

PRINCIPLES OF COGNITIVE NEUROSCIENCE. 2008. By Dale Purves, Elizabeth M. Brannon, Roberto Cabeza, Scott A. Huettel, Kevin S. LaBar, Michael L. Platt, Marty G. Woldorff. Published by Sinauer Associates Inc, USA. 757 pages. C\$105 approx.

The field of cognitive neurology is rapidly becoming a central focus to neurologists, particularly as degenerative brain diseases of the elderly continue to increase in number and new therapies become available. Cognitive neuroscience, the multidisciplinary background science underpinning cognitive neurology, has simply exploded exponentially in terms of techniques, imaging, and understanding of the molecular, cellular, and system basis for cognitive disorders such as memory loss. Hence a new comprehensive textbook of cognitive neuroscience, such as the present volume by a multidisciplinary group at Duke University, deserves attention in this journal.

This is a beautiful textbook for an undergraduate course in cognitive neuroscience. It is well-illustrated, extensive (757 pages), and comes with a cd-rom companion website on neuroanatomy. Their stated goal was not simply to summarize the received wisdom in "this rapidly evolving field", but also to point towards directions for future research and development by presenting current controversies and areas of uncertainty.

The first section is an outstanding review of general ideas underlying this field, along with a review of current techniques such as fMRI and transcranial magnetic stimulation, which are being used to advance our understanding of brain-behaviour relationships. After proceeding through all the domains of cognition (sensory, motor, attention, memory, emotions, language, executive function), the book finishes with a stunning review of current ideas on the evolution of cognition and human consciousness.

In recently preparing a lecture for neurology residents on Memory Function, I relied heavily on the book's section on Memory. This provided a detailed but readable review of current thoughts on the molecular basis of memory, different theories of declarative and non-declarative memory, along with the present understanding of working memory, and it was all done within 100 pages. It was up-to-date, comprehensive, and I can't think of a single important research theme in the field which was not addressed.

The only problem then, is the level of detail (and by extension, the recommended readership). I could not cover all of the detail provided in this text in my lecture to residents. And covering this detail would still have left them without information on clinical skills such as how to assess memory. Furthermore, it is even debatable whether residents must really understand controversies in memory theory (such as the standard model of consolidation, vs. the more Canadian multiple trace theory). In other words, there was far more background knowledge and information here than we would usually demand of our residents or neurologists. The general question has really become – with the explosion of the background neurosciences (including cognitive ones), how much detail does the practicing physician need? It would be even the rare cognitive neurologist who would read this entire volume!

In summary, this is a terrific background reference on cognitive neuroscience for any neurologist's bookshelf. My

suspicion is that, given the time demands on all of us, it might remain largely unread on that bookshelf!

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PINEAL REGION TUMORS. DIAGNOSIS AND TREATMENT OPTIONS. PROGRESS IN NEUROLOGICAL SURGERY. VOLUME 23. 2009. Edited by Tatsuya Kobayashi, L. Dade Lunsford. Published by Karger (Basel, Switzerland). 144 pages. C\$170 approx.

Tumors affecting the pineal region are relatively rare and have traditionally been viewed as intricate and challenging because of the difficulties associated with establishing a pathological diagnosis and the complexities and uncertainties associated with defining the most appropriate surgical treatment or adjuvant treatment. Over the past 20 years: neuropathological classifications have become more standardized; surgical approaches have been refined; neuroendoscopy has been added to the surgical armamentarium; radiotherapy and chemotherapy techniques have significantly improved; and finally clinical experience with these new modalities has expanded to allow reasonable assessment of treatment efficacy. We are in a new era concerning our understanding of what is best management for patients with pineal tumors.

Kobayashi and Lunsford bring to us a monograph that reviews pineal region tumors, capitalizing on the vast experience of the authors. The book starts with a fascinating chapter reviewing the epidemiology of 1,188 cases of pineal tumors identified from the Brain Tumor Registry of Japan. Germ cell tumors are undoubtedly more common in Japan than in the United States and Europe: 2.7% of all primary tumors in Japan, yet only 0.6% in the United States. The remainder of the book is divided into two sections: 1) Tumors of Pineal Cell Origin, and 2) Tumors of Germ Cell Origin. This is a pragmatic and intuitively useful organizational scheme. Each section starts with a review of pathological characteristics by Kazufumi Sato, and follows with chapters that discuss specific diagnostic and treatment issues: a chapter devoted to surgical approaches (Itaru Tsumanuma, Ryuichi Tanaka, and Yukihiko Fujii), and a group of chapters reviewing chemotherapy, conventional radiotherapy, and stereotactic radiotherapy (including a stereotactic radiotherapy chapter authored by Dade Lunsford).

The final chapter in the monograph by Kazuhiko Sugiyama deals with quality of life (QOL) issues in 52 long-term (>15 years) survivors of germinoma treated primarily with radiotherapy between 1968 and 1995. This chapter is an important finale for the book. However, while the authors report an impressive patient experience, it unfortunately represents QOL data for barely 4% of germ cell tumor patients identified by the Japanese registry in Chapter 1 and uses a very limited number of QOL indices. Twelve of these 52 patients died and 6 developed new secondary tumors. Just under half of 32 patients did not graduate from high school, and 28 of 32 (88%) were unable to hold a regular job. Success in care for patients with pineal region tumors has previously been defined