BOOKS RECEIVED

Myasthenia Gravis and Related Disorders. Second Edition. 2009. Edited by Henry J. Kaminski. Published by Humana Press. 310 pages. C$170 approx.

History of Cognitive Neuroscience. 2008. By M.R. Bennett, P.M.S. Hacker. Published by Wiley-Blackwell. 288 pages. C$150 approx.

Splendours and Miseries of the Brain: Love, Creativity and the Quest for Human Happiness. 2009. By Semir Zeki. Published by Wiley-Blackwell. 234 pages. C$33 approx.

Frontiers of Neurology and Neuroscience: Dementia in Clinical Practice. Volume 24. 2009. Edited by Panteleimon Giannakopoulos, Patrick R. Hof. Published by Karger. 184 pages. C$240 approx.

Ruminations: Memoirs of a Psychiatrist from India. 2008. By Jagdish "Jack" Dang. Published by Trafford Publishing. 359 pages. C$37 approx.

Photo Atlas of Skull Base Dissection: Techniques and Operative Approaches. 2009. By Masahiko Wanibuchi, Allan H. Friedman, Takanori Fukushima. Published by Thieme. 434 pages. C$306 approx.

BOOKS REVIEWED

An Introduction to the Visual System. Second Edition. 2008. By Martin J. Tovée. Published by Cambridge University Press. 212 pages. Price C$50 approx.

In this second edition, Martin Tovée's overview of the visual system is concise yet adequately detailed to provide a comprehensive view of the physiology of vision. He provides a researcher's perspective and touches on common clinical disorders. The text is thoroughly researched and complemented by his accurate knowledge of the subject matter.

He begins in Chapter 1 with a discussion of the cortical organization of vision, new functional imaging techniques and the concept of "cortical origami" - that is, the complex folds of the human visual cortex. This is consistent with his early stance that we see with our brain. Following this, the rest of the 12 concise chapters follows a logical journey starting with rods and cones and ending with higher visual centres in cortex. Thus Chapter 2 addresses the purpose of our eyes, to capture light and focus it on the sensory receptor cells. The work of eminent neuroscientists in the field of vision are quoted, including V.S. Ramachandran on blinking and filling-in. Chapter 3 describes in detail the role of photoreceptors in colour vision and the reasons we are considered trichromats. Chapters 4 and 5 cover the organization of the visual system from the optic nerve to the primary visual cortex. The blindsight oxymoron is skillfully explained. In Chapter 6 he provides a model for visual development and presents the simplest and probably most accurate explanation for amblyopia. Chapters 7 and 8 consider colour and object perception with clinical descriptions of dyschromatopsia and visual agnosia. He allocates a substantial portion of Chapter 8 and the whole of Chapter 9 to face recognition and interpretation and the role of these processes in human socialisation. The localization of face recognition to the fusiform gyrus, human emotion to the amygdala, and perception of disgust to anterior insular cortex by using PET and fMRI makes engaging reading. Chapters 10 and 11 cover motion and depth perception respectively. Tovée concludes on a philosophical note of reality versus fantasy in Chapter 12.

Tovée's book is both comprehensive (the 23 pages of references attests to his immense literature review) and comprehensible but has certain deficiencies. The publisher chose to provide greyscale illustrations with selected colour plates in the middle of the book, which saves on costs (for students, the price is certainly right) but makes the reading process more tedious. This is particularly annoying in the sections on colour vision: the figure explaining the difference between normal trichromats, protanopes, deuteranopes and tritanopes is barely comprehensible in the grey-scale version. Lists and tables would improve the clarity and promote understanding of key concepts: for example, the role of the various layers in the visual cortex in Chapter 4 would benefit from such tabulation. We enjoyed the anecdotes, such as his intriguing view on the influence on his art of Rembrandt's strabismus and lack of stereoscopic vision, and would have liked more. The index (all of three pages) is too scanty to be serviceable, to say the least.

The presentation of arguments in the vision scientific world is balanced and the current consensus and conclusions are clear to the reader. However, overemphasis on studies in monkeys does leave one undecided as to when the monkey ends and humans begin – not surprising perhaps for an author whose career lies in the laboratory rather than the clinic. Points that may be clear to visual neuroscientists (but not to clinicians) are sometimes taken for granted, such as the difference between Old world and New world monkeys, and the units of measurement for scotopic and photopic vision. Discussion of geons, greebles, far space and blobs may give the uninitiated the mistaken impression that they have wandered into Klingon territory.

The author's aim is to present a concise but detailed account of how the visual system is organized and functions to provide visual perception. It is achieved with admirable simplicity, given the target audience of students of visual perception, including undergraduates and clinical trainees with a professional interest in vision. He leaves us with concluding remarks that what we (think we) know is more an educated guess rather than a precise picture of the reality behind vision. This can only lead us to wonder, what will change in the next edition?

Anand Moodley, Jason Barton
Vancouver, British Columbia

https://doi.org/10.1017/S0317167100117603 Published online by Cambridge University Press