those vital features upon which a surgeon focuses his attention.

The third edition of the neurosurgical volume is under new management and is considerably improved. Most chapters have been revised, many new ones have been added, and there is a greater emphasis upon narrative. More than 80 operations are described, ranging from the mundane burrhole to sophisticated stereotactic, electrophysiological, and microsurgical procedures. Inevitably, individual neurosurgeons will disagree with points of detail but an important omission from a book aimed at surgeons in training is an account of the large question-mark shaped flap used to expose the frontal and temporal regions in a patient with an acute intradural haematoma. There is also undue emphasis on exploratory burrholes for head injury but a chapter on missile injuries is a good newcomer to this section. Other new chapters on neuroradiology and on chemotherapy for glioma are interesting but seem out of place.

The main faults of the book stem from it being the work of 46 authors: in spite of there being a three tier editorial responsibility, there are still considerable variations in the style of individual chapters, particularly in the quantity and quality of the text accompanying the illustrations. Another irritation is the repetitive yet sometimes inconsistent description of the craniotomy flap employed in each procedure so that it is easy for the beginner to become confused about their differences and similarities. The principles which guide the siting and the size of a flap for various operations are among the earliest things to be learned; the introductory chapter on the general techniques of craniotomy is certainly helpful but a section comparing and contrasting the varying approaches described in the succeeding chapters would be a useful addition.

The value of textbooks of operative surgery is debated. Successful examples are usually the result of a single-handed effort by one master teacher. Fortunately, some of the chapters in this book bear this hallmark and, despite its drawbacks, it should be in the library of every neurosurgical unit. The experienced neurosurgeon who wishes to extend his repertoire will find much to interest him, and surgeons in training will find it a

much greater source of information, guidance, and comfort than I found its predecessors.

GRAHAM TEASDALE

Clinical Neurosurgery Volume 25
Edited by E. B. Keener. (Pp. 734; illustrated; \$48.25.) Williams and Wilkins: Baltimore. 1978.

This volume continues the excellent traditions set by its predecessors. The honoured guest, R. C. Schneider, has provided thought-provoking chapters on anatomical correlations in hemisphere lesions and syringomyelia. The bulk of this long book is devoted to a comprehensive coverage of intracranial and spinal tumours and cervical and lumbar spine problems with realistic reviews of possible growth points. The political section documents the continuing sagas of malpractice and congressional control of research funds. The book's only flaw is its price.

J. D. PICKARD

Preoperative and Postoperative Care in Neurological Surgery Second edition
By Burton L. Wise. (Pp. 187; illustrated; \$13.75.) Charles C. Thomas: Springfield, Illinois. 1978.

As indicated in the preface to the first edition, this book is indeed a compromise between completeness, compactness, and readability. The poorly illustrated text provides a review of preoperative and postoperative care in neurosurgery, mainly pitched at the level of the neurosurgical resident and senior nursing personnel. Certain sections are particularly elementary in contrast to other parts, including the vast bibliography which is useful for a more advanced audience. That the fluid and electrolytes section is the best is not surprising in view of Dr Wise's reputation.

Omissions in this second edition include the absence of discussion of the controversy surrounding ventilation of head injuries, principles of the cerebral circulation, management of cerebral ischaemia, and the use of cimetidine.

This book is unique in the field it attempts to cover but the second edition cannot be considered a success.

J. D. PICKARD

Scientific Approaches to Clinical Neurology Volumes 1 and 2 By Eli S. Goldensohn and Stanley H. Appel. (Pp. 2040; illustrated; £150.00.) Lea and Febiger: Philadelphia, Henry Kimpton: London. 1977.

The advanced clinical neurologist is not well served by textbooks. There are some admirable books for beginners, with other longer established ones struggling hopelessly to absorb the flood of new clinical and scientific knowledge into a format unsuitable for critical evaluation. At the other extreme is the handbook of more than 30 volumes, always out of date before completion. Even this two volume work, which is not intended to represent a compendium of clinical neurology, has had the problem of time. In preparation since before Milton Shy's death in 1967, it has been necessary to provide addenda for many chapters. Clearly they will require updating in a very few years, a solemn thought when spending £150.

The approach is dominantly chemical and the section on metabolic diseases is outstanding and convincing, perhaps because it is still largely American. In other areas differences between European points of view are more prominent. The hydrodynamic theory of syringomyelia gets short shrift but the Joint Study of Extracranial Arterial Occlusion is accepted as a contraindication without a word of criticism, and it is asserted that specific indications for surgical treatment in various types of stroke syndromes have been identified. Subarachnoid haemorrhage is controversial: prostaglandins are only indexed in relation to migraine. The essay on hypertensive encephalopathy corrects common misunderstandings about symptomatology but still emphasises arteriolar spasm. On the other hand cerebral oedema and the blood-brain barrier are well and succinctly described.

The biology, regional diagnosis, and chemotherapy of cerebral gliomas are described, but not the role of CAT scanning. The CAT scan illustrating pituitary adenoma is extremely poor and the review of surgical treatment ends in 1967. The section on remote effects of tumours ignores disseminated intravascular coagulation syndromes and is extraordinarily tentative about the viral origin of progressive multifocal leucoencephalopathy.

Perhaps the greatest surprise to a British reader is to find that a section entitled Disorders of Movement is yet another metabolic section with clinical neurophysiology reduced to bare essentials. Lower motor neurone physiology is largely from laboratory animals, and the introduction to its disorders has 794 references with 11 pages on hypothetical (sic) lesions with portmanteaux neologisms (Kingengelopathies).

Diabetic neuropathy is well described, though many would consider that it underestimates the axonal factor, and the section on leprosy is authoritative. The chapter on myasthenia gravis is comprehensive, but a reproduced table omits the association with epilepsy which now appears to be explicable. Congenital and dystrophic myopathies are well reviewed but need a Sparafucile (indexed forsooth).

Neuroendocrine and autonomic disorders are followed by interesting essays on pain and headache, to complete a monumental work. Apparently higher cerebral functions are not scientific. Was it worth it? Well yes, for 1977; the question is, what is its half life? Nonetheless it would be less than generous to close without congratulating the authors on an enormous job well done.

J. A. SIMPSON

The Hypothalamus Volume 56 of Research Publications from the Association for Research in Nervous and Mental Disease. Edited by S. Reichlin, R. J. Baldessarini, and J. B. Martin. (Pp. 490; illustrated; \$45.50.) Raven Press: New York. 1978.

There have been striking changes of emphasis since the Association last reviewed the hypothalamus in 1939. From being largely speculative, the hormonal aspects are now well established and a proper subject for detailed biochemistry. Neural control of the anterior pituitary, tentatively discussed at that time, is now the major problem for discussion, and the hypophyseal-portal blood system, then unknown, is now so well described as not to require a special chapter. Undoubtedly the most exciting advance is the recognition of endogenous morphinelike peptides, endorphins, and enkephalins with their promise for better understanding of the physiology of pain perception.

Increasing evidence of interaction between the hypothalamus and the

pineal gland justifies inclusion of an interesting account of the latter and its role in circadian rhythms.

This book is an excellent review of modern ideas about an important and somewhat neglected part of the brain. Not least of its value is the maintained effort to show the clinical relevance of basic studies. I wish I could be around to read the report of the next meeting on this subject. Perhaps I shall, because it is certain to be a much shorter interval next time.

J. A. SIMPSON

Functions of the Septo-Hippocampal System CIBA Foundation Symposium 58. (Pp. 438; illustrated; \$43.50.) Elsevier: Amsterdam. 1978.

The hippocampus is studied today with a wider range of technique than probably any other structure in the nervous system. A symposium on its function is an impressive occasion: anatomists, physiologists, neurochemists, and psychologists interact to a remarkable extent. For all this, the function of the system remains very obscure. The field is notorious for the different interpretations held among different groups. These are brought out forcefully in this book through fully documented discussions which were led effectively by the Chairman, L. Weiskrantz. The book will be a help to many who work in this field, chiefly because of these illuminating discussions.

The emphasis is on the relation of the hippocampus to the septum, a principal interface with the rest of the brain. Perhaps the most useful articles are those which attempt reviews, including the anatomy (Lynch, Swanson), the transmitters (Storm-Mathisen), and the impairment of memory with hippocampal damage (Weiskrantz). Unfortunately there is no attempt to review the physiology of septo-hippocampal influences or the generation of theta rhythm, both centrally important topics. Among the articles on more specific research is a valuable summary by Vinogradova of studies, mostly originally published in Russian, of sensory responses.

It is variously argued that the system may be a map, a comparator, a familiarity discriminator, concerned with motor activity, behavioural inhibition, and the anticipation of food. At least one of the apparent conflicts

may fortunately be disappearing, however, as experiments now reveal similarities of the memory loss with hippocampal damage in man and in other species.

A. R. GARDNER-MEDWIN

The Self and its Brain By Karl R. Popper and John C. Eccles. (Pp. 597; illustrated; £9.40, \$17.20.) Springer International: Berlin. 1977.

If a theory of self-awareness is to have general acceptability, it must be compatible with neurobiology as well as with the rationalisations of moral philosophy. This unique book is in three parts. In part 1, Popper—a philosopher and religious agnostic—analyses the philosophical issues of the mind-brain relationship (dualist interactionism versus parallelism or epiphenomenon), and in part 2, Eccles—a neurobiologist and believer in God and the supernatural—reviews the function of the human brain, with the recent evidence from experimental psychology and from “split-brain” subjects. They both opt for interactionism. Part 3, based on 12 recorded conversations, is a dialogue which confirms the areas of agreement but highlights conflicting opinions.

The terminology is a little unfamiliar and often makes the reader stop to consider the meaning of a straightforward sentence. For instance they use appropriately, the terms “consciousness” and “self-consciousness”, the former being the result of arousal systems, the later as “self-awareness” which they consider to be uniquely human. Popper faces the evolutionary problem by proposing that the evolution of consciousness and of conscious intelligent effort, and later of language and reasoning, should be considered teleologically, but the evolutionary pressure for natural selection of a faculty with potential but no immediate survival value is not satisfactorily accounted for, unless evolution is purposive.

I also found it necessary to memorise their three-world terminology in order to follow the arguments. In fact, the conclusions of the debate depend on its validity. World 1 is the world of physical objects, including the CNS. World 2 is the world of subjective experience and includes both “animal consciousness” and “self-consciousness”, part of which is an awareness of death as an inevitable future state. World 3 is the products of