Head Injury: Basic and Clinical Aspects (Seminars in Neurological Surgery series). Edited by Robert G Grossman and Philip L Gildenberg. (Pp 300; \$64.68.) New York: Raven Press, 1982.

This volume is based on the papers presented at the Fourth (1979) Chicago Conference on Neural Trauma. The Chicago Conferences, the first of which was held in 1966, have two objectives. The first is to promote interest into the exact nature of the events at the moment of injury and the subsequent responses to it, and second to apply this knowledge in the management of patients and hopefully improve outcome. This is a book for the specialist, though the more clinically orientated sections will have a wider appeal. The first chapter presents a general view of the head injuries and emphasizes that there is scope for better management. It offers a new classification of injuries which embraces the importance of the remediable surgical lesion and the very important notion that the interval between the injury and the moment when an injury is classified will affect the assessment of its severity. The importance of consistent classification of head injuries in terms of severity and correlating this with meaningful determinants of outcome is a recurring theme in this volume. Indeed, such measures are essential in order to compare the effects of different management regimes.

The next group of chapters encompasses the basic sciences and consider the cellular and biochemical responses to injury. Then follows a section describing experimental injuries under defined conditions. The scope, relevance and limitations of these findings, as applied to human injuries, are given consideration. Two presentations seem particularly thought provoking for their possible application to clinical practice, namely Post-traumatic Oedema in the Gerbil and the release of Endogenous Opiates following severe injury in the cat.

The final section is directed to clinical appraisal—comparability of data, outcomes, the factors which affect outcome, outcome and pathology and disorders of blood coagulation following severe trauma in children. The chapter on the correlation between the CT scan appearances and intracranial pressure clarifies to some extent the indications for intracranial pressure monitoring, but it of course assumes that CT scanning is generally available. Passing mention is also made of the significant hazards of intracranial pressure monitoring. As a non-invasive method of

assessment there is a chapter on the "Brain State Analyser", a device which extracts objective and quantitative features from the EEG, cortical multi-modal sensory evoked responses and brain stem evoked responses, but this device is a long way off being a useful tool for general use.

The book is well presented and the illustrations clear and the half tone prints excellent. For the general reader it is a pity that the Glasgow (Coma and Outcome) scales are nowhere explained, for without this data the uninitiated will find some of the content difficult to follow.

JOHN R BARTLETT

Injuries to the Head, Spine & Peripheral Nerves. Report of a Study and Report of the Study. BR Selecki, IT Ring, DA Simpson, GK Vandefeld, MF Sewell. (Pp 218; price unstated.) Neurosurgical Society of Australia, 1981.

Trauma is the major cause of death under the age of 45 years. Most deaths in victims who survive to be admitted to hospital are due to head injury, and many of these are potentially preventable. Persisting disability after trauma is largely in those with head injuries, and much of this could also be prevented or reduced. It is therefore not surprising that, in the last few years, interest has been focused on various aspects of the epidemiology of head injuries in Britain, the USA and Australia. Only Britain is fortunate enough to have statistics routinely collected about deaths and hospital admission, classified by ICD codes. Elsewhere the accumulation of data has entailed a specific project, and this has necessarily had to be confined to a manageable population.

This is an Australian report, and it deals with NSW (population 5 million) and SA (population 2 million). It reveals a death rate from head injury more than double that recorded in Britain, with a rather higher proportion of victims admitted to hospital. Admissions to hospital (per 100 000 population) are not, however, as much in excess of UK figures as are deaths, and the case fatality is higher; this suggests that fewer mild injuries are admitted. The report deals with all neuro-trauma, including spinal cord and peripheral nerve. This makes it difficult in some sections to extract data about head injuries alone. Only 11% of admitted cases of neuro-trauma in Australia went to neurosurgical beds (5% of head injuries go to a neurosurgical centre in the UK); neurosurgeons did 60% of surgery for head injury but only 18% of

spinal cord injury and 13% of peripheral nerve injury. There is much useful data about place of death, distances and times involved in initial recovery of the victim and subsequent transfer to first and subsequent hospitals—a matter of particular interest in a country of the scale of Australia.

This is a careful and competent study which is of next interest for all developed countries—and for lessons too for the Third World where accidents have overtaken all other diseases as a cause of death under 40 years. It was thoughtful to produce a summary as a separate booklet, which contains all that most will want to read.

BRYAN JENNETT

Clinical and Basic Neurology for Health Professionals. By Kenneth R Magee and Joel R Saper. (Pp 297; £13.75.) London: Year Book Medical Publishers Ltd, 1982.

The term "health professionals" is unfamiliar in Great Britain but the aim of this book is to introduce those in the services ancillary to medicine to the neurosciences, and should be of value to the nursing profession, as well as to radiographers, physiotherapists, electroencephalographers and others. It is a very clearly written and well-illustrated book starting with an extensive account of the anatomy and physiology of the nervous system in a degree of detail which would seem to me to be rather too great. The authors say it is comprehensible to students not yet familiar with the nervous system but I feel they might become somewhat bemused by the complexities of many of the descriptions, such as the pre- and post-synaptic fibre systems. The chapter on differential diagnosis takes common symptoms in turn, and then lists all the diseases in which these may occur. This results in many lists, bearing a striking similarity to each other, and the reader might be forgiven for thinking any symptom might occur in any disease. I suppose they would not be far wrong. The chapters on individual diseases are very well done, especially the descriptions of multiple sclerosis, Parkinsonism, and other involuntary movements. Cerebrovascular accidents are also well covered, though the concept of ischaemia without occlusion, which puzzles so many medical auxiliaries, is not dealt with. It would also look as if CT scanning was added as an afterthought to vascular disorders. The chapter on brain tumours occupies just four pages, which is very strange when one thinks how much

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the time of clinicians and investigative departments is occupied in diagnosing, excluding and managing these common disorders, and a novice would not get any clear idea how good are the results of surgical removal of benign intracranial but extracerebral neoplasms. Manganese intoxication on the other hand seems to crop up in many chapters. The list of conditions producing dementia is, quite correctly, a forbidding one, but I wonder how helpful such a small-print list is to the reader. One had also hoped that syringomyelia had by now graduated from the degenerative diseases into the realm of CSF hydrodynamics—which leads me to wonder whether the CT scan (fig 25-1) said to illustrate hydrocephalus with "extraordinarily dilated ventricles" isn't really an example of marked cerebral atrophy, bearing in mind the sulcal enlargement.

Despite these criticisms this basically is a very good book, and would have a great appeal to young doctors entering the field of neurology, but either the allied services in the USA require a far higher degree of knowledge of neurological minutiae than they do here, or the book is too detailed for them. Certainly I would heartily recommended it to my junior staff.

EDWIN BICKERSTAFF

Divided Visual Field Studies of Cerebral Organisation. Edited by J Graham Beaumont. (Pp 306; £18.00.) London: Academic Press, 1982.

Divided visual field studies, in which a stimulus is displayed in one or other of the half-fields, are designed to compare the processing power of the two cerebral hemispheres. Comparisons have been made with regard to variables such as verbal and non-verbal material, split-brain and psychiatric patients, sex, development and hand preference. This book provides a realistic appraisal of these seven areas of research as well as a detailed consideration of methodological and theoretical issues and electrophysiological studies and the effects of hand preference. The editor contributes three chapters as well as an Introduction and Conclusion, and seven other authors each contribute a chapter dealing with their own speciality.

The chapter on methodology contains an unfortunate—yet common—error in the description of the optic pathways. The connections, described in relation to the hemiretinae are wrong but would be correct if "hemifield" were substituted for

"hemiretinae". Fortunately, the cover of the book carries a clear diagram of the visual pathways which contradicts the written description.

The reliability of reported data together with an emphasis on adequacy of methodology and strictness in interpretation of results are recurrent themes throughout the book. Indeed, in some applications it is clear that the proportion of credible findings is low. For example, Fairweather assesses studies of sex differences in laterality of processing. He finds that 103 of the 129 experiments reviewed produced non-significant results and a larger proportion of the remaining studies showed slight rather than clear differences between the sexes. Similarly, Beaumont in his chapter on split-brain studies emphasises that the majority of data are derived from two patients and that there is always the possibility of extra-callosal pathology in this type of case. On the other hand, there are consistent results in the literature showing that verbal tasks produce a left hemisphere advantage, whereas non-verbal tasks favour the right hemisphere. However, although this is true for simple cognitive tasks, more complex tasks do not consistently produce clear-cut hemisphere advantages. Individual differences in processing strategy could be responsible for both this inconsistency and the dearth of convincing work in the electrophysiological studies discussed by Rugg.

I recommend this book to anyone interested in divided visual field studies for two reasons. First, it provides a comprehensive review of the literature with about 1000 references, mostly from the last decade. Secondly, the emphasis on methodology and data analysis provides a realistic assessment of the literature as well as guidelines to new researchers in this field. The text is dry in parts because of the large body of work reviewed in a limited space, but it should prove invaluable as a source of reference.

G BARRETT

The Neural Basis of Behavior. Edited by Alexander L Beckman. (Pp 337; £29.95.) Lancaster: MTP Press Ltd, 1982.

The book comprises presentations from a symposium covering a wide range of disciplines and including several distinguished authors. The book attempts to integrate electrophysiological, physiological, psychological, biochemical and pharmacological approaches to the study of neural factors controlling behaviour, and much of its

appeal lies in providing a refreshing multi-disciplinary insight into specialised areas. The book suffers from an unhelpful compartmentalisation of chapters into overlapping sections and an artificial weighing of certain aspects of behaviour by unrepresentative examples. Thus, the section covering "Learning and Memory" deals with neuronal growth in the hippocampus, escape locomotion in the marine snail, and float-training in goldfish, whilst other crucial issues in the understanding of learning (arousal, emotion and motivation) are dealt with in separate sections. However, the book contains noteworthy review articles by Iversen and Fray, and Nauta and Domesick, as well as several impressive contributions on sleep and pain which together give a useful overview of the CNS and behaviour.

NMJ RUPNIAK

Psychosurgery: A Scientific Analysis. By MAJ O'Callaghan and D Carroll. (Pp 332; £24.95.) Lancaster: MTP Press Ltd, 1982.

This book's chief virtue is an extremely thorough re-evaluation of the literature on psychosurgery since the 1940s, the Freeman and Watts era. No-one interested in the techniques and possibilities, the indications, dangers, claims and counterclaims, and, increasingly, the ethical complexities of the subject can possibly ignore it.

The authors' general conclusions about psychosurgery are unfavourable; if this view is justifiable, it is as well that the treatment is becoming less popular. It appears that in the United Kingdom in 1981 only about 70 operations were carried out, 60% of them in one centre. This is a far cry from the 12,000 prefrontal leucotomies done before 1955. Nevertheless the book and its conclusions are open to many criticisms, starting with a disagreement about the definition of "psychosurgery". The authors' insistence, emphasised in the blurb, that its purpose is to modify behaviour belies its main use in Britain. This is to treat intractable depressive illness, to relieve serious suffering and to help to prevent suicide. A more important objection is to the authors' claim that there is a spontaneous recovery rate of 40% in the unoperated (page 280). This glaringly unrealistic figure ignores the fact that surgery is hardly ever thought of before an extended trial of antidepressant drugs and ECT has failed to do any lasting good. In such patients the chances of spontaneous recovery must be very much smaller than two-fifths.