

**Head Injuries (An Integrated Approach).** Edited by TAR Dinning and TJ Connelley. (Pp 266; £6.75.) Chichester: John Wiley & Sons, 1981.

The prospect of reading another Conference Proceeding—even on such an important topic such as head injuries—did not excite enthusiasm. Yet I found enough in this volume to make it rewarding reading. It is based upon a meeting held in Sydney in 1979 which was focussed on the social and administrative problems of head injury, rather than the biological effects or the clinical management of its early consequences. This bias is reflected in the content of its four component workshops, which correspond to four chapters in the book: incidence, causes and prevention; first aid, retrieval, and emergency treatment; sequelae and rehabilitation; and compensation and legislation. The content and quality of the individual contributions (33 in all) vary. Some are short abstracts and practically worthless but others are wide-ranging and penetrating reviews. Many reiterate conventional views and for clinicians the most interesting and novel contributions are probably those from other professions. Particularly illuminating are those presenting the legal viewpoint—both academic and judicial; these highlight how unfitting, expensive, and even absurd it is to depend upon litigation as a basis for determining the compensation of accident victims. The discussions that followed each workshop were clearly “lively” and their inclusion helps to convey a sense of the vitality of the occasion. There is also a sense of purpose; the task of the conference was to make recommendations aimed at reducing the suffering and loss that are caused by head injury. These conclude each chapter and are also incorporated in a final summary which reflects the masterly touch of the judicial mind. The recommendations are clear, pragmatic, and practical and deserve to be read and adopted far beyond the Australian continent.

G TEASDALE

**Studies in Cerebrovascular Disease.** Edited by Carlo Loeb. (Pp 211; Price unstated.) Milan, Masson Italia Editori, 1981.

This book is made up of twelve articles written by authors from France, Italy, West Germany, and the United States, covering a variety of topics in the cerebrovascular

disease area. In places the English is difficult to understand but we must be impressed by, and grateful to our European colleagues for their ability to communicate in English, making their works and thoughts available to those, like myself, who have failed to acquire an adequate grasp of any other language.

There is no particular theme to the topics and, in general, those that review a particular area without presenting too much original work are the most successful. The chapters on “thalamic” pain, the connection between epilepsy and cerebrovascular disease, and thalamic aphasia and neglect were particularly interesting and contained many references to the European literature which are not often quoted by English or American authors. This book contains something for most neurologists, particularly for those interested in cerebrovascular disease. I doubt if many individuals would want to buy it but it certainly should be available in libraries.

CP WARLOW

**Chronic Low Back Pain.** Edited by Michael Stanton-Hicks and Robert A Boas. (Pp 248; \$34.00.) New York: Raven Press, 1982.

This multiple author book is a very mixed affair. Its subject probably makes this inevitable, for in addition to the problems of contributions which are of uneven quality and which partly duplicate each other, which must afflict any multiple author book, any discussion of low back pain involves other difficulties. There is no agreed approach to the subject and many experts have not organised their thoughts about back pain in any coherent and systematic fashion.

The first and last chapters of this volume are excellent. They are on the epidemiology of low back pain and on alternative neurosurgical approaches respectively. The latter chapter, by Professor HA Williamson, is a delight to read, showing the interaction between a thoughtful mind and considerable clinical experience. The chapter on facet joint injections and a brief note on concepts of pain, contain some useful information. Otherwise this book is a disappointment, and much of the material it contains is either commonplace or is couched in a style of English which makes

it difficult to understand. Some chapters are strange. For instance the chapter on the Diagnosis of Low Back Pain is largely devoted to ankylosing spondylitis and Reiter's syndrome—surely rather infrequent causes of back pain in the experience of most clinicians.

RS MAURICE-WILLIAMS

**Low Level Lead Exposure: Clinical Implications of Current Research.** Edited by HL Needleman (Pp 322; \$46.24.) Raven Press, New York: 1981.

Like many books on problem orientated research, this one is biased—towards demonstrating that excess lead in the environment is damaging to the nervous system. Unfortunately the evidence is unconvincing that it is the low level of lead (40-60  $\mu\text{g}\%$ ) in the blood that is responsible and the alternative, that children of lesser intelligence and poorer background tend to push more things into their mouths and thus absorb more lead, is not given any consideration by the authors. The arguments that minor involvement of the pathways of haem synthesis, insufficient even to give detectable anaemia, could damage the nervous system is specious and depends on false analogies. It is true that large doses of lead *in vivo* and lesser amounts of lead *in vitro* will affect a number of metabolic pathways related to transmitter synthesis, but the uncritical account of Silberberg of this problem provides only ammunition for the lobbyists and does not seek for a fair judgement of the relevance of any of the findings. Only two articles in this book stand out as making any serious attempt to assess the data scientifically, by Michaelson on nutritional factors, and by Mullenix on behavioural responses. The former comes to the conclusion that so important are nutritional factors in the production of any experimental changes in animals, that because this has been in great part overlooked by previous workers, much of the experimental data so far is virtually worthless. The latter finds that careful behavioural testing of rats previously dosed in infancy with a relatively high dose (1%) in the water showed neither hypo- nor hyperactivity. Only very sophisticated, detailed motor activity studies can show mild changes, not present at lower doses.

This is a disappointing book, but should be read so that the false arguments and fallacious analogies can be spotted. My copy

is now heavily annotated and one hopes that other careful, critical readers will do the same. To allow so much fiction to pass as science is a pity and it should be allowed to pass uncensored. The references are useful for the uninitiated.

JB CAVANAGH

**Cerebral Microcirculation and Metabolism.** Edited by J Cervos-Navarro and Emmanuel Fritschka. (Pp 450; \$67.32.) New York: Raven Press, 1981.

This book contains the edited proceedings of Internation Erwinriesch Symposium on Cerebral Microcirculation and Metabolism held at Freie Universität, Berlin September 1979. The first section deals with morphological aspects of the cerebral microcirculation and reflects the principal interests of the organisers. Modern morphometric techniques applied to cerebral arterial territories are supplemented by studies of blood-brain-barrier function to vaso-active substances.

The second section is devoted to the regulation of cerebral blood flow and to the role of adenosine and neuropeptides present in perivascular nerve endings. The substances appear to modify local blood flow either by a direct action on cerebral blood vessels or by an action on cerebral metabolism mediated via the pituitary. Various transmitter systems, dopamine, serotonin and GABA have now been shown to be present in vascular nerves.

The third section considers various experimental models used to study the relationship between hypertension, ischaemia and oedema and presents new evidence on the role of neuro-endocrine mechanisms in maintaining extracellular fluid balance. Bioluminescence techniques notably by Hossmann have provided insight into regional biochemical changes after middle cerebral artery occlusion. The 14C deoxyglucose method pioneered by Sokolof has been used to illustrate the interplay of acidosis and glucose utilisation.

The final section concerns clinical vascular disorders and includes a wide variety of observations notably on the morphological and physiological changes in hypovolaemia, vascular spasm and subarachnoid

haemorrhage, cerebral infarction and hypertension. Therapy by vasodilatation and by artificial hypertension is briefly mentioned.

The presentation is excellent with many high quality electron micrographs and the delay in publication (under two years) is short enough to make this an invaluable source of reference to recent workers in the field.

RW ROSS RUSSELL

**Phantom and Stump Pain.** Edited by J Siegfried and M Zimmermann. (Pp 185; DM68, \$31.70.) Berlin: Springer Verlag, 1981

This book contains many useful contributions. Narakas reports his results of treating 638 patients with traction and/or crush injuries of the brachial plexus over a period of 15 years. Of these patients, 298 were treated surgically. Pain was an important feature in 72% of them and severe pain in 34%; surprisingly, 28% of the patients with avulsions had minimal or no pain. Any theory that deafferentiation causes pain must take this figure into account. The surgery for which Narakas is famous consists of microsurgical reconstructive procedures, which include external and fascicular neurolysis, excision of nervous tissue leaving gaps which are bridged by autologous grafts, and making connections between avulsed nerves and neighbouring stumps of extra-foraminally ruptured nerves or making use of nerves of lesser importance which are divided and moved to the trunk to be repaired. The nerve transfer is mostly done using intercostal nerves. By-pass nerve transfers and autologous grafting relieve the pain when it is not very severe. Narakas concludes from his great experience that merely freeing scar tissue compressing nerves improves moderate and severe pain, even when this pain has been there for years. This is an important paper, and anyone who treats these patients should study and know it.

Siegfried and Cetinalp contribute another important paper on neurosurgical methods of treating phantom limb pain. Their table 2 presents a large collection of the results of treating phantom limb pain by transcutaneous nerve stimulation, implanted stimulation of the spinal cord, implanted stimulation of thalamic sensory nuclei, sympathetic blocks, dorsal root

entry zone lesions, antero-lateral cordotomy and thalamotomies. Krainick and Thoden review their own results over a period of 10 years of using implants for spinal cord stimulation in 84 patients, and also 140 patients with post-amputation pain from a combined European study. There was complete relief or much improvement in 67% but this had fallen to 25% after 5 years.

Mundinger and Neumüller report their results of treating 75 patients with phantom limb pain either by transcutaneous nerve stimulation or else by implanted stimulation of the medial lemniscus before it enters the thalamus, deep to the superior colliculus. They use what they call programmed stimulation. The essential feature is that the parameters of stimulation can be changed continually. They consider that the patient's ability to change the frequency of impulses and to give brief periods of stimulation is important. This kind of stimulation was positively pleasant. They obtained more than 50% reduction of pain in 13/14 patients. There is an excellent paper by Berger and Gerstenbrand on phantom illusions or sensations following spinal cord transection. A few of the patients had illusions of position of the lower limbs which corresponded to the position of the limbs at the time of injury. Surprisingly, 7/20 patients had the illusion that they could move their digits; some had the feeling that they could change the position of the limbs just as have patients with brachial plexus amputations of limbs. Samii reports his own operation for amputation pain, which consists of removing the neuroma and joining up individual fascicles of the nerve by grafting a U between the two ends, so that each fascicle ends up by forming a U. Although fibres will continue to regenerate in both limbs of the U, Samii reports that the neuroma was small or absent. In 10/19 patients, the pain was totally relieved; in a further 4, there was only slight pain.

There are two papers on phantom tooth pain, a kind of painful phantom that is often forgotten. There is an important paper reporting recent work by Jänig and Blumberg on electrical coupling (cross talk) between retrograde sprouting fibres and descending fibres and on reflex activity of sympathetic fibres in neuromata and in adjacent skin and muscles. There is also an excellent paper by Wall considering the origin of pain following amputations. Altogether this book contains a lot of useful information that could not easily be found elsewhere.

PW NATHAN