

investigation, treatment and prognosis of specific tumours including low grade gliomas, pituitary tumours, meningiomas and primary central nervous system lymphomas, among others. Where there is no recognized treatment for a particular type of tumour, the authors suggest an approach to treatment. This section is well illustrated and replete with highlighted boxes, particularly boxes containing "Special Considerations" pertaining to the tumour under discussion.

Although there is clearly great potential for overlap between the general chapters concerning surgery, radiotherapy, etc and the chapters concerning specific tumours, the authors have done an excellent job of limiting this overlap by confining detailed discussions of each topic to the general chapters and mentioning only those details pertaining to specific tumours in the chapters concerning specific tumours. In my opinion the book could be improved in future editions by including more cross-references between the general and specific chapters to better integrate the theoretical material with the clinical material.

In general the text is well illustrated with examples of MRI images and diagrams. Each chapter includes a comprehensive list of the most important references for those who would like to explore the material in greater depth.

In summary, I would highly recommend this textbook of Neuro-oncology as an excellent reference for residents in Neurology, Neurosurgery, Radiation Oncology or Medical Oncology and for practicing physicians for whom Neuro-oncology is not their primary focus or area of specialty.

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**TOPICS IN INTEGRATIVE NEUROSCIENCE FROM CELLS TO COGNITION.** 2008. Edited by James R. Pomerantz. Published by Cambridge University Press. 427 pages. Price C\$140.

The goal of this 427-page book is to discuss four important problems in neuroscience in terms of recent discoveries and advances. The book has chosen, as chapter authors, researchers who are well recognized and accomplished in the specific fields.

Patricia Churchland, a Canadian-American philosopher who has focused on the interface between neuroscience and philosophy, writes the first chapter. She is associated with a school of thought called "eliminative materialism" which argues that folk psychology concepts such as belief, free will and consciousness will likely need to be revised as science understands more about the nature of brain function. Her recent work focuses on neuroethics, which makes for an interesting and though provoking introductory chapter entitled "Neuroscience, choice and responsibility".

The first section addressing higher order perception, predominantly related to the visual system, includes three chapters. The section begins with an overview followed by chapters on attention, visual perception and visual special attention. The three chapters provide different levels of analysis that are closely related to the methods used by the authors. The first chapter deals primarily with imaging, cellular, and genetic mechanisms as they relate to behavior. The second chapter discusses inter-cellular communication related to visual input. The third concentrates on the

imaging of the human brain in visual perception to develop links to cellular levels.

The second section discussing language includes an introduction and four chapters. The introductory overview is followed by the first chapter which deals with plasticity, the second which addresses the functional architecture of speech perception; the third discusses the impact of neuro-degenerative disease on language and the last presents data on why language is unique to humans. The first chapter provides a developmental perspective on the relative roles of intrinsic constraints and the role of experience in the differentiation of the language systems. The second chapter describes the neural and functional architecture of speech perception. The third chapter discusses the impact of neuro-degenerative diseases on language with a particular focus on neuro-imaging. The last chapter addresses the question of how the language systems are acquired by the young infant by combining behavioral and imaging techniques.

The third section addresses memory and includes an introduction and four chapters. The overview is followed by the first chapter discussing memory systems, the second chapter describing declarative memory, the third reviewing the role of the amygdala in auditory fear conditioning and the fourth discussing the roles of the hippocampal NMDA receptors in acquisition and recall of associative memory. The section considers the anatomy and animal of declarative memory and the structural organization of non-declarative memory. The last chapter in the section focuses on molecular basis of memory in the mouse model and specific roles of specific subunits within the NMDA receptor.

The final section discusses sensory processing and includes an introduction and two chapters. The overview is followed by a chapter discussing song selectivity in songbirds and a chapter discussing the role of voltage-dependent sodium currents in hair cells of the inner ear.

Overall this is a well-written, organized and thought-out book. The target audience for the book would include basic neuroscientist and trainees and neurologist or neurosurgeons interested in or involved in the study of vision, language and cognition.

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**NEUROPATHOLOGY REVIEW. SECOND EDITION.** 2008. By Richard Prayson. Published by Humana Press. 252 pages. Price C\$90.

With the advent of improved imaging techniques and sophisticated diagnostic tests, neuropathology receives less attention in training new residents than in years past. For example, while biopsy was required for many years in order to diagnose herpes encephalitis, molecular diagnostics have made this practice obsolete. Nonetheless, a thorough understanding of neurologic disease is not possible without adequate training in neuropathology, and many illnesses still depend on pathologic description for diagnosis. It is therefore of some concern that many neurology and neurosurgery residents will have little to no exposure to the brain cutting sessions of the recent past, and less hands on experience as medical school class sizes continue to grow. These trainees are therefore at the