

## Book Reviews

**THE AXON, STRUCTURE, FUNCTION AND PATHOPHYSIOLOGY.** 1995. Edited by Stephen G. Waxman, Jeffery D. Kocsis and Peter K. Stys. Published by Oxford University Press. 692 pages. \$C251.00

This multi-authored text by Waxman, Kocsis and Stys is a very nice compendium of current information about axonal histological structure, physiology and pathophysiology. There is an "all star" cast of authors. Particularly enjoyable chapters were those by Mark Bisby on Regeneration in the Peripheral Nervous System, Abnormal Excitability in Injured Axons by Marshall Devor and Axonal Degeneration and Disorders of the Axonal Cytoskeleton by John Griffin and group. The chapter on voltage-gated ion channels and axons by Steven Waxman is clear, concise, well illustrated and up-to-date. The chapter on pathology of the myelin sheath by Sam Ludwin is very nicely illustrated with EM photographs. All of the chapters have superb reference lists allowing the readers to pursue further information on specific items. This would not be a book to specifically address clinical aspects of axonal disease per se. Although pathophysiology is beautifully discussed in the various chapters and there are chapters on clinical electrophysiology in human peripheral nerve disease, these are really short summary chapters of previous work by these authors and would be only of limited use. For example, the chapters by Burger and Schaumburg on peripheral neuropathy is not at all a substitute for a more in depth clinical text. Ian McDonald's chapter on MS is also fairly limited in the information presented and wouldn't really be helpful for those seeking specific clinical information. On the other hand the basic science chapters are much more comprehensive and rounded.

This text could serve as a useful exam preparation for neuroscience residents that are interested in specific topics. It could also be used as a background summary addressing research questions in specific areas, e.g., regeneration following which one might pursue specific issues addressed.

Overall the text is a worthwhile investment for those interested in peripheral nerve disease and physiology but should not be considered as a reference on clinical disease. Waxman and colleagues are also to be congratulated on putting together information from different disciplines as they apply to axonal disease: neurobiology, physiology, pathology and clinical medicine.

*D.W. Zochodne  
Calgary, Alberta*

**NEUROCRITICAL CARE.** 1994. Edited by Werner Hacke. Published by Springer-Verlag. 1044 pages. \$C143.00

In the foreword the editor states that the aim of this book is "to give practical, unbiased, and easy-to-read information to neurologists and other specialists encountering problems of critically ill patients with neurological diseases." Certainly the book succeeds in giving practical, unbiased, and easy-to-read information. Tables and illustrations are used liberally and appropriately throughout the text. The book does however have a number of significant flaws. Chief among these is the fact that although the book is entitled "Neurocritical Care", it is really a textbook of acute general neurology with an emphasis on critical care. Significant portions of the book are taken up with descriptions of disease entities that have no

(monocular blindness) or only the most tenuous connections (neurosyphilis) to neurocritical care. As a result, presumably in an effort to keep the book to a reasonable length and cost, the management of disease entities that constitute the bread and butter of neurocritical care (e.g., ischemic stroke, intracerebral hemorrhage, head injury, subarachnoid hemorrhage, Guillain-Barre Syndrome) are often given a more superficial treatment than would be expected in a book with this title.

The book is multi-authored and the chapters accordingly vary in quality, although all cover the basics of the diseases under discussion quite adequately. The chapters on general monitoring, nutrition, and respiratory management are excellent for the neurologist/neurosurgeon who is unfamiliar with general critical care medicine. There are a couple of significant omissions. There are no chapters devoted to the role of neuro-imaging and interventional neuroradiology in neurocritical care, although liberal references to the former are used in chapters on individual diseases. There is a very comprehensive chapter on transcranial doppler monitoring but little or no discussion on other techniques of measuring cerebral blood flow and metabolism (e.g., cold xenon Ct scanning, jugular O<sub>2</sub> saturation measurement). The chapter on the clinical neurological examination is so superficial as to be useless to practicing neurologists, neurosurgeons, or trainees.

The text reads well for the most part, although there are occasional awkward translations from German to English and rare typographical errors. References are neither numbered nor cited in the text and therefore it is difficult to attribute particular statements or concepts to the references at the end of the chapters. This was done purposefully to maintain readability. Superscript numbered references would be a reasonable compromise between readability and convenience in looking up references.

In my view the book would be strengthened by jettisoning the large number of chapters devoted to general neurology, all of which are covered far better in standard textbooks of neurology and neurosurgery, and concentration on those diseases, diagnostic, monitoring and management modalities that are specific to neurocritical care. As it stands, the reader will find much useful information about neurocritical care in this book, but will have to wade through a fair amount of non-essential information to find it.

*Rick Moulton  
Toronto, Ontario*

**INFANTILE SPASMS AND WEST SYNDROME.** 1994. Edited by Olivier Dulac, Harry T. Chugani and Bernardo Dalla Bernardina. Published by Cambridge University Press. 310 pages. \$C52.00

This book provides a detailed, current overview of infantile spasms and West syndrome by leading authorities. Following a workshop on infantile spasms held at Abbaye de Royaumont, France, in 1991, the authors reached agreement on a common terminology, described in the first chapter. The book is in five sections and includes chapters on a) the basic mechanisms and epidemiology; b) seizure types, ictal and interictal EEG characteristics, cognitive features and differential diagnosis; c) the neuropathologic and neuroimaging features, which have changed considerably our understanding of this condition. The fourth section includes chapters on the influence of each major etiology on the different

components of the syndrome, a feature of particular value to those involved in the management of patients with this disorder. Finally, the medical and surgical treatments are described. This is an excellent textbook. The chapters have been organized in a logical fashion and all major areas are addressed. The information is current and described clearly. This book should be read by all pediatric neurologists and all those with an interest in epilepsy.

Kevin Farrell  
Vancouver, British Columbia

AGE-RELATED DOPAMINE-DEPENDENT DISORDERS. 1995. Edited by M. Segawa and Y. Nomura. Published by Karger. 256 pages. \$C250.00

This volume, #14 in the Monographs in Neural Sciences series, contains the proceedings of a symposium held in November 1993 to celebrate the 20th anniversary of the Segawa Neurological Clinic. Given the substantial contributions that Professor Segawa has made to the understanding of hereditary progressive dystonia, it is not surprising that the majority of the first section of the book (Pathophysiology and Molecular Biology of Dopa-Related Disorders in Childhood and Adolescence) is devoted to this topic. This comprises approximately one-half of the volume and there are two shorter sections on Neuronal Circuits and Compartments of the Basal Ganglia and their Clinical Manifestations, and Monoamine Neurons: Gene and Gender Differentiation.

As is so often the case in this type of publication, the quality of the entries is variable, there is considerable duplication and the indications for including some of the articles are questionable. A number of the authors make a point of differentiating between dopa-responsive dystonia, hereditary progressive dystonia, juvenile parkinsonism, dystonia-parkinsonism and young-onset Parkinson's disease. In other chapters, the use of these terms is lax and confusing. One exception to this is the excellent review by Nygaard of the history, clinical features and genetics of dopa-responsive dystonia and juvenile Parkinsonism. There are some chapters on clinical electrophysiology which contain observations of tenuous interest and are highly speculative in their conclusions. Similarly, there are three chapters on PET Scanning, most of which rehash previously reported findings and it is unfortunate that these could not have been combined into a single more scholarly overview. There is another excellent chapter in this section by Ozelius et al. on the genetics of torsion dystonia. Unfortunately the book was published shortly after the discovery of the GTP cyclohydrolase mutation in dopa-responsive dystonia and this is only alluded to in the editor's introduction.

The second section contains some very good reviews of basal ganglia anatomy (Nakano et al.; not easily digestible), dopaminergic innervation of the primate cortex (Maeda et al.) and basal ganglia regulation of eye movements (Kato and Hikosaka), but other entries in this section are either confusing or of questionable relevance.

The final section comprises three chapters. There is an intriguing entry on sexual dimorphism, particularly the hormone-independent effects of gender, but it is non-specific in its focus and like many of the other chapters, not clearly directed towards the title of the volume. There is a chapter on compartmentalization in embryonic striatal grafts and another on the role of basic FGF in the substantial nigra.

Although there are some very good chapters in this volume, the volume as a whole lacks cohesion and in my view loses from the

use of repeated short entries rather than larger more global and scholarly reviews. There is a reasonably annoying number of typographical errors (including the editor's name on the cover!) and one of the more important figures in Chapter 1 is oversimplified and mislabelled. The references in many of the chapters are predominantly to non-peer-reviewed publications. Thus, despite the good entries, I cannot recommend this as good value for the rather steep price.

A.J. Stoessl  
London, Ontario

NEW TRENDS IN NUCLEAR NEUROLOGY AND PSYCHIATRY. 1993. Edited by D.C. Costa, G.F. Morgan and N.A. Lassen. Published by John Libbey & Company Ltd. 180 pages. \$C50.00

This review of the expanding role of functional radionuclide imaging in the neurosciences was originally published in 1993 in response to a symposium on "New Trends in Nuclear Neurology" which followed the 1992 meeting of the European Association of Nuclear Medicine. Rather than a compilation of the proceedings, this is a well organized, concise and balanced review of the field. The aim of the book, as stated in the preface, was to serve as "a quick reference for those Nuclear Medicine Physicians, particularly residents and young specialists, who decide to initiate their practice of Nuclear Neurology and Psychiatry". It has achieved this aim.

Included are chapters on basic neuroanatomy and physiology; neuroreceptors; instrumentation, technique and computer processing; and blood brain barrier, metabolic, receptor and perfusion radiopharmaceuticals with emphasis on SPECT agents. Clinical applications in stroke, dementia, epilepsy and psychiatry are reviewed, followed by a chapter on correlation with anatomic imaging modalities and trends in multimodality image fusion. References are extensive and up-to-date to the time of publication. Historical information is interspersed and adds interest and insight into the evolution of the techniques. Many of the classic original articles are cited. Illustrative cases are not extensive but appropriately complement the text and highlight major applications.

For a multi-author text, it achieves a commendable balance with few major gaps and little overlap or repetition. Although some of the information on specific instruments and radiopharmaceuticals has been superseded, in total, the information is remarkably up-to-date for a rapidly evolving field. The reasonable price of the book is a welcome deference to tradition in this era of ever increasing costs. This remains an excellent introductory text and starting point from which to explore more recent developments.

Reinhard Kloiber  
Calgary, Alberta

INTRACEREBRAL HEMORRHAGE, FIRST EDITION. 1994. By Carlos S. Kase, Louis R. Caplan with 7 contributing authors. Published by Butterworth-Heinemann. 516 pages. Price not available.

Textbooks devoted exclusively to the topic of intracerebral hemorrhage (ICH) have been lacking until very recently. This monogram is designed to fill this void. In the preface, the authors state their purpose is to organize, coordinate, and summarize the large body of information available on the topic of brain hemorrhage in adults. They have focussed their discussions on intraparenchymal hemorrhages and deal with subarachnoid and extra-axial bleeding only as they relate to the problem of parenchymal brain