section, Part 1 deals primarily with those basic mechanisms of the vestibular system that are important for practitioners in the field to understand in order to be able to diagnose and treat diseases affecting the peripheral and central vestibular systems. Particularly useful was the chapter on how the brain compensates for vestibular lesions which is often a difficult area for physicians to understand and to explain to their patients.

Part 2 emphasizes the clinical evaluation and the critical importance of obtaining accurate historical information from the patient about the nature and duration of their symptoms of vestibular dysfunction. There are also several good chapters on detailed laboratory evaluation including ENG, rotational testing, auditory function and neuro-imaging. This part of the book is rounded out by 3 chapters on otolith testing, posturography and vestibular evoked potentials with good analysis of their potential uses and weakness in diagnosing and treating patients with vestibular disorders.

The third part of this text deals exclusively with the common vestibular disorders and diseases that clinicians deal with on a daily basis. The chapters on vestibular disorders due to cerebral vascular disease as well as the psychiatric aspects of vestibular disorders are particularly good as the former deals with a cause of vestibular dysfunction that is often overlooked, and the latter deals with the difficult territory of psychiatric conditions and how they overlap with vestibular disorders. Many patients with vestibular symptoms who have little in the way of abnormalities on objective testing are often labeled as having psychiatric illnesses when in fact this may not be the case. Therefore more effort needs to be expended to understand the linkage between vestibular dysfunction and some of the psychiatric conditions that are discussed in this chapter.

The final part of the text book deals with the treatment of vertigo ranging from medical therapy to surgical procedures and ending off with a good chapter on the role of vestibular rehabilitation in patients who have sustained vestibular loss whether it be peripheral or central in nature.

In summary this is an excellent text book which is well written and thoroughly enjoyable to read. The clinical experts who have authored individual chapters clearly have a great interest in vestibular disorders, and the editors have organized the book into four easy to understand sections. There are many diagrams, tables and illustrations which add to the understanding of each topic discussed. The entire text is well referenced and the index is extremely useful. This text is strongly recommended for neurologists and otolaryngologists who have an interest in neurotology as well as for practicing neurologists, neurosurgeons and otolaryngologists who may have an interest in learning more about this exciting field of medicine. I therefore have no hesitation in strongly recommending it and have no doubt that it will be a landmark text book against which subsequent books in this field will be judged.

Toni R. Winder
Lethbridge, Alberta

CATASTROPHIC BRAIN INJURY. 1996. Edited by H.S. Levin, A.L. Benton, J.P. Muiselaar and H.M. Eisenberg. Published by Oxford University Press, New York, Oxford. 267 pages. $C57.50

This monograph contains 12 chapters devoted to head injury written by experts including Bryan Jennett, Muriel Lezak and Paul Muiselaar. The following aspects are reviewed: epidemiology of head injury, clinical and pathological features of the vegetative state, neurochemical changes in head trauma, medical complications in the rehabilitation ward, pharmacological management, outcomes (emphasis on cognition), ethical issues and concludes with a survey of experimental research in neuroprotective strategies, neurotrophic factors and neural transplantation.

The book is not a comprehensive text on neuro-trauma and assumes the basic aspects of neurological trauma and its management have been mastered. It is not strongly clinically oriented and is weak on the acute management of the patient with head injury. Selected aspects are discussed in considerable detail with little redundancy among the chapters. I found the following aspects to be especially informative: the improvement in prognosis related to MRI scanning and functional neuroimaging, a thorough review of late complications (seizures, behaviour, spasticity, dystrophic calcifications, abulia and its pharmacological management), prediction of return to work, ethical issues surrounding the decision to withdraw care, and some further insights into primary brain damage.

The monograph should appeal to those interested in neurointensive care, especially neuro-trauma, and in neuro-rehabilitation. While it will not serve as a practice manual, it provides additional useful knowledge for the clinician and a view to promising directions of research.

G. Bryan Young
London, Ontario

HANDBOOK OF MULTIPLE SCLEROSIS: NEUROLOGICAL DISEASE & THERAPY SERIES/43. 2nd EDITION. 1996. Edited by Stuart D. Cook. Published by Marcel Dekker, Inc. 640 pages. $C227.00

The last several years have seen a growing sense that multiple sclerosis (MS) may ultimately become a more treatable disease. The recently completed North American interferon and copolymer trials have fueled this optimism and, with this change, basic and clinical researchers have been brought into a closer working collaboration with industry in combined efforts to advance knowledge and find a cure for this vexing and crippling disease. With significant recent progress in basic science and clinical research, dozens of promising treatment strategies are now being tested in pilot and full scale clinical trials. The pace of these changes in basic neuroscience, immunology, virology, molecular genetics, clinical trial methodology and MRI research mandates a concise and yet thorough compilation of this work in one volume. The revised and expanded *Handbook of Multiple Sclerosis* (Editor: SD Cook) does a splendid job of bringing together this body of knowledge for clinicians and basic scientists.

In this text, Cook has again assembled many of the major contributors to the field to review recent advances in their respective areas of interest. Most of the authors have extensively revised and expanded upon the material covered in the first edition (the chapter on Evoked Potentials is essentially

unchanged with the exception of the addition of a new section on "Magnetically evoked motor potential"). In each of the 27 chapters, the reader will find carefully written, and thorough summaries of background and new knowledge. Almost without exception, the sections are comprehensive and contain a wealth of information that will be of interest to a wide audience. The chapters are well illustrated with excellent tables and informative figures and most are followed by encyclopedic reference lists which will be useful to all readers. There are four new chapters on experimental models of autoimmune demyelination, aminopyridines, treatment with intravenous immunoglobulins, and antigen-specific immunotherapies reflecting the interest in these areas in recent trial research. The MRI chapter (Stone, et al.) contains a much needed and clear review of modern MRI techniques and the overview of immunosuppressive drug therapies (Ellison), an area of considerable recent controversy, is particularly well done.

There is much in this book that will be of interest to physicians and scientists engaged in basic and clinical research of the demyelinating diseases. In addition, as is implied by the title, the clinician caring for patients with these illnesses will find information that will be useful in making the diagnosis, and recommending treatment options to patients. Residents in their last year of training, MS post-doctoral fellows, neurologists, and scientists working in this area, and clinicians who regularly see these patients (neurologists and psychiatrists, particularly) will want to read this excellent text.

John H. Noseworthy
Rochester, Minnesota, USA

THE BIOCHEMICAL BASIS OF NEUROPHARMACOLOGY. 7th EDITION. 1996. By Jack R. Cooper, Floyd E. Bloom, Robert H. Roth. Published by Oxford University Press Canada. 518 pages. $C42.00

The first edition of this volume appeared in 1970, and I can still recall using it as a graduate student to learn about acetylcholine, the monoamines and, at that time, the potential (but still suspect) amino acid transmitters, glutamic acid and GABA. Those categories pretty well covered the neurotransmitters of the time. Now in its seventh edition, the volume has doubled in size from its first appearance, yet, the above neurotranmitters still occupy a dominant place in the book. Other features of early editions include a highly accessible price, a lack of colour illustrations (most likely responsible for the former), figures of biosynthetic pathways and structural analogues and the occasional play on words (an *axon* to grind...). However, the authors, who are among the most distinguished neuropharmacologists of our era, have placed this edition firmly in the currents of modern neuropharmacology. A substantial number of references date from 1992 or later. The chapters on the tried and true transmitter candidates described above include the latest molecular descriptions of receptor subunits and alternate splicing variations. Indeed, there is an entire chapter devoted to "Molecular Foundations of Neuropharmacology", where the reader is briefly introduced to some of the modern strategies used to identify new transmitter candidates and receptors. Another, on neuromodulation, describes the complex intracellular pathways that can be activated and gaseous modulators that can be elaborated after ligand binding to a receptor. Selected neuropeptides of the 50 or more known to be present in neural tissue are dealt with in their entirety in one chapter, and other deals with the popular, yet controversial data obtained from some model preparations of learning and memory. A new appearance in this edition is a chapter dealing with the pharmacological basis of neurological and psychiatric diseases and possible avenues for their treatment.

This small book is extraordinarily successful in distilling the significant findings in neuropharmacology into a clear and very readable format. Enough history is presented to show how the field developed (often in the authors' own laboratories), and the modern developments are presented in a fashion that is understandable even to the novice. I particularly like the way in which the authors point out the many unresolved problems and new directions; these surely give hope to the novice student that they can still make their mark in this exciting field.

Given the number of subject areas that are covered in this book, I found very few errors. One that did jump out to a Canadian is the description of the domoic acid poisoning incident as a *west* coast phenomenon; despite the uncertainties of the Canadian political scene, I am certain that Prince Edward Island has always been on the *east* coast of Canada. It also appears as if the care and attention given to the body of the text did not extend to the index. As examples of the many inaccuracies, LSD is indexed to a brief mention of its effect on learning, but to find the very extensive text detailing its involvement in serotonerigic pathways, one would have to look under "hallucinogens". Marijuana is only indexed under "hashish" and the index to amphetamine only refers to its involvement in norepinephrine systems and ignores the fairly extensive discussion in the subsequent chapter on its interaction with dopamine.

Some biases obviously have to exist in terms of deciding what to include in this ever expanding field. Nonetheless, it is odd that angiotensin II has been dropped from this edition, despite the impressive evidence for its involvement in central control of blood pressure and drinking behaviour. The authors titillate by introducing the cytokines as molecules "too important to pass by", but plead that space constraints preclude much attention to their powerful central effects on the immune system. Has the time come to drop some of the detailed descriptions of biosynthetic pathways and structure-activity relationships of the monoamines to deal more adequately with some of these new and exciting molecules?

One cannot dispute the success of a book that endures 25 years or more and goes into a seventh edition. I recommend it most highly as *the* source for all who aspire to learn how neurons communicate, and how drugs act in health and disease.

Quentin J. Pittman
Calgary, Alberta

MENINGITIS: 100 MAXIMS 1st EDITION, 1996. By Karen L. Roos. Published by Oxford University Press Canada. 208 pages. $C50.50

This book is the fourth in the "100 Maxims in Neurology" series and, like its predecessors, attempts to fill a special niche