feature, however you can always return to the index for the next topic, so it is easy to get around. You can "pause" the "videos".

The labeling of the detailed anatomy is sometimes intrusive and when "relationships" are shown, the number of structures, arrows and labeling can be intrusive and excessive. As well, some of the brainstem videos are very detailed and could be simplified, although I like the trick of coloring and highlighting the tract under discussion. Nevertheless, it is accurate and with time and patience, a lot can be learned quickly. I would advise scanning the contents at first and returning to selected parts of the CD for more intense review and study.

On balance, I would suspect that most training programs would be well served by having this program available as a resource, as would any other persons or groups with an interest in this area. Most medical students would find it interesting but too advanced. I suspect most practicing neurologists and neurosurgeons would not purchase this volume on first glance, but neurologists and neurosurgeons are sometimes a peculiar group, in that their love for "all things neurological" sometimes cannot be overcome, especially when the "neurology" is presented with such elegant learning technologies. I liked this product and learned a lot, all in "good taste" so to speak!

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CELL NEUROBIOLOGY TECHNIQUES. NEUROMETHODS, VOLUME 33 and IN VITRO NEUROCHEMICALTECHNIQUES: NEUROMETHODS, VOLUME 34. 1999. Edited by Alan A. Boulton, Glen B. Baker and Alan N. Bateson. Humana Press, Totowa, New Jersey. 391 pages, and 296 pages respectively. C$129.35 each – approx.

These contributions to the large series of "Neuromethods" volumes, focus on methods used widely in cellular neuroscience, describing both long-established approaches such as autoradiography and receptor binding assays, and newer methods such as differential display PCR. With distinguished Canadian editors, and a large number of Canadian contributors, these volumes attest to the strength of Canadian research in cellular neuroscience.

Volume 33 "Cell Neurobiology Techniques" describes a variety of approaches, such as cell culture techniques, the use of c-fos immunocytochemistry as a marker of neuronal activity, and the analysis of post-mortem brain tissue. Volume 34 "In vitro Neurochemical Techniques" covers ligand-binding techniques, electrophysiological approaches to receptors, and a number of contemporary molecular biological approaches, signal transduction, and protein phosphorylation methods.

In the highly specialized field of scientific publishing, "methods" books can be best sellers. Most laboratories where any kind of molecular biology is done have dog-eared volumes of "Maniatis" (Sambrook, J., E. F. Fritsch, and T. Maniatis. 1989. Molecular Cloning: A Laboratory Manual, Second Edition, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.) standing on a convenient shelf. The ideal methods book should have general information about the range of applications of a particular technique, preferably with some successful examples. This should be accompanied by a sufficiently detailed description of the underlying principles and theories to enable novice users to appreciate the pitfalls and limitations of the technique so that they can avoid over-interpretation of the results obtained, and do some trouble-shooting when things go wrong. Finally, of course, there has to be a detailed "cook book" description of the procedure, presented in sufficient detail for it to be followed, step by step, at the laboratory bench, without reference to any other source.

This ideal is achieved in some chapters, but overall the editors could have exerted a firmer hand on the contributors to ensure uniformity of content. Some chapters are heavy on theory, but light on detailed procedures. Others launch fairly quickly into the cook book section without adequate discussion of the applications or principles involved. The least helpful chapters, fortunately few, are those which are a review of the author's own research using the method supposed to be the topic of the chapter.

Together, the two volumes cover a remarkable range of techniques, but paradoxically this is likely to diminish their appeal. Methods books are usually purchased when an investigator wishes to introduce a new technique into the laboratory: a patch-clamper who wishes to do some *in situ* hybridization on the cell population of interest, for example. It's rather unlikely that they will also want to know about methods for studying signal transduction. For this reason, I recommend these helpful volumes as a purchase for an institutional library, where many individual investigators will be able to select those one or two chapters which will be useful to them.

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ADVANCES IN NEUROLOGY VOLUME 77: CONSCIOUSNESS: AT THE FRONTIERS OF NEUROSCIENCE 1998. Edited by Herbert H. Jasper, Laurent Descarries, Vincent F. Castellucci, Serge Rossignol. Published by Lippincott-Raven. 299 pages. C$217.21 approx.

As neurologists, we tend to think more about the presence of unconsciousness, rather than consciousness. As well, our thinking is very concrete: What is the patient's Glasgow Coma Scale score? Are brainstem reflexes present? In this book, philosophers, psychologists, physiologists and neuroscientists explore the meaning of consciousness. *Consciousness: at the Frontiers of Neuroscience* is the result of a symposium on consciousness held by the Université de Montréal. The list of 19 contributing authors reads like an international Who's Who of researchers in this field, including Herbert Jasper.

The book is organized into eighteen chapters, each written by a different author. The chapters are roughly grouped into six sections: historical perspectives, consciousness as a study object (philosophical discussions), consciousness as a function (neuroanatomy and neurophysiology), contents of consciousness (neuropathology and neuropsychology), models of conscious experience (electrophysiology) and a general discussion. At the end of each chapter is a discussion, in question-and-answer format, by the attendees at the symposium.

The book is a scholarly and scientific review which undertakes, through our knowledge of neuroanatomy,

neuropathology and electrophysiology, to explain consciousness. Although the book can be difficult to read (if you do not have a background in philosophy or psychology), much of it is extremely well written and provides insight into phenomena we all experience. I found the discussion on consciousness and sleep particularly interesting, and now understand why certain noises (i.e. the beeping at the crosswalk which sounds just like my pager) in my neighborhood wake me up when I am on call, whereas I am not conscious of hearing them otherwise. The discussions regarding the importance of language to the development of consciousness were also thought-provoking.

The book is not written for the clinical neurologist, and does not offer any guidance in the management of patients with impairments of consciousness. This is not a criticism of the book, as clinicians are not the intended audience.

In summary, this is an excellent, up-to-date review of the study of consciousness. It is well laid out, and follows a logical sequence. The discussions following each chapter are particularly insightful. It is designed for those readers interested in understanding the questions regarding consciousness, but will not be helpful to the clinical neurologist for patient care.

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STROKE THERAPY. 1999. Edited by Leonard P. Miller. Published by: A John Wiley & Sons Inc. 436pp C$187.50 approx.

Stroke neurology received a big boost with the introduction of an old drug (rtPA) as the first therapy for acute ischaemic stroke. Even as interest has heightened in stroke care, the failure of a lengthy list of neuroprotective drugs has been underscored. Drug development is a complex bench-to-bedside sequence of which few have an intimate knowledge of all the steps. Dr. Miller's book, Stroke Therapy, explicitly aims to explain and elucidate the bench-to-bedside science of drug development and trial design in the field of stroke.

This is a multi-authored text with 16 chapters in three sections. The first is introductory with two chapters on the pathophysiology of stroke and animal models in basic stroke research. The second comprises ten chapters, each discussing one aspect of the ischaemic cascade to neuronal death and potential therapeutic avenues within it. The final section has four chapters discussing stroke trial design, treatment, clinical aspects of peri-operative ischaemia and future directions.

The book covers a large amount of information and, in places, is excellent. Thus, as a reference manual it succeeds and will be useful to the physician with a particular interest in stroke. In its entirety, however, it is slow going, with a lack of consistency of style across the chapters. Many of the authors repeat what the previous authors have said. Where some chapters have a flowing prose, others read like lists. The text is irritatingly marred by glaring typographical errors in the majority of chapters, something that should not occur in this age of automatic spell checking.

Several chapters are worth noting. The introductory chapter, Cellular and Vascular Pathophysiology of Stroke by Vaughan and Bullock, is an excellent review which highlights the important targets for potential neuroprotective drugs. The middle section of ten chapters shows the diversity of potential therapeutic approaches to stroke. Many of these were not imagined 10 years ago. The chapters on NMDA receptor antagonists, nitric oxide and apoptosis respectively all deserve attention. Finally, del Zoppo, Zivin and Miller in their two clinical chapters emphasise the importance of early treatment as the major lesson learned from both the success of the NINDS rtPA trial and the failure of the neuroprotection trials. They imply that the unsuccessful results of neuroprotectant drug trials may not be due to lack of efficacy but instead due to problems with trial design.

Overall, the book contains a plethora of important information that the student, scientist or clinician will use as a background reference. The book looks to the future of stroke care by embracing the vast potential of neuroprotection and encouraging ischaemia researchers to continue to improve trial design. I recommend it for only those with a defined interest in cerebral ischaemia and its therapy.

*Michael D. Hill*
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DIZZINESS, HEARING LOSS AND TINNITUS. 1998.By Robert W. Baloh. Published by F.A. Davis Company. 256 pages. C$84.50 approx.

Dizziness, tinnitus and deafness are the three ugly symptoms of the Neurology Outpatient Department, in part because they are perceived as hard to diagnose and usually impossible to remedy. To Dr. Robert Baloh, however, the appearance of such symptoms is welcome as his lifetime works spent characterizing them has induced knowledge and, as a result, understanding. He does a service in transforming his insights into a text which is compact yet comprehensive, clear and authoritative. His approach is traditional – anatomy and physiology; clinical evaluation; diagnosis; and treatment but it is lightened by callout boxes, flow charts and over 80 visual aids in 200 or so pages. The book contains all that a neurologist needs to know in order to replace suspicion of these symptoms by interest and will streamline their analysis and enhance their ability to manage these symptoms effectively. Every neurology department should have a copy of this book for residents and any clinical neurologist who feels a need of any further updating in neuro-otology could not do better than purchase this book.

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OPIOIDS IN PAIN CONTROL: BASIC AND CLINICAL ASPECTS. 1999. Edited by Christopher Stein. Published by Cambridge University Press. 359 pages. C $133.00 approx.

The editor comments, in the preface to this book, that there have been no recent books that focus on analgesic actions and integrate basic research with clinical applications with regard to opioids. He states that the past several years have seen some exciting research developments shedding new light on mechanisms of opioid analgesia and have stimulated novel