

has given rise to an enormous literature, and the techniques employed are still less widely applied in electrodiagnostic laboratories than the other techniques which Dr. Brown has so admirably reviewed. Accordingly this economy of emphasis does not seriously undermine the value of the book in general.

“The Physiological and Technical Basis of Electromyography” is written with enviable fluency. Its illustrations are clear although the captions are occasionally confusing. The publisher has produced a smoothly-flowing format with a minimum of aggravating typos.

Without hesitation, I would suggest to any clinical electromyographer, that this book will provide what its title promises and recommend that space be made for it on the laboratory shelf next to “Kimura”. However, the book is likely to be of a too narrowly restricted focus for the clinician or neuroscientist not directly involved in clinical electromyography.

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**THE CEREBRAL VENOUS SYSTEM AND ITS DISORDERS.** By John P. Kapp and Henry H. Schmidek. Published by Grune and Stratton Inc. 637 pages. \$120.25 (Cdn.)

This is a multi-author volume which attempts to collect and organize current knowledge about the venous system of the brain and its disorders. Slightly less than half the volume is devoted to basic science and the remainder to clinical, surgical and pathological aspects of disease.

The book is produced on high quality paper and is particularly noteworthy for the high standards maintained for all illustrations, including drawings, radiographic reproductions and photographs of clinical material. The chapters on anatomy and physiology are particularly well written and clearly reflect, with up to date references, our current knowledge in this area.

The chapters related to clinical topics are of more variable quality and should probably have been more tightly edited. Some of the difficulty arises here because we are dealing with a relatively rare group of disorders and it is impossible for any individual to have more than a limited experience with any one. The frequency of Sturge-Weber syndrome almost certainly does not warrant it a separate description by three different authors.

The chapter on Cerebral Venous Thrombosis is comprehensive and well referenced. As it was written before widespread availability of digital intravenous angiography, the role of this technique in the investigation of cerebral venous disorders is not mentioned. It has now become obvious that this is the technique of choice for investigating such patients and it allows one to obtain higher quality pictures of the venous side of the circulation than conventional angiography, in a less invasive fashion. The chapter on cerebral venous malformations provides a wonderfully illustrated description of the radiological anatomy in a group of patients studied by the authors. There is an overemphasis on the association between carotid artery disease and central retinal vein occlusion, one that is not borne out in recent series.

Overall I feel this book serves a useful purpose by collecting current information about the cerebral venous system and its

disorders in one volume. I would recommend this book for libraries, or Neurologists with a special interest in cerebrovascular disease.

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**MEDICAL PHYSICS, VOL. 3: SYNAPSE, NEURON AND BRAIN.** By Damask, A.C. and Swenberg, C.E. Published by Academic Press, pp. 337. \$93.25.

This volume, and presumably the other two in the series, strikes a blow for informed generalism at a time when increasing specialism may make us unaware of the physical principles upon which many of the assumptions and techniques of neuroscience are based. The increased use of physically-based diagnostic procedures in neurology also makes this volume timely.

Topics covered range from the molecular events at synaptic receptors through to new techniques for brain study such as PET and NMR. Other neurological diagnostic tools which are covered in detail are EEG, visual and auditory evoked potentials. The text is illustrated with numerous figures, some of which would have benefited from higher magnification or more explanatory legends. Each chapter is referenced, mainly to secondary sources, up to 1982. The authors' enthusiasm and eclecticism make this a stimulating volume to dip into; for example, a “note added in proof” refers in detail to a new anthropological hypothesis for the origin of handedness — this in a biophysics text!

A necessary weakness in a book which crosses disciplinary boundaries is a tendency towards superficiality and oversimplification. As a neuroscientist, I was irritated to read Dale's law improperly interpreted, and I could not accept unequivocally the statement that “quanta are now identified with synaptic vesicles”. Environmental effects on cortical neuron morphology were part of the justification for a detailed consideration of Rall's work, in which dendrites act passively, but the occurrence of dendritic spiking in cortical neurons received only a one-line mention without discussion of the functional implications.

Perhaps a physicist would be equally irritated by oversimplifications which I could not appreciate, but for me the most valuable aspect of this book was the collection within one volume of the physical and mathematical principles underlying topics such as statistical evidence for quantal release, analysis of membrane noise and NMR. The breadth of coverage makes this book a valuable resource, but it is unfortunate that a chapter on action potential and impulse transmission, needed to complete the coverage of cellular neuroscience, is to be found in Volume I.

The very high price for this volume, and the scattering of neuroscience topics between volumes, makes it unlikely that many individual neuroscientists will want to add it to their personal collections. The series is recommended as a valuable reference for institutional libraries.

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