

largely through the efforts of Oleson. The first part of the book gives an excellent scientific background to understanding headache. The second is devoted to migraine, tension and cluster headache and the last part to the secondary headaches. Not surprisingly migraine makes up a major part of this section and includes a scientific background already covered in the first part of the book. Meta-analysis of studies of various medications demonstrate the difficulty in assessing the value of any one drug. However the ratings by Tfelt-Hansen of the order in which drugs should be tried is most useful. It would seem that each patient is unique and what works for one person may be ineffective for the next, a fact well-known to every experienced physician. It is frustrating that despite a great many different prophylactic drugs available, only about 40% of patients can hope to have reduction in their headache frequency. Acute treatment may be somewhat better with up to 80% of patients responding to the newer therapies. It is rather surprising that despite so much understanding of how the medications may work in acute attacks through the vascular-trigeminal complex we still have very little understanding of how prophylactic medications work other than the fact that most of them influence serotonin in some way.

Despite shortcomings noted above, this beautiful volume will be used as a reference for years to come by headache researchers and clinical headache specialists. I would not think it would be as attractive to the average physician or even to the average practicing neurologist. The price will probably restrict "The Headaches" primarily to medical libraries but it should be available in every university, hospital and clinic bookshelf as headache is one of the most prevalent medical problems in society today and there are few aspects of headache which are not discussed in this book.

*Robert F. Nelson
Ottawa, Ontario*

BRAIN ACTIVATION. 1993. By Per E. Roland. Published by Wiley-Liss, New York. 589 pages. \$CDN 115.00 approx.

PET (positron emission tomography) has introduced a new level of understanding of the functioning human brain. PET permits studies of the intact, normal brain in contrast to invasive lesion studies or intraoperative stimulation of awake subjects. Brain activation refers to the use of PET to measure regional activity of the brain (in this case local cerebral blood flow) as it performs certain tasks. The data show fields ($0.8 \text{ cm}^2 - 4 \text{ cm}^2$) which become more active in response to externally or internally generated stimuli. For example, the parts of the brain that activate when generating words from visual memory are different from those that activate during simple conversation.

Dr. Roland has been performing activation studies for almost 20 years. During that time he has studied the brain responding to sensory stimuli, performing motor tasks, paying attention, speaking, thinking and learning. This book summarizes his data and those of others and attempts to synthesize them into a larger theory of how the brain works.

The stated aim of the book is to be of use for anybody working in or interested in neuroscience – including the well informed layman. The initial chapters therefore are a detailed crash course in neuroscience covering microanatomy, biochemistry and physiology of neurotransmission. Next is an examination of the link between local cerebral blood flow and neuronal activity. The central, and major part, of the book concentrates on activation studies of the various brain functions described above. Each chapter is presented along

with more background anatomy or physiology. On the basis of the experimental evidence, attention then turns to principles of dividing the brain functionally and then to descriptions of those divisions. At that point Dr. Roland feels he has sufficient information to comment on the mind-brain problem and present his own connectionist theories on the meaning of the mind. The remaining three chapters are effectively appendices describing PET methods.

This is an unusual book. On one hand it represents a detailed summary of many aspects of neuroscience and PET; it is well referenced, and the work of other investigators is acknowledged. It is thus interesting reading for those seeking to add to their knowledge of neuroimaging and of how the brain works. It is not really a textbook however as the data are presented to develop Dr. Roland's ideas about brain activation and are not a balanced review of the state of the art. On the other hand, it struggles as a work of philosophy. PET has produced exciting new information on how the brain works. It is going to far, however, to imply that it has shown us how the brain and mind interface. Even with the background data the book does not present enough information to permit a balanced discussion of the issues. The book therefore cannot stand alone.

*Barry Snow
Vancouver, British Columbia*

INFECTIOUS DISEASES OF THE CENTRAL NERVOUS SYSTEM. 1993. Edited by Kenneth L. Tyler and Joseph B. Martin. Published by F.A. Davis, Philadelphia. 379 pages. \$CDN 115.00 approx.

As this book emphasizes clinical and laboratory features and therapeutic guidelines of infections of the central nervous system (CNS), it will serve a very useful resource to any "front-line" clinician. Although not encyclopedic, topics are discussed comprehensively without too much repetition or dogma. There is enough basic science to satisfy most clinicians. It has been thoughtfully edited.

The first section is devoted to viral infections. Topics include herpes simplex encephalitis (including newer diagnostic methodology such as magnetic resonance imaging and polymerase chain reaction, and an excellent editorial discussion of the pros and cons of brain biopsy for diagnosis), direct CNS infection by HIV and HTLV-III, post-infectious encephalomyelitis, enteroviruses (including their molecular biology), slow virus infections (with current concepts of the genetic aspects of spongiform encephalopathies).

The second section deals with infections caused by bacteria, fungi and parasites. There are excellent chapters on chronic lymphocytic meningitis, Lyme disease (including a thoughtful editorial summary of diagnostic guidelines and treatment strategies), opportunistic infections (especially in AIDS patients) and neurosyphilis. The final chapter reviews current arguments for corticosteroids in purulent meningitis and has excellent discussion sections and tables on: age-dependent bacterial infections, appropriate antibiotic therapy for various clinical scenarios and the bacterial spectra for various antibiotics.

I have no hesitation in recommending this book for any general adult or pediatric neurologist. It will also be useful for intensivists, emergency physicians, clinical microbiologists and probably many internists and pediatricians.

*G.B. Young
London, Ontario*