could have been enhanced with further images. It certainly does not exceed the quality of anatomical cadaveric dissections described in other texts or in the literature.

The next chapter by Marchall and Civit describe the neurosurgical concepts and approaches to orbital tumors. In general this chapter complements the previous one nicely, however there is some overlap. The benefit of this chapter is that it discusses the various etiologies of orbital pathology and breaks it down to both pediatric and adult age groups. A number of different tumors are described in detail including the presentation imaging natural history and indications for surgery. This is a fairly comprehensive list but reviewed in a succinct fashion. The same surgical approaches are reviewed as in the previous chapter. There are additional intraoperative photographs which help the reader visualize the description provided in the text.

Di Ricco and coworkers provide an extensive review entitled "Endoscopic 3rd Ventriculostomy and the Treatment of Hydrocephalus in Pediatric Patients". In this detailed discussion the authors review the history of endoscopy, in particular neuroendoscopy, as well as the ventricular anatomy and the instrumentation currently available. This chapter provides extensive references to current literature as well as outlining current indications, pathogenesis and outcomes from treatments for conditions such as aqueductal stenosis, posterior fossa tumors, post-hemorrhagic hydrocephalus, post-infectious hydrocephalus, Dandy Walker syndrome, and hydrocephalus associated with myelomeningocele. They also discuss how to determine outcomes after the procedure, including clinical signs, ICT monitoring and neuroradiological findings. This chapter is very thorough and detailed in its discussion of this topic, perhaps a little too much so.

Mavorcodatos and Cahana discuss "Minimally invasive procedures for the treatment of failed back syndrome". In this they review the magnitude of the problem, both in terms of prevalence and socioeconomic impact. They review the dilemma of evaluating patients with this condition, including difficulties in history and physical examination. They discuss other diagnostic procedures which can be used to help direct further therapies. At this point in the chapter it becomes unclear whether they still focus solely on failed back syndrome or whether their approach can be applied to low back pain in general as some of the diagnostic procedures described are commonly used in our initial core evaluations. The authors provide a number of algorithms which suggest possible investigation and therapeutic routes for these patients. As the authors are nonsurgeons, they tend to lean more towards percutaneous procedures. They probably could have been a little bit more fair with regards to discussing surgical outcomes for various conditions. With some of these drawbacks kept in mind overall this was an interesting chapter to read.

This edition concludes with a discussion of "The Surgical Anatomy of Calvarial Skin and Bones" – with particular reference to neurosurgical approaches by Fournier et al. In terms of the goals of the book, to help neurosurgical trainees, this is probably the best chapter. It gives a good description of the anatomy of the scalp and calvarium with an excellent discussion of issues that need to be taken into consideration when planning and performing skin flaps for craniotomy. The authors specifically do not go into great detail about any specific pathological processes but rather give an overview of devising surgical approaches.

Overall, this book provides some interesting information but due to its diverse nature, there is no cohesive theme that runs through it. Also the translation into English from the authors' native languages has led to a number of grammatical and spelling errors which were somewhat distracting. Despite this, I think that this is a good book that provides useful information. However, I wonder whether having this compilation together in the textbook at this cost supersedes what is available in other textbooks or in the general literature.

Sean Christie
Halifax, Nova Scotia

How to Examine the Nervous System. Fourth Edition. 2006. By R.T. Ross. Published by Humana Press Inc. 242 pages. Price C$150.

Written in the voice of a wise and experienced teacher who is patiently seeking to pass on the time-honoured fundamentals of the neurological exam, Dr. Robert Ross's text, now in its fourth edition, contains many neurological nuggets. What shines through is a respect for neurological tradition, the author's clinical acumen and wealth of experience. There is a focus on the details of the neurological exam and interpretation of findings on a neuroanatomical basis. Etiological possibilities implied by lesion localization are often included.

Strengths of the volume include concise, clear writing; high-quality illustrations; detailed discussion of individual muscle testing (eg., avoid flexion of the terminal thumb phalanx when examining opponens pollicis strength) with excellent photos and inclusion of many practical hints such as the use of the string test for examining visual fields.

It would have been helpful in the preface to state to whom the book is primarily addressed. Cleary, this is a book for medical students first learning the neurological exam but would be insufficient for Neurology or Neurosurgery residents.

There are several areas where the book could be improved as an introductory text. Disproportionate attention is given to the cranial nerves (120/209 pages) and especially neuro-ophthalmology (86 pages). The organization of the text and chapter divisions are a bit confusing. Some chapter titles are based on systems to be examined and others on symptoms or signs. The first seven chapters might have been better condensed into two: one on the afferent visual system and the second on visuomotor and pupillary function. The chapter on "Disorders of Speech" should be entitled "Disorders of Language" and could have been combined with Chapter 17. Occasionally the terminology is somewhat unusual: "diseases" of a cranial nerve instead of "lesions", "number-writing" instead of "graphesthesia", muscle "size" instead of "bulk", "Adie's syndrome" for the tonic pupil rather then "Adie's pupil".

There is an unevenness of depth at times. For example, there is mention of Stephen's syndrome (from a 1958 publication) at the top of the list of syndromes with CPEO. We read about the rare occurrence of an enlarged pupil ipsilateral to a carotid occlusion due to "ischemic atrophy of the iris", without mention of the much more common ipsilateral occulosympathetic paralysis due to carotid

https://doi.org/10.1017/S0317167100116543 Published online by Cambridge University Press

dissection or occlusion. Students could skip instruction about examination of the larynx with a laryngeal mirror or performance of caloric testing at the bedside in an awake patient which are presented as if these were part of the standard neurological exam.

There are a number of important omissions in the text. It would have been very useful to have a chapter devoted to neurological history taking and principles of localization rather then jumping right into the examination. No manual on the neurological exam should exclude mention of skull and spine exam, neck artery exam, detection of body asymmetries and common skin lesions associated with neurological conditions. Some retinal photographs would also have been useful. Techniques for examination of apraxia and agnosia are barely mentioned. The commonly-used Folstein Mini-Mental State exam would have been useful to include. No space is given to examination of the comatose or stuporous patient. No material specific to the pediatric neurological exam is found in the text.

In the various sections, there are a number of surprising omissions as well. Central (cerebral) causes of ptosis are not considered. Under the twelfth cranial nerve there is no mention of the fact that tongue atrophy often appears initially at the edges or of the importance of looking for fasciculations. Only ALS is listed under "diseases" of cranial nerve twelve. In the discussion of spasticity, velocity-dependence, one of its main characteristics, is omitted. Under reflexes we do not find the commonly-used four-point grading scale, mention of crossed adductor reflexes at the knees or mention of reflexes such as the Chaddock, which can be more sensitive than the Babinski. In discussing drift, pronation should have been highlighted as a subtle first sign of a drift due to weakness. There is no clear division in the sensory chapter between primary and cortical (integrative) modalities. The term "sensory extinction" is never used. Allodynia is missing from definitions of terms applied to pain or sensation.

There are also occasional errors. Most texts list L1-L2 as the main roots for the iliopsoas rather than L2-L3. To say that "jaw jerk, snout, and sucking reflexes are usually present" with the pseudobulbar syndrome fails to emphasize the commonly-seen increased jaw jerk. The statement "elevated blood pressure may cause disc edema" is misleading to a beginner since papilledema is seen only when blood pressure reaches extremely high levels. I would take exception to the advice that "the cheapest reflex hammer works exactly the same as the most expensive". Most neurologists have demonstrated time and again to students using the tomahawk hammer that, with the use of a properly-weighted hammer such as the Queen Square model, previously absent reflexes magically seem to reappear. The text is almost devoid of references and inclusion of selected references would be an improvement.

Despite these shortcomings, this text does a reasonable job in instructing students about the importance of first-hand observation in unravelling the diagnostic challenges presented by neurological patients. The clinical data have become even more important with the advent of costly and ever more sensitive tests such as specialized neuroimaging studies. This book, despite some of the reservations mentioned above, is a testament to that fact.

Alan Guberman
Ottawa, Ontario

NEURODEGENERATIVE DISEASES: NEUROBIOLOGY, PATHOGENESIS AND THERAPEUTICS. 2005. Edited by: M. Flint Beal, Anthony D. Lang, Albert Ludolph. Published by Cambridge University Press. 985 pages. Price C$500.

When I accepted to review this book, I did not expect this book to provide the most recent advances given that books normally take a long time from the writing phase to actual publication. I felt nonetheless that this was timely as the field had progressed rapidly over the last few years, so it was a good opportunity to stop and reflect. As presented by the editors, this book is intendedto provide the readers with the latest research from the basic aspects of neurodegenerative diseases to the various therapies. Their book is divided into ten sections covering basic aspects, neuroimaging, therapeutics, normal aging, Alzheimer's disease, Parkinson's disease and related movement disorders, cerebellar degenerations, motor neuron diseases and other neurodegenerative diseases. The authors are all internationally renowned leaders in their respective fields. The one feature of this book that I appreciate in other similar works, is the efficiency of the index.

In the first section, the first two chapters covers oxidative stress, whereas the subsequent chapters review the role of mitochondria, of excitotoxicity, apoptosis, protein misfolding, inflammation, ion homeostasis including Ca, Na, K, Cu, Zn. All these theories are explored comprehensively in a factual manner so no inference is made and no theory is editorially privileged over another. Some of these chapters are focused more specifically on selected diseases. There are also two chapters on animal models, genetic and toxic. Just prior to the imaging section, there is a chapter on the neurophysiology of motor diseases. In the imaging section, there are chapters covering anatomical and functional imaging and spectroscopy. Although the chapters on the different MRI technologies and spectroscopy are particularly strong, I would have wished for more on PET/SPECT aspects of diseases other than PD (e.g. amyloid marking, blood flow). The component on therapeutics consists of three chapters: the first deals with gene therapy and the other two explore stem cell therapy. These chapters provide an in depth understanding of the challenges of these futuristic but promising approaches. The section on aging focuses mainly on the effects of aging on memory from a clinical and pathological point of view. Very little is mentioned on the motor aspect and on the pathology other than memory related. The component on Alzheimer's disease covers mild cognitive impairment to the genetics and amyloid causes as well as the therapeutics. Definition of the different types of MCI, their evolution and paraclinical data and recent attempts at therapy are all covered. The clinical approach to AD is followed by concise chapters on pathology and genetics. After an introduction to therapy in general, the available treatments and those that are still under investigation are covered in greater details. Diffuse Lewy body disease, frontolobar dementia, fronto-temporal disease with parkinsonism associated to chromosome 17 are each summarized in a chapter. The different prion diseases (different forms of Creutzfeld-Jacob disease and fatal familial insomnia, Kuru, Gerstmann-Sträussler-Schenker) are reviewed in one chapter followed by one, quite comprehensive, dedicated to the biology of prions. The section on the parkinsonisms begins with chapters on the approach to parkinsonism and Parkinson's disease. The component on the pathology encompasses the pathology of the genetic forms of PD and the early markers of the disease. One chapter is dedicated to the genetics and another one deals with to the