

Book Reviews

PATIENT CARE IN NEUROSURGERY. Third Edition. By Nelson M. Oyesiku, M.D. and A. Loren Amacher, M.D. Published by Little Brown and Company. 317 pages. \$42 Cdn. approx.

The authors of this volume should be congratulated. They set out to update the previous edition of *Patient Care in Neurosurgery* and produced a book that can be used by both the neurosurgical resident and the residents and students of other disciplines rotating through a neurosurgical service.

The book first introduces the reader to important aspects of clinical neurosurgical physiology including cerebral blood flow and metabolism, intracranial pressure, brain water and electrophysiology. Later chapters deal with the common problems encountered in clinical neurosurgery and the authors have reviewed an impressive number of components of the neurosurgical spectrum. Of particular interest to the neurosurgical novice will be the procedural notes and illustrations which are located throughout the book. The thorough reference lists, present at the end of each chapter, will provide quick access to the relevant neurosurgical literature when the reader wishes further information about a particular topic.

*Mark Hamilton
Calgary, Alberta*

THE PERIPHERAL NERVE: STRUCTURE, FUNCTION, AND RECONSTRUCTION. 1990. T.K. Terzis and K.L. Smith. Published by Raven Press. 192 pages. \$59 Cdn. approx.

Written by two plastic surgeons, this book provides selected information related to peripheral nerve injuries. The first author is well known to many Canadians from her training and work in Montreal before moving to Virginia.

The first of seven chapters describes the surgical anatomy of peripheral nerves — fascicular organization, connective tissue, and vascular supply. The last half of the chapter is devoted to sensory end organs, the topic of Terzis' Ph.D. thesis. The second chapter includes the Seddon and Sunderland classifications of nerve injury and sections on compression, stretch, ischemic, electrical, radiation and injection injury. Next is a discussion of some of the factors influencing peripheral nerve regeneration. The fourth chapter "Evaluation for the injured peripheral nerve" emphasizes testing of cutaneous sensory function and the fifth chapter describes several techniques for peripheral nerve repair. The last two brief chapters are followed by a reference list of more than 800 articles, most before 1985.

The best sections of the book are those where Terzis has a special interest — fascicular patterns in the brachial plexus, testing of sensory function, and surgical techniques. In contrast, other clinical and scientific aspects are presented superficially and are sometimes erroneous, for example, in the explanation of fibrillation.

The peripheral nerve aficionado may find scattered points of interest in this book. Most readers would get better value

from Stewart's "Focal Peripheral Neuropathies" or Omer and Spinner's "Management of Peripheral Nerve Problems".

*Peter Richardson
Montreal, Quebec*

THE TREATMENT OF INFANTILE HYDROCEPHALUS. VOLUMES I AND II. 1987. First Edition. By Concezio Di Rocco. Published by CRC Press, Inc., Boca Raton, Florida. Volume I - 151 pages; Volume II - 174 pages. \$242 Cdn. approx.

This book is written mainly by Professor Di Rocco with some contribution from three of his colleagues at the Catholic Medical School in Rome, Italy. The book is divided into two volumes. The first volume has chapters on historical background, the natural history of hydrocephalus, medical and surgical treatment. The second volume deals with the long term results of treatment, surveillance of CSF shunt function, complications, and finally available shunt systems.

While entitled "Infantile Hydrocephalus", the book is really a review of the clinical management of hydrocephalus with the emphasis on younger children. No specific attempt is made to distinguish pathogenesis, treatment and complications in infants versus older children or adults. The chapters are detailed, comprehensive and well referenced, and Professor Di Rocco manages to make a balanced presentation in controversial areas. The chapter on historical aspects is particularly detailed and interesting with a number of examples of Italian Documents from the 17th and 18th century. However, there is nothing particularly new or innovative described in the book. It's not clear why the book is divided into two very small volumes, and the book is expensive.

The book is a very solid review of the clinical management of hydrocephalus, particularly in children. A broad spectrum of physicians will find it a useful reference.

*James M. Drake
Toronto, Ontario*

NEUROLOGY AND NEUROBIOLOGY, VOLUME 60: ADVANCES IN NEURAL REGENERATION RESEARCH. 1990. Edited by Fredrick J. Seil. Published by Wiley-Liss, New York. 422 pages. \$94 Cdn. approx.

This book summarizes the proceedings of the Third International Symposium on Neural Regeneration held in December 1989 at Asilomar, California. With the use of camera-ready manuscripts, the book was published less than one year after the meeting.

The five sections, corresponding to half-day sessions, are entitled Axonal Growth and Synaptic Plasticity, Neural Growth Promoters and Inhibitors, Astrocyte Reactions in Injury and Regeneration, Molecular Mechanisms Relevant to

Regeneration, and Spontaneous Recovery of Function after Spinal Cord Injury. Brief descriptions of a few of the 31 chapters indicate the scope of the book.

Heumann and co-authors (Martinsried & Oxford) describe elegant work done over the past five years indicating how the synthesis of nerve growth factor is enhanced during Wallerian degeneration by interleukin-1 released from macrophages. A role for NGF in regeneration is suggested by the fact that regeneration of sensory but not motor axons is impaired in mutant mice which fail to recruit macrophages into the endoneurium. Walicke (San Diego) reviews her work on the neurotrophic and gliotrophic actions of fibroblast growth factor and describes a modulatory influence of transforming growth factor- β . It is virtually impossible for any book to be up to date in the field of neurotrophic factors: genes for ciliary neurotrophic factor, neurotrophin-3 and a third molecule influencing neurotransmitter plasticity have all been sequenced since the manuscripts for this meeting were submitted.

The section on glial cells includes chapters by Miller and Smith (Cleveland) and by David (Montreal) describing permissive, non-permissive, and perhaps inhibitory effects of astrocytes and oligodendrocytes on axonal growth. Graeber and Kreutzberg (Martinsried) describe glial reactions surrounding axotomized anterior horn cells and Ritchie (Yale) writes on voltage-dependent ion channels on glial cells, each article reflecting many years of laboratory experience.

Chapters in the section on molecular mechanisms survey topical fields of molecular and cell biology germane to neural repair. Hanley and Benton (Cambridge) draw attention to three overlapping families of molecules: heat shock and stress proteins, proto-oncogenes and calcium signalling. One begins to think that cascades of molecular interactions that maintain neuronal homeostasis may rival coagulation events in their complexity. Studies on homeobox domains (Papalopulu et al, London) and the compound eye (Rogge & Banerjee, Los Angeles) in *Drosophila*, esoteric to many clinicians, indicate how simple invertebrate systems can be used to discover broadly applicable principles of neural development and plasticity.

The book provides a good overview of current research in neural regeneration. Even better would be to attend the next Asilomar meeting on regeneration presumably in 1992.

*Peter Richardson
Montreal, Quebec*

PARKINSON'S DISEASE. 1990. Edited by Gerald Stern, M.D. Published by John Hopkins University Press. 675 pages. \$127 Cdn. approx.

James Parkinson's seminal essay on the shaking palsy in 1817 is a medical classic. There have been several textbooks published on Parkinson's Disease in the last few years but these have emphasized a limited number of aspects of the condition.

The text on Parkinson's Disease edited by Stern is a tour de force of current knowledge of Parkinson's Disease. It is a multi-authored text written by selected authorities in the field. The first section provides a detailed background for the reader in the anatomy, physiology, biochemistry and pharmacology of Parkinson's Disease and relates these areas to provide a functional overview of the basal ganglia regions. The pathology of

Parkinson's Disease is covered exhaustively in this section and there is also coverage of new aspects of research in Parkinson's Disease including the surgical replacement of dopaminergic cells in the basal ganglia.

The second section of the book covers the major clinical aspects of Parkinson's Disease including the etiology, epidemiology, salient clinical features of Parkinson's Disease and its natural history. Case histories are used to clarify various aspects in this clinical section. There is also a good section on the practical classification of parkinsonian syndromes and their differential features.

The section on therapy for Parkinson's Disease includes a general overview of the principles of medical and surgical therapy for this condition. There was also a detailed discussion of specific drugs used currently in Parkinson's Disease as well as the complications of medical therapy. This section presented the current approach to surgical treatment and its place in modern therapy for Parkinson's Disease. There is a final section dealing with some aspects of current research in Parkinson's Disease.

Overall, the book is easy to read, well written and clearly referenced. Sensory symptoms in Parkinson's Disease is perhaps the only clinical aspect that is not dealt with in any significant detail.

The text will appeal to trainees in the neuroscience field as well as the practicing neurologist.

*R.D.G. Blair
Toronto, Ontario*

CURRENT AND FUTURE TRENDS IN ANTICONVULSANT, ANXIETY, AND STROKE THERAPY. 1990. Edited by Brian S. Meldrum and Michael Williams. Published by John Wiley & Sons. 555 pages. \$156 Cdn. approx.

Although the title of this book may appear a bit confusing, the rationale behind it is relatively simple. It presents the proceedings of a recent symposium held in May 1989 on the chemical and biological properties of several compounds which may have a potential therapeutic effect in different areas of brain research. The link between these compounds and their potential therapeutic use in epilepsy, anxiety states and stroke is in many cases through presumed common pathophysiological mechanisms. The book itself is divided into four sections, the first three cover therapeutic aspects of epilepsy, anxiety and stroke while the last section gives a synopsis of different novel compounds presently under investigation in these areas of research. Although much of the thrust of this book revolves around pathophysiological principles and molecular mechanisms of disease and therapy, some attention is given to more clinically oriented aspects, especially in regards to epilepsy and stroke prevention. A good example of this is the chapter entitled "anti-epileptic drugs: historical perspective, current therapy and clinical investigations". The subsection on clinical trials of anti-epileptic drugs gives a good outline of how one can use clinical methodology to answer a clinical question relating to drug efficacy. Maybe of more special interest for basic researchers is the section on new compounds where the pharmacological, toxicological and potential therapeutic properties of several investigative substances are reviewed. This book does not address itself to the general neurologist or neurosurgeon, but rather more so to indi-