some way towards looking at the specific interaction of aging and alcoholism. In particular, I found the chapters dealing with the biology of alcoholism and aging in rodents, neurotransmitter function, changes in biogenic amines, and tolerance and dependence to be useful.

The rest of the book has little to offer and it was all too easy to forget that the topic was alcoholism in the elderly rather than alcoholism in general, as most chapters only paid lip service to this issue. Perhaps we can look forward to a future volume in the series when our knowledge of the field has advanced substantially.

MARIA RON

Progress in Migraine Research 2: Progress in Neurology Series. Edited by F Clifford Rose. (Pp 292; £35.00.) London: Pitman Publishing Ltd, 1984.

This up-date on migraine covers clinical aspects, pathogenesis, neurochemistry and therapeutics. The 31 chapters provide a very satisfactory survey of the field. Bickerstaff's Sandoz foundation lecture on complicated migraine is an outstanding contribution. There is a refreshing clinical orientation in many of the papers. It is interesting to learn that in most patients oral ergotamine produces almost no detectable level in the blood and that better levels are provided by rectal administration and by inhalation, though there is much variation in all subjects.

Topical issues relating to dietary precipitation, opioids, peptides and autonomic function provide useful appraisals of recent advances.

This is in no sense a textbook on migraine, but is an invaluable compilation of recent experimental work which should be of interest to neurologists and physicians confronted by the continuing enigma of migraine sufferers.

JMS PEARCE

Brain Protection: Morphological, Pathophysiological and Clinical Aspects. Edited by K Wiedemann and S Hoyer. (Pp 168; \$33.40.) Berlin: Springer-Verlag, 1983.

The proceedings of a conference held at Hirschhorn Castle, West Germany in this book cover morphological, pathophysiological and clinical aspects of cerebral protection. The majority of the contributions are from Europe. The pre-

face refreshingly lacks the self-praise of many published symposium proceedings. Despite considerable advances in the field of brain protection, few conclusions have been reached. With regard to the outcome of the conference the editors admit that "it cannot be claimed with certainty that firm ground has been reached in even some of these fields". However, they have succeeded in their aim of producing a useful volume for those engaged in research and clinical application of cerebral protection, particularly for those new to the subject. Although the discussion after each paper has not been published the final chapter tries to summarise the opinions shared by the participants.

There is considerable variation in the quality of individual contributions and sadly some of the clinical papers are most open to criticism. In this and many similar publications, it is apparent that having been asked to present a paper the authors are prepared to present results from half completed trials and not surprisingly reach little or no conclusion. The concept of false negative results to clinical trials is well known. To conclude that "data so far available do thus not fully support the working hypothesis" is perhaps not surprising following an open uncontrolled study of 31 patients. All such sinners should read Miller's chapter on Clinical Trials of Brain Protection. Several papers are essentially brief reviews of work published elsewhere and the necessary detail for critical analysis is absent.

Barbiturates have long been used in experimental and clinical studies and their serious side effects are well known. Interest is now being expressed in non-barbiturate hypnotics and also in calcium channel blockers and these are extensively discussed. The attenuation of free fatty acid release by these drugs after ischaemic damage may be a measure of their efficacy but it seems unlikely, in view of the numerous complex changes that take place, to be a unique monitor for the success of therapy.

It is appropriate that the best chapter in the book is also the first. Kalimo *et al* have produced a clear and readable account of Structural Aspects of Energy Failure States. They comment upon the deleterious effects of excessive lactate accumulation, but note that the mechanism that causes cell damage is unclear.

This book is worth referring to on the library shelf but too expensive to merit a place on one's own.

D HILTON-JONES

Vertebrobasilar Arterial Occlusive Disease: Medical and Surgical Management. Edited by Ramon Berguer and Raymond B Bauer. (Pp 352; \$56.00.) New York: Raven Press, 1983.

Doctors Bauer and Berguer rightly felt that carotid vascular disease has received enough attention and that it is time to think harder about the more difficult area of vertebrobasilar disease. Vertebrobasilar arterial disease certainly is difficult to deal with for all concerned—neurologists, radiologists and vascular surgeons—and any gain in knowledge in this field would be very welcome. The editors organised a conference in Detroit in 1982 to discuss all aspects of the problem, and this book contains all the papers presented. The material is a mixture of reviews and original research by mainly North American authors, and tends to reflect a generally more aggressive approach to cerebrovascular disease than is fashionable in Europe. The delay in publication has inevitably rendered some of the chapters on the "growing points" of cerebrovascular research such as Nuclear Magnetic Resonance Imaging, Position Emission Tomography and Digital subtraction a little dated.

The main criticism of this work is that the editors and authors have not reached a consensus about what they mean by vertebrobasilar arterial disease. The clinicians name various different constellations of symptoms as diagnostic, whereas the surgeons and radiologists base their definitions more on angiographic or CT appearances. Several of the authors point out that the lack of an agreed definition of vertebrobasilar insufficiency has made it very difficult to interpret the reports of the pathogenesis, natural history and management that have appeared in the literature over the years. Perhaps the next Detroit conference on Vertebrobasilar Arterial Disease will provide a satisfactory consensus definition.

Despite the serious drawback of an agreed definition, there is some interesting reading in this book for those who specialise in cerebrovascular disease. Dr Caplan reviews clinical and pathological features, and rightly highlights the many different causes of cerebral infarction; small vessel disease, haemodynamic problems, thrombo-embolism from atheromatous ulcers and embolism from the heart, among others.

Dr Heyman's chapter on epidemiologic aspects is perhaps misnamed, since the data are drawn from a hospital-based series of

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patients; nonetheless his contention that symptoms of *non-focal* cerebral ischaemia predict stroke and vascular death almost as accurately as *focal* ischaemic episodes warrants further investigation. If proven, many more patients with non-specific "dizzy turns" may require a more thorough cerebrovascular workup.

Dr Wilner begins his chapter on posterior fossa angiography by saying "The development of four-vessel angiography has significantly altered the prognosis and therapy of the vertebrobasilar system". The subsequent text, a series of eight selected case reports (with admittedly excellent pictures) fails to support his rather contentious statement. He may, however, be correct in stating that vertebral angiography, at least in the USA, has altered therapy, though whether it has been changed for the *better* remains as yet unproven.

The section on treatment is a little disappointing. There are *eleven* chapters on various aspects of surgical, but not one on medical, management though the latter is mentioned specifically in the book's title. Anticoagulants are frequently stated as the optimum medical therapy, but there is no critical review of clinical trials of anticoagulants to be found anywhere. Haemodynamic mechanisms are mentioned often as a cause for vertebrobasilar ischaemia, and the book is peppered with suggestions to "keep the patient horizontal" and "optimise cardiovascular status" (whatever that means); again with little in the way of convincing evidence in support.

Several of the surgical chapters are equally uncritical, and describe in glowing terms the remarkably high cure rates achieved by the authors' particular surgical method, without ever providing a definition of the disease being operated on, the time or method of outcome measurement, or a comparison with the results in a control group. However, the chapters by Kieffer *et al*, and Ausman *et al* are very good, and provide a critical assessment of the problems of study design, including the definition of vertebrobasilar disease, the need for careful outcome measurement, and above all, the need for randomised controlled trials of new surgical methods in this area.

In conclusion, this book may be of interest to the cerebrovascular specialist. It is expensive and would, therefore, be more suitable for browsing through in the library, rather than buying for personal use.

PAG SANDERCOCK

Nuclear Magnetic Resonance Imaging: Basic Principles. By Stuart W Young. (Pp 175; \$24.00.) New York: Raven Press, 1983.

Computed tomography fundamentally displays the patterns of absorption of X-rays by matter, so that despite the fact that it is a fairly complex imaging method, no new basic concepts were necessary for understanding the principles of interpretations of the images. Magnetic resonance is a much more complicated phenomenon in which image patterns of magnetised tissues can be produced by subjecting it to various types of radio frequency pulse sequences. The method has enormous potential for imaging brain and spinal cord and not only for displaying the gross anatomy and some of the internal structure but also for revealing certain aspects of biochemistry and pathophysiology and for measuring blood flow. To achieve anything more than an empirical approach to diagnosis one should seek to understand how the components of the magnetic resonance signal are generated; how each affects imaged contrast and how they are influenced by disease processes. However, one should bear in mind that the evolution of the method has been incredibly rapid and some aspects of the subjects are incompletely understood even by experts.

This book considers in a simple manner the potential of magnetic resonance and discusses the interaction between radiowaves and spinning particles in a strong magnetic field and how spatial encoding is achieved to form images. Analogies with more familiar physical phenomena are presented to facilitate the learning phase. The author also uses analogies from everyday life, some of which are very helpful; others will probably be more useful to American readers. The currently available imaging systems and possibilities of using paramagnetic substances for enhancing the images and the potential hazards of magnetic resonance are also discussed.

The book fulfils its brief as a simple introduction or guide. It commences slowly and simply, explaining every step but even so it soon becomes quite complex enough for the average neuroscientist. It certainly provides the basic background for logical attempts at analysis of magnetic resonance images and gives a good basis on which to build further knowledge. It is recommended to radiologists and other physicians commencing study of the field.

BRIAN KENDALL

Surgical Approaches to the Spine. By Robert G Watkins. (Pp 145; \$150.00.) Berlin: Springer-Verlag, 1983.

This is designed for the specialist spinal surgeon. The principal author is an orthopaedic surgeon at the University of Southern California and his contributors include two professors of neurosurgery. They have provided a thorough guide to the full range of methods of surgical exposure of the vertebral column throughout its length. It should be stressed that this is a manual of surgical exposures alone. With the exception of lumbar discectomy and cervical foraminotomy, the procedures that the surgeon may carry out once the spine has been exposed are not described. Each surgical route is described step by step. Points of difficulty or risk are emphasised and for each section of the spine the relevant aspects of normal anatomy are thoroughly described. References have been deliberately confined to key papers only.

A technical surgical work of this type stands or falls by the quality of its illustrations. The numerous plates in this book, all coloured, can hardly be faulted. Most are photographs of cadaver dissection. Usually this type of illustration is less satisfactory than one might suppose but these beautifully photographed dissections are helpful and instructive. There can be few neurosurgeons who will not find this book useful. Even those with large spinal practices will from time to time require a detailed guide to some unusual approach and its problems. For this purpose this volume can be thoroughly recommended. The price is high but it can be justified in view of the very high quality of production and illustration.

RS MAURICE-WILLIAMS

Polyomaviruses and Human Neurological Disease: Progress in Clinical and Biological Research Vol 105. Edited by John L Sever & David L Madden. (Pp 376; £50.00.) New York: Alan R Liss Inc, 1983.

Since the discovery in 1964 of particles resembling papovaviruses in the brains of PML patients, evidence has been methodically accumulated that members of this subgroup of polyomaviruses (e.g. JC and BK viruses) cause PML in man and glial tumours in primates. SV 40 and polyoma, well characterised viruses with known oncogenic potential, belong to the same