible. Evoked potentials and contingent negative variation are certainly valid techniques for the investigation of deafness and perception in non-communicating subjects, including children. Differences between hemispheres are also promising in the study of migraine and hemianopia.

This book is the proceedings of a conference sponsored by NASA and the American Institute for Biological Sciences in San Francisco in 1968. It is an excellent production, appearing with commendable speed and few errors. The seven chapters and six supplements provide an admirable introduction to the subject and the unusually lucid discussions highlight the areas of controversy. The price indicated is correct. It is a wonderful bargain.

J. A. SIMPSON

PERMEABILITY AND FUNCTION OF BIOLOGICAL MEMBRANES Edited by Bolis, Katchalsky, Keynes, Loewenstein and Pethics. (Pp. ix + 364; £5.95.) North-Holland: Amsterdam. 1970.

This is a fair enough conference publication, as conference publications go—though I doubt if it is really worth the excellent hardback binding which North-Holland has lavished on it. However, it is not directed at the central interests of most readers of the present journal. In a book of this title you might, for instance, expect to find discussion of synaptic mechanisms, but in fact they are not so much as mentioned. Nor are the chemical senses, or any of the other receptors whose membranes look like being the loci of signal-initiation. The action potential in unmyelinated axons is the theme of about a fifth of the book, but is the only neurophysiological process that is discussed. And even in this discussion a lot of space is given to oblique attacks—studies of 'excitable' model systems, or of the thermal and optical correlates of the natural AP—which may yet give rise to much useful understanding, but can hardly be said to have done so yet.

Those who want to know something about modern work in what might be called 'mainstream' membrane biophysics (by which I mean investigations on the ionic currents through membranes that are living) will do best