

concerning the applied basic science and the anatomy of the facial nerve, the clinical evaluation and management of patients with facial nerve paralysis, surgical procedures involving this structure and the rehabilitation for acute and longstanding facial paralysis. There is also a section concerning the related phenomenon of facial hyperkinesis.

Overall, the book is well-illustrated and comprehensively covers every disorder imaginable involving the facial nerve. As multiple authors, each experts in their own rights, have contributed chapters, it goes without saying that some duplication exists in the book from time to time. There are excellent chapters, however, on Bell's palsy, trauma to the facial nerve and skull base surgery where it involves the facial nerve. Worthy attempts have been made in the book to define the natural history and the role of surgery in the management of Bell's palsy. The last half of the book, which essentially deals with the acute and chronic management of facial paralysis, reads for the most part like a surgical atlas and describes essentially all the dynamic and static techniques that are available for facial rehabilitation.

In my opinion I suspect this book will be of primary interest to those who are involved in the surgical treatment and rehabilitation of patients with facial paralysis. Apart from the treatment of patients with Bell's palsy as such, I'm not necessarily sure the majority of neurologists or neurosurgeons (unless they are involved in acoustic neuroma or lateral skull base surgery) will find this book of sufficient interest.

For those otolaryngologists, facial plastic surgeons and physiatrists who have an interest in the facial nerve, this book would be well worth considering for one's library.

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AMYOTROPHIC LATERAL SCLEROSIS, 1ST ED. 2000. Edited by R. H. Brown Jr., V. Meininger and M. Swash. Published by Martin Dunitz. C\$116.25 approx.

It is interesting to witness the dramatic increase in research undertaken in recent years to understand the disorder amyotrophic lateral sclerosis (ALS). As recently as 20 years ago this disorder was studied by only a few investigators, and was relegated to relative obscurity with the view that it was untreatable and incomprehensible. Over the past several decades numerous insights in Neurobiology have occurred which have had both direct and indirect relevance to ALS, making ALS a relatively popular topic for research. These insights include the identification of gene mutations in patients with the familial form of ALS (FALS), such as the identification of mutations in the gene for Cu/Zn superoxide dismutase (SOD), the creation of animal models having features similar to ALS, and other findings about the cell biology of the motoneuron. Yet, even these insights have given rise to further questions, such as why do gene mutations which do not appear to affect the activity of SOD lead to ALS? What is the relation between the effect of the mutations found in the familial disease to those found in the much more usual sporadic form of ALS where no defects in SOD function or SOD gene function are found? If mutations in the gene for SOD occur in only 10-20% of patients with FALS what other genes are involved? What is the potential role of growth factors in the maintenance of neuromuscular function?

This multi-authored book, edited by Drs. Brown, Meininger and

Swash serves as an overview of many of the currently favoured pathophysiological mechanisms in ALS. The book is divided into six broad sections. These include clinical features, pathology, functional and physiological studies, pathogenesis, therapeutic approaches, as well as patient care. Chapters by many of the leading investigators in ALS research are represented, providing an update of research findings in their respective areas. As in any edited work there is variability in the quality of the various contributions. Although there is considerable discussion of clinical aspects of ALS diagnosis and treatment I think that this book would be primarily of interest to a physician or researcher involved in neuromuscular disease, rather than to a general neurologist. Even some of the clinical topics covered in the book may be regarded as relatively obscure for a general neurologist in North America; for example, the chapters on juvenile ALS or atypical forms of motoneuron disease in India. Nonetheless, these same chapters may be of considerable interest to the neuromuscular specialist who is puzzled by an unusual presentation of ALS.

The majority of the book deals with theory and data on the pathogenesis of ALS. These chapters function as reviews of selected topics in the pathogenesis of ALS. For instance, there are chapters on the role of oxidative stress, the role of mutant SOD, glutamate metabolism, etc. Unfortunately, many of the authors of these chapters are prolific writers of review papers. Thus, readers who are reasonably familiar with the ALS field may have the feeling of having seen a similar review paper on these topics previously. In spite of this concern, the book does have the merit of presenting up-to-date review papers under the same cover. As well, some of the chapters are very well-organized and interesting. For instance, the chapter of Drs. Bruijn and colleagues reviewing evidence from transgenic mouse on the role of neurofilament proteins and familial ALS-linked mutations in SOD. Also of note was a chapter on the genetics of ALS by Dr. Andersen and colleagues.

The editors of this book, Drs. Brown, Meininger and Swash are recognized experts in this area. Their expertise is complementary and permits an overview of the field. Thus, the book has an authority and a breadth which is often lacking in other works on ALS.

In summary, this book serves as a useful update into selected clinical and research aspects of ALS. It provides information on the state-of-the-art in ALS and will be a useful source for the neuromuscular physician as well as those seeking further information on ALS.

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COLOR VISION: FROM GENES TO PERCEPTION. 1999. Edited by K.R. Gegenfurtner and L.T. Sharpe (ed). Published by Cambridge University Press. 492 pages. C\$150.00 approx.

Like many highly specialised volumes, this collection of works is the product of a workshop, this one held in 1996. It aims to provide a wide view of the state of knowledge in colour vision research, ranging from the molecular to the cortical to the psychophysical level. Thus it is bound to contain fresh material for almost any reader, not excepting the professional colour scientist.

As a vision and eye movement researcher without a primary focus in colour, I found reading this work a highly informative experience. Naturally, in this DNA-mad era, the section with the greatest novelty value was that on the molecular developments. The

gene sequences of the human opsins of the L, M and S cone photopigments and of the rod photopigment have all been characterized, and their three-dimensional transmembrane structure worked out. The description of the variations in exon arrays of the L and M genes on the X chromosome and how their mutational rearrangements lead to the different forms of genetic colour vision defects was particularly lucid. The chapter on evolution of primate colour vision was absorbing, though as a neurologist, I wish that the authors had not stopped short of the cortex. Their ecologic suggestion that colour vision co-evolved with that of trees with yellow and orange fruit is one of those retrospectively obvious thoughts that triggers a number of associations. For myself, I realize now why it was always such a bad idea to send my deuteranopic brother-in-law, Steve, to buy groceries on my visits home.

The section on cortical processing possesses a well-written chapter by Lennie that challenges current dogma about both the existence of a colour-processing cortical stream and the specificity and status of colour constancy, two highly topical issues. It is curious that, despite a detailed chapter on the chromatic signals in V2 and V3, there is no similar discussion about V4. The fMRI chapter was disappointingly focused upon the authors' own work, and is dated by reports more recent than 1996, which purport the existence of an area V8. I was heartened to find an excellent chapter on the interactions between colour and motion, a topic of particular interest to me: Hawken and Gegenfurtner provided a good summary of an area that has swung between polarized opinions in recent years.

In surveying any work, one has to consider two audiences: that targeted by the book and those reading the review. In this case, I doubt that the two are the same. The book clearly aims at basic researchers with origins similar to the authors, and as such skimps on more basic descriptions of the math and physics of colour that physicians will sorely miss in reading this text. On the other hand, medically trained neuroscientists will find the elementary descriptions of DNA, RNA, signal transduction and fMRI principles unnecessary. The greatest disappointment to clinicians will be the lack of almost any discussion of the pathologic effects of disease upon colour vision. Apart from the section on congenital dyschromatopsia, there are only scattered references to acquired achromatopsia, and optic neuritis and retinal diseases do not even show up in the index, despite the existence of sizable literatures on all these issues (for an example of what might have been possible, see chapters in *Optic Neuritis*, edited by Hess and Plant, 1986). Likewise, there is nothing on the psychophysical or electrophysiologic testing of colour vision in the clinical setting.

For those with an interest in normal vision, the book is a solid summary of colour perception, though perhaps with more detail than desired by those whose lifework lies elsewhere. The clinically inclined will find little of relevance.

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