

mercy of teaching provided by their local neuropathologists, and available resources that can effectively involve the reader and provide some form of assessment. This latter requirement is effectively addressed with Richard Prayson's second edition work entitled *Neuropathology Review*.

This book is clearly not intended to cover all of neuropathology, but rather serves as a quick reference and study guide for residents preparing for 'board level' examinations. Its approach is unique among neuropathology references. There is a single chapter covering normal histology, followed by ten chapters covering the most important pathologic features of the major categories of neurologic disease. Each chapter is written in point form, and aims to cover only the essential points for each topic. No images are included in this first section of the book. Despite the point form layout, the book is surprisingly readable, and the content can be efficiently reviewed.

By far the most useful part of the book, however, is the second half, which contains a lengthy self-assessment. Chapter 12 contains no less than 300 questions with associated images (black and white only), and brief explanations are provided in Chapter 13. Chapter 14 provides an additional 250 multiple choice questions without images, again with a separate chapter follows to provide answers. Even more helpful than these sections is the accompanying CD, which contains all of the questions with images, but in full color, and is presented using an intuitive and attractive interface that works seamlessly with either Macintosh or PC systems.

While this book does serve a unique and valuable role for the resident reviewing for examination purposes, it is likely of little utility for the practicing neurologist, and too advanced for those without prior exposure to neuropathology. Other shortcomings include the lack of adequate explanations for the multiple choice questions provided on CD, which would have made this section invaluable for study purposes. In addition, the references provided after these short explanations occasionally led the reader to a different topic altogether. These minor problems are most certainly outweighed by the benefits offered by this book, most notably in its abundance of self-assessment questions which are challenging and relevant. Any senior resident in clinical neurosciences would do well to consider this book for study purposes.

Gary Hunter

Saskatoon, Saskatchewan, Canada

and Dr. Gereau and Dr. Swanson have assembled an impressive array of experts to provide an update in this burgeoning field. The book has fourteen chapters. The first eight are devoted to ionotropic glutamate receptors. The first four of these chapters provide a detailed account of what is known about ionotropic receptors. This treatment of the receptors, includes their genes, topology, basic structure and *in vitro* and *in vivo* data on the function of these receptors. There is also a description of the expression, trafficking and targeting of these receptors and sections on the interactions of these receptors with other proteins and small molecules. Finally, the pharmacology of these receptors is discussed and what each of the contributors considers to be the future direction of research in this area. Following the description of each of these ionotropic receptors, namely AMPA, NMDA, Kainate and Delta receptors, there is a chapter on synaptic plasticity and another on the structural correlates ionotropic glutamate receptors in general. Chapter 6 deals predominately with structure activity relationship of ionotropic glutamate receptors and Chapter 7 deals with modulators of AMPA glutamate receptors. Chapter 8 reviews the contribution of NMDA receptors to neuronal damage in acute hypoxic ischemic injury and in neurodegenerative disorder such as Alzheimer's disease, Parkinson's disease, Huntington's disease, HIV associated dementia, Multiple Sclerosis, Glaucoma and ALS. They review drugs such as memantine that are thought to be antagonists of the NMDA receptors and that are used to treat some of these disorders.

Chapters 9-14 are dedicated to the review of metabotropic glutamate receptors. Chapter 9 provides an overview of the structure of these receptors. The rest of the chapters are divided into Group 1 (mGlu1 and mGlu5), Group 2 (mGlu2 and mGlu3), and Group 3 (mGlu4, mGlu6, mGlu7 and mGlu8) metabotropic glutamate receptors. This detail is followed by a chapter on glutamate receptor ligands as therapeutic agents for diseases such as anxiety disorders, Parkinson's disease, schizophrenia, drug abuse and pain.

This book contains a significant amount of detail with respect to all aspects of glutamate receptors, their function in normal neurotransmission and their involvement in disease. It is certainly not a book for a casual reader. The editors rightly point out in their preface that "this collection will serve as valuable resource for scientists and students". This book is undoubtedly a very important contribution to the field of glutamate receptors and I would highly recommend it to laboratories engaged in neuroscience research.

Sultan Darvesh

Halifax, Nova Scotia, Canada

THE GLUTAMATE RECEPTORS. 2008. Edited by Robert W. Gereau IV, Geoffrey Swanson. Published by Humana Press. 574 pages. Price C\$149.

Glutamatergic excitatory neurotransmission is arguably one of the most important systems in the brain. Glutamate and its receptors are key components of this system and are important in normal function of the brain and are also involved in a number of disease states. Glutamate exerts its effect via two broad classes of receptors, namely ionotropic receptors and metabotropic receptors. Recently, there has been a considerable explosion of knowledge in this field

REVIEW OF HANDBOOK OF PARKINSON'S DISEASE. FOURTH EDITION. 2007. Edited by Rajesh Pahwa, Kelly E. Lyons. Published by Informa Health Care. 500 pages. Price C\$245.

The fourth edition of the *Handbook of Parkinson's Disease* is edited by Rajesh Pahwa and Kelly Lyons who were colleagues of the late original editor William C. Koller in Kansas and who co-edited the previous edition. The first *Handbook of Parkinson's Disease* was the first book in this handbook series, with the current edition being

the 92nd, highlighting the success of this volume and of the series. So the obvious question is should one invest in the new handbook?

The current handbook is multi-authored as were the previous editions. Despite this there is consistently good writing quality. This is likely related to the choice of authors who are experts in basic science and in the care of Parkinson's disease patients with particular interests in the areas about which they wrote. A range of relevant topics from basic pathophysiology to practical aspects of care is covered. Both motor and importantly non-motor topics are discussed. The latter is an area of increased interest, given the evolving appreciation that non-motor aspects including sleep disorders, cognitive disorders and behavioral disorders, including depression and psychosis, have a major impact on the well being of patients and their carers. As with most medical works the focus in this book is on the patient. Practical and up-to-date advice regarding care is presented in the relevant chapters. Developments in surgical management of PD have become mainstream and continue to evolve and to be studied. These too are well covered. Non-medical aspects of care including occupational and physical therapy and speech and speech and swallowing assessments are also considered. The final chapter on complementary and alternative medicines was an excellent finale.

I used the book in two ways. First, I dipped into it while preparing for an undergraduate course in neurodegenerative disease and I also read it from cover to cover. I found it less useful than review articles from the literature in preparing lectures, but I did find that some of the basic science perspectives were interesting and worth reading. In particular, I enjoyed Jankovic's chapter relating pathophysiology to clinical assessment (which I remembered

reading in previous incarnations) and the chapter by Rao on neurochemistry, which was a useful review. The chapters on pathology through animal models and electrophysiology were all good. In the end I recommended that undergraduates use selected articles from the literature as source material, but a lecturer could use the book to gain perspective on the field.

I found that I looked forward to plowing through the chapters. I picked up tidbits here and there that I think could help in the care of my patients and in my research. With my biases in mind, I think it would have been nice to have a chapter on parkinsonism and aging, though one could argue that this is beyond the scope of the book.

I was disappointed in the quality of illustrations in the book, but admit that they were adequate. There were no color illustrations. In addition I think that more tables could have been used to highlight key issues and flow diagrams could be used in outlining care pathways.

In the end I felt that this was a useful update from the previous edition and would recommend it for libraries and to clinicians caring for patients with Parkinson's disease. It might not work as well as a handbook - it strikes me as more of a textbook. Regardless, I enjoyed it and my reading through it, one hopes, says something about the book rather than a lack of other reading material.

*Richard Camicioli
Edmonton, Alberta, Canada*