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By applying, the authors agree to the publication of the paper in the *European Spine Journal* under the heading of the AcroMed Prize for Spinal Research 1994 should they win the prize.

All submitted papers will be considered automatically for presentation at the Annual Meeting of European Spine Society, unless stated otherwise by the authors.

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BOOK REVIEWS

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Brain Activation. By PER E ROLAND. (Pp 589 Illustrated; Price: \$84.95). 1993. New York, Wiley-Liss. ISBN 0-471-50867-5.

In this comprehensive volume Per Roland, one of the fathers of this discipline, takes us through all aspects of the field. The book opens with chapters on the biochemical and physiological mechanisms underlying brain activation and reviews the possible neurotransmitter candidates for coupling changes in blood flow to neuronal activity. The relationship of cortical fields as defined by a number of workers including Brodman, Flechig, Braak, von Economo and Koskinas, to activation is then discussed. Following this, the book is divided into sections which describe the cerebral systems involved in processing specific modalities such as movement, language, memory, and vision; and sections which detail the functions subserved by the different cortical and subcortical areas. Finally there is a discussion on approaches to measuring brain activation and in particular the theory underlying the PET technique.

This book is a major piece of work and its value is likely to be as a reference text for those workers already engaged in this field.

The author exhaustively chronicles all activation studies reported up to 1991, including PET, Xenon, and SPECT approaches. Detailed tables of the stereotactic locations of foci that have been found in association with published paradigms are provided; these will be invaluable for anyone wishing to know whether a particular modality engages a particular cerebral area. The author also attempts to explain how all the various components of each cerebral circuit contribute to processing a particular modality, for example distinguishing shape by touch. Differences across PET groups are not always easily reconciled. If, however, one wanted to study a particular aspect of cerebral processing it would be easy to open this book and see whether other groups had attempted similar experiments.

Problems with this book were, firstly, the poor quality of the diagrams. These have largely been reproduced from other works. The PET scans showing activation changes are also at times unconvincing. It must be said that some of the author's findings are idiosyncratic, such as the finding of depression of striatal activity during learning which then reverses as performance improves. This is not the experience of other PET groups.

An important omission from this book is the absence of cerebral activation data in stroke and motor neurone disease, dystonia, Parkinsonism, and involuntary tremor. There is also little space devoted to functional magnetic resonance imaging in spite of the large amount of interest in its potential to measure cerebral activation.

In summary, this book is a valuable reference work. It should form part of the collection of anyone working in the field of cerebral activation. I greatly enjoyed reading it and have every expectation that it will be widely appreciated.

DAVID BROOKS

Electroencephalography: Basic Principles, Clinical Applications, and Related Fields/3rd Edition. Edited by ERNST NIEDERMAYER and FERNANDO LOPES DA SILVA. (Pp 1164 Illustrated; Price: £100). 1993. London, Williams & Wilkins. ISBN 0-683-06511-4.

This substantial book is the third edition to appear since 1981. The editors have sought the aid of fifty-three contributors mainly from the Americas to produce a volume of sixty-two chapters that covers the subject comprehensively. Both editors make substantial contributions to the text; Niedermeyer being involved in seventeen chapters either alone or in collaboration and Lopes da Silva in six. The chapters vary in length appropriately according to the topic considered. It is impossible in this brief review to list all of the areas dealt with but in addition to basic neurophysiology as related to EEG, recording methods, principles of EEG interpretation are covered. Other chapters consider the evaluation of candidates for surgical treatment for epilepsy and describe the place of sub-dural and depth electrodes as well as electrocorticography. EEG monitoring during surgery and prolonged monitoring in the evaluation of episodic disturbances of brain function are

described. Clinical Neurophysiologists in this country may find the seven chapters on evoked or event related potentials superfluous as they will have dedicated texts dealing with these techniques. Outstanding are Lombroso on neonatal polygraphy and Niedermeyer on epileptic seizure disorders. All the chapters have merit and the editors have encouraged contributors to express personal opinions even when they conflict with those of the editors. Generally well illustrated, well referenced and with a good index the book can be highly recommended with the reservation that some transatlantic practices differ from those used here but no comparable British text exists at present.

DAVID BARWICK

The Headaches. Edited by J OLESEN, P Tfelt-Hansen and KMA Welch. (Pp 893 Illustrated; Price: \$208). 1993. New York, Raven Press. ISBN 0-7817-0069-8.

This volume is a valuable collection by many respected headache workers and scientists. It is aimed at Neurologists and Researchers. After the International Headache Society's detailed classification, it has taken a great deal of effort from Prof Olesen and his expert colleagues to put together this well-contrived encyclopedia on the subject. But, the IHS classification is not without its detractors. One of us recently refereed a migraine trial using IHS criteria in which half the patients had neither aura nor nausea or vomiting: it was impossible to decide what sort of headaches were being treated.

The first section looks at the historical background, genetics, and epidemiology, and also gives a fair account of the new classification. The chapters of applied anatomy, physiology, psychology and pharmacology are well supported with figures and illustrations. The social impact of headaches is well discussed by Richard Lipton. Clinical descriptions and appraisals of therapy are of varying quality which the discerning reader will readily identify.

The middle section is devoted to migraine and there is a good but rather biased collection of work by a large number of authorities making this section highly technical. Different workers have obtained divergent results while studying cerebral blood flow but some of the conclusions drawn at the end are confusing. At the beginning of certain sections is an authoritative "how I do it" type of general overview discussing the general approach to treatment, but providing no references. Preceding the scientific accounts with references one might be forgiven for confusing it, at this stage, with a chapter meant for the medical students.

There are some interesting editorial arrangements such as having two authors for each chapter, one each from either side of the Atlantic. The editors must be congratulated for being largely successful in producing a liberally referenced comprehensive text. It can be confidently recommended as a reference source of up-to-date opinion to headache researchers.

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