Book reviews

of the barber-surgeons. There are some extraordinary records of survival from brain injury, such as those of Hildanus (1560–1634) who urged both sexual abstinence and the avoidance of laughter on those who had suffered severe head injury. There is a whole chapter devoted to our royalist Sergeant-Surgeon Wiseman, whose timeless advice on trepanation is quoted: that it should be done carefully and “not listening to the prattling of the Standersby”.

These and other familiar characters are here, but Dr Bakay draws attention to others less well known, and he gives particular and deserving notice to the French school of surgery. The chapter on François Quesnay (1694–1784) recounts the remarkable career of a man who became a distinguished early economist after being *chirurgien Royal* and *Premier médecin ordinaire* to Louis XV, the duties including that of adviser on sexual matters between the king and the apparently frigid Madame de Pompadour—who left him an annuity of 4,000 livres. *Tempora mutantur!*

There is a valuable review of the importance of the work of Ernst von Bergmann, on the mechanisms of increased intracranial pressure, which antedated the more refined experiments of Cushing, and Dr Bakay compares their respective findings. The last chapter, on the discovery of the ventricular passages, is particularly well done, apart from the two brief paragraphs on those fascinating structures, the arachnoid granulations, which are a bit of a disappointment as an end to such an enjoyable book.

JOHN POTTER

Magnetic Resonance Imaging in Diseases of the Nervous System. By Ivan Moseley. (Pp 234; £39.50.) Oxford: Blackwell Scientific, 1988.

It is extremely rare in this age of multi-authored texts to come across a book that is written by one person alone. The lack of need to coordinate the contributions from multiple sources ensures that it is up to date and minimises the overlap between chapters. Ivan Moseley is an acknowledged expert in neurodiagnosis from a department of international renown and this book closely reflects his considerable personal expertise. He modestly refers to the text as an introduction to magnetic resonance imaging but this is an understatement of the quality of the content.

There are 13 chapters, of which the first is devoted to the physics of magnetic reson-

ance. Most physicians would prefer to regard the production of images from magnetism as closely akin to magic, but the author has succeeded in making a complex subject understandable. Eight chapters deal with common presentations of neurological disorder in the brain and are dealt with in a predominantly problem orientated format. There is considerable content of clinical signs and this is most appropriate. The chapters deal with the common indications for MRI in diagnosis of neurological disorders in the brain and there is frequent reference to other diagnostic techniques. The illustrations are generally of high quality with mainly spin echo technique and inversion recovery. The latter images will no doubt prove somewhat alien to American readers where strongly T1-weighted inversion recovery images are rarely used. One chapter covers developmental disorders of the brain including a number of conditions that will be unfamiliar to the average non-specialist but for which MRI is extremely useful and will be of interest to neuroradiologists. The orbit is well covered in a separate chapter and the last two chapters deal with acute and chronic conditions of the cord and spinal canal.

Overall the book is well illustrated and referenced with very few typographical errors and at a reasonable price is highly recommended as an introduction for the individual and will serve as an extremely good reference manual for departmental purchase.

TIM COX

JOHN BINGHAM

Advancing Frontiers in Alzheimer's Disease Research. Edited by George G Glenner and Richard J Wurtman. (Pp 279; \$22.50.) Austin: University of Texas Press, 1987.

This book represents the proceedings of the symposium which was held in 1986 and sponsored by the Mind Science Foundation.

The chairman of this meeting was Dr George Glenner who describes in the preface an exciting closed meeting with considerable cross fertilisation of ideas. It would appear that the meeting was indeed successful but whether the proceedings of such a meeting need be published is less certain. The chapters vary between genuine discussions of theoretical aspects to chapters which read as formal research reports with method and result sections. The theoretical chapters by Wurtman and Cotman are both notable and they refer to the possibility that damage to

susceptible neurons may have a snowball effect. In the case of Wurtman's model there may be “auto-cannabilism” of membranes to maintain acetylcholine synthesis. In the model suggested by Cotman enhanced plasticity early in the disease following partial denervation may increase susceptibility to excitotoxin mediated cellular damage. The discussion on the relationship between Down's syndrome and Alzheimer's disease is also of particular interest, but this chapter, together with those on amyloid, now seems dated with the subsequent demonstration that a familial Alzheimer's disease gene is indeed located on chromosome 21 as is the coding gene for the amyloid precursor protein. One irritating feature which could have been easily avoided is the inclusion of all the figures and tables at the end of each chapter rather than at an appropriate point in the text. This rapidly changing field renders redundant those symposia that rely on the publication of the most recent results whereas those which genuinely attempt synthesis and discussion of the theoretical aspect survive. There are sufficient chapters of the latter type to recommend this book for neurologists to read but not to purchase.

M ROSSOR

Laser Applications in Neurosurgery. Edited by Raymond Sawaya, John M Tew, Jr. (Pp 516; £21.95.) Oxford: Blackwell Scientific, 1988.

This is a small book in the *State of the Art Reviews* series which well fulfils its title. The editors and a number of the contributors are from the University of Cincinnati Medical Center where laser surgery is clearly well established. The introduction is followed by a short section on laser physics which is succinct and sufficient. The account of laser safety which follows is a detailed presentation relevant to FDA regulations and the role of the nurse in the operating theatre, and happens to include among the appendices an interesting diagram of the layout for a procedure.

The authors from Cincinnati then describe and illustrate the use of the carbon dioxide laser in the excision of 50 basal meningiomas and two chordomas for which the micro-manipulator and focused beam achieve sharp dissection and defocused higher wattage tumour vapourisation. Transphenoidal microsurgery for the removal of pituitary micro and macro adenomas by defocused laser at 5 and 10 watts is well

described and the technique of opening the sella turcica, as first described by Jain, and frequently used by the reviewer is also mentioned.

The short accounts of the laser in paediatric surgery and the photodynamic therapy of brain tumours is followed by a most useful description of the excision of thalamic arteriovenous malformations using the Nd:YAG laser at 10 to 20 watts focused to a spot size of 2 mm, which penetrates quite large blood vessels and causes contraction and coagulation. There are good illustrations of the type of AVM treated.

The chapter entitled "The laser and stereotactic neurosurgery" by Patrick J Kelly is a masterly account by the pioneer of this technique which uses the BRW frame and enables CO₂ laser resection of gliomas under CT control with particular emphasis upon resection of the full extent of the tumour as demonstrated by CT enhancement, but not into the MRI penumbra of brain parenchyma known to be infiltrated by tumour cells. The histology of 191 tumours thus removed, is listed.

The book then outlines experimental results of laser assisted vascular and neural anastomosis (LAVA and LANA respectively), and this is followed by the description of the contact laser in which the Nd:YAG is applied particularly to blood vessels using a sapphire contact tip which enables power density to be controlled independently of spot size and focus. This technique can also be used for neural incisions e.g. DREZ lesions.

The notable omissions from this useful book are the use of the CO₂ laser for the micro surgical excision of low grade gliomas of the third ventricle and spinal cord.

G BROCKLEHURST

Polyneuropathies Associated with Plasma cell Dyscrasias. By John J Kelly, Robert A Kyle, Norman Latov. (Pp 149; £34.95.) Dordrecht: Martinus Nijhoff, 1987.

It is an interesting phenomenon that previously unrecognised disorders, once their existence is appreciated, are often suddenly realised to be quite common. This is very much the situation for neuropathies associated with benign monoclonal gammopathies. These are now accepted as an important category of late onset neuropathy. Effectively, they have been delineated from cryptogenic neuropathies of later life only during the past eight years.

This book, although stated on the cover to have been edited by Kelly, Kyle and Latov, is actually written by these three individuals, all of whom have been actively involved in the recent advances in this area. They are therefore in a position to write with authority. After discussing definitions and the epidemiology of plasma cell dyscrasias and associated neuropathies, the authors survey the relevant biochemistry and immunology of peripheral nerve. They then review current knowledge concerning neuropathy associated with Waldenström's macroglobulinaemia, benign monoclonal IgM paraproteinaemias and monoclonal IgM cryoglobulinaemia. Those neuropathies related to monoclonal paraproteins with activity against myelin-associated glycoprotein (MAG) are of particular importance, the occurrence of tremor and ataxia being a prominent clinical feature. Other intriguing variants are emerging such as monoclonal IgM paraproteins with activity against an epitope shared by GM₁ and GD_{1b} gangliosides; these are associated with a multifocal motor neuropathy. Another is an IgM paraprotein with activity against chondroitin sulphate, characterised clinically by the occurrence of an axonal sensorimotor polyneuropathy and epidermolysis. Neuropathies associated with IgG and IgA monoclonal paraproteins are separated off from those accompanying IgM paraproteins and are considered to be similar to chronic inflammatory demyelinating polyneuropathy, a view that requires validation.

Neuropathy accompanying myeloma has been recognised for a substantially longer period and probably has a variety of mechanisms, including the intraneural deposition of amyloid. Osteosclerotic myeloma is given a separate chapter in view of the particular association between neuropathy and this rare form of myeloma. It is pointed out that the POEMS (polyneuropathy, organomegaly, oedema, M band, skin changes) syndrome, although identified by an eye-catching acronym, may be present in an incomplete form in association with this type of myeloma. The syndrome can also be associated with non-malignant IgG and IgA paraproteinaemia. Neuropathy related to amyloid of immunological origin (AL amyloid) comprises the final condition that is considered. The discussion of the hereditary amyloid neuropathies, brought up in the differential diagnosis, is not very contemporary.

Throughout these chapters, a description of the clinical features, with illustrative case histories, is followed by accounts of the findings on investigation, the underlying

pathology and what is known about pathogenesis, and treatment. The pathogenesis of these neuropathies is still largely obscure. There is some evidence that IgM paraproteins active against MAG directly lead to demyelination, but the reason for amyloid deposition in nerve and the mechanism of nerve fibre damage is uncertain.

This short monograph is timely. It embodies much new information that at present is largely available only in research publications in journals. Although it will be of particular interest to neurologists, it should also provide a useful survey for haematologists, oncologists and general physicians.

PK THOMAS

The Retina. By John E. Dowling. (Pp 282; £29.95.) London: Harvard University Press, 1988.

The author of this book has spent his life investigating the retina. Initially a biochemist with Wald at Harvard, he then progressed to investigate the anatomy and physiology of the retina. Finally as a Professor of Biology he has devoted recent years to the pharmacology of the retina with particular interest in the neurotransmitters.

This book therefore commences with a review of the retina as an approachable part of the brain. This is followed by a review of the cellular structure and synaptic organisation of the retina. The major part of this book is on the neuronal responses and synaptic mechanisms. The retina is particularly well situated for the study of intracellular recording and thus provides a strong spring board from which to launch our understanding of neuronal function in the brain. The study of neurotransmitters has also shown how complicated they have become, and there are at least 15 neurotransmitters or neuromodulators detected so far in the retina.

The final chapters relate to electrical activity in the retina, photo receptor mechanisms and a final chapter relates the relevance of work on the retina to our understanding of brain mechanisms.

This book is well written, readable and in 250 pages provides an expert's review of the exciting times the researcher in visual work has had over the past three decades. The future appears equally exciting.

MD SANDERS