

ment and application of the technique has been greatly assisted by the observation that a subject may learn consciously to separate and activate single motor units in a muscle if the motor unit potentials are appropriately displayed. This myoelectric feedback has an immediate application in the development of techniques to produce relaxation but also provides the possibility of retraining muscle activity in disorders of motor control. Other areas where biofeedback have been applied are in the control of temperature and peripheral blood flow and in modifying the background activity of the EEG.

This book is a series of articles by workers using biofeedback in various fields of therapy. Subjects included are the use of biofeedback in muscle re-education and rehabilitation, in general relaxation and psychotherapy, in the treatment of headache, in regulating gastrointestinal motility, and in the management of pregnancy and labour. In a new field of therapy there is a need for critical evaluation of its place and significance in comparison with older established methods and a fuller review of these aspects and of the underlying physiology would have been of value. In general the treatment is practical and clinical and there is some overlap of content in the various chapters. Nevertheless, it contains much that will be of interest to neurologists and specialists in rehabilitation, and the reader willing to learn and apply the methods should find the necessary information.

JAR LENMAN

**The Pineal** By RJ Reiter (pp268 £14.00) Churchill Livingstone: Edinburgh. 1978.

The increasing amount of research on the function of the pineal suggests that clinical interest in the gland may soon be extended beyond its usefulness as a naturally occurring marker of the cerebral midline. Work during the

1960s showed that the pineal, far from being a 'vestigial' structure, positively seethes with enzymes. The most interesting of these are concerned with the manufacture of melatonin, a substance derived from serotonin, which, in turn, is found in the pineal in enormous concentrations. The activity of these enzymes is regulated by changes in illumination, transmitted to the gland through its autonomic nerve supply, which comes from the superior cervical ganglia.

This book is a well-written, entertaining, and critical survey of the papers published on the pineal during 1977. The larger part is devoted to the best established function of the pineal, that of regulating animal changes in reproductive activity so that they coincide with the seasons of the year. Most reviews are really catalogues, but this one gives sufficient details of the papers considered to allow the reader to form his own judgment on what the reviewer, himself a notable contributor to the field, has to say. Naturally, the most interesting question for readers of this journal will be how much we know of the gland in man, and indeed a section of the book is devoted to this topic. Apart from well-known and intriguing connection between pineal tumours and the onset of puberty, we have little idea, though human plasma contains melatonin. Animal studies suggest that its function might be concerned with regulating some aspect of human physiology related to the seasons, but although many human activities can vary in this way (for example, birth or mental illness) such variations are usually rather minor to be accorded physiological importance, or need control by a special gland such as the pineal. One thing seems certain; even the heavily calcified pineal of middle age is still metabolically highly active, so its function continues long after puberty. The book also summarises the literature appearing before 1977 and, altogether, provides a splendid opportunity for those wanting to know quickly and painlessly what is going on in this exciting and expanding field.

J HERBERT

**The Reticular Formation Revisited: Specifying Function for a Nonspecific System** Edited by J Allan Hobson and Mary AB Brazier (pp 568; \$67.32) New York: Raven Press, 1980.

This book does live up to the first part of its initially rather mysterious title. Although it is multiauthor and symposium-based (November 1978, IBRO Society for Neuroscience) most of its authors do revisit or review their fields as well as presenting recent results. In this one detects the hand of strong editorship, which has also given the book more of an overall shape than most volumes of its type.

The subtitle however must be intended with tongue in cheek. A recurring message of the book is that the reticular formation is no longer to be regarded as a nonspecific system, but as being differentiated anatomically, in physiological functions and in pharmacology, into a multitude of parts interacting with each other and the rest of the nervous system in various different ways.

There is a corresponding multiplicity of technical abbreviations, largely anatomical, in some chapters which the non-specialist reader will find confusing and tiresome, but which is probably inevitable.

Each of the five sections (historical, methodological, arousal, motor control, chemical modulation, and behavioural state control) is introduced with a very helpful overview chapter by the section chairman; in one case even including a tabular summary of the principal results to be found in the section!

I was sorry not to see a section on selective attention, a subject described as "most challenging" by the arousal section chairman in reviewing the old work on this topic, but ignored elsewhere. Perhaps there is no recent neurophysiology of selective attention?

The book is well printed, proof read and produced, with a huge number of excellent illustrations. All the chapters are well referenced, and most contain some 1979 references. There is an author index and a short subject index. This is a book of real substance.

DN RUSHTON