

Book Reviews

PRINCIPLES OF NEUROLOGY. Third edition. By Drs. R.D. Adams and M. Victor. Published by McGraw-Hill Ryerson. 1985. \$87.75

Now in its third edition "Principles of Neurology" remains what it always has been since its original introduction in 1977 — arguably the best single-volume exposition of clinical Neurology in the English language. It has been further refined, polished and appropriately updated in this new edition, while retaining the tried and true original format. This comprises a logical progression from presenting symptoms to neurologic syndromes, through to a full discussion of specific disease entities, the latter being grouped together into classical categories as individual chapters. For those few who may not know, the original volume was loosely based on the neurological content of "Harrison's Principles of Internal Medicine", although with very considerable expansion so as to be an appropriate introduction to clinical Neurology at the resident level.

Those readers already familiar with the previous two editions will find only improvements in this one. A short new chapter on metabolic myopathies has been added, while some others have been extensively revised. The addition of appropriate new material is widespread throughout the book, and this edition is as up-to-date as a general text of this kind could reasonably be expected to be. A number of new figures and illustrations have been added, and others deleted. For the most part the bibliographies at the end of each chapter are a guide to classic references.

One of the criticisms of previous editions has been that the authors at times are inclined to ramble a bit and express too much individual opinion on certain issues. I would counter by commenting that neurologists of such immense experience and accomplishment as Drs. Adams and Victor quite likely have a right to their opinions, and I personally find their occasionally iconoclastic views very interesting and entertaining reading.

A book of this scope must necessarily have a few flaws and cannot hope to be all-encompassing, but it is a work of immense scholarship and can be unhesitatingly recommended as a sound and authoritative textbook of clinical Neurology.

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NEUROBIOLOGY OF LEARNING AND MEMORY. By G. Lynch, J.L. McGaugh and N.M. Weinberger. Published by Guilford Press, 528 pages. \$65.00

NEUROPSYCHOLOGY OF MEMORY. By L.R. Squire and N. Butters. Published by Guilford Press, 655 pages. \$65.00.

Interest in the study of memory has a considerable history in scientific thought. However, there is nothing in that history to match the explosion of studies, of conceptual models, and of methodological refinements which have occurred in the realm of memory research within the past 30 years. For those whose study of memory has been limited to the products of the bedside mental status examination or even of the venerable Wechsler Memory Scale, there is much to be learned. With growth of this sort, there is a periodic need for thorough, comprehensive reviews of the empirical and theoretical field. It is therefore

satisfying, if a bit surprising, to see two recent vintage (1984) books from the same publisher attempting to cover this complex area.

The two texts differ primarily in emphasis rather than in content. Both offer research summaries and commentary in areas ranging from the cellular to the behavioral levels of analysis. Both feature articles by many of the most prolific and stimulating researchers currently active. Both have been the beneficiaries of relatively rapid publication, ensuring the reporting of up-to-date findings rather than collections of primarily historical importance.

The Squire and Butters text comprises three sections. The first deals with human memory and amnesia, the second with studies of memory in non-human primates, and the third with memory in non-primates. Each section presents a diversity of experimental approaches and attempts at integration among the various levels of analysis where possible. Lynch, McGaugh, and Weinberger have organized their work in 4 parts, dealing, respectively, with the nature of memory, with its neurophysiology and pharmacology, and with the role of events at the cellular level in memory. This work is made even more valuable by the inclusion of critical commentaries within each section which offer integrative analyses of the data and theories presented in the basic chapters.

These two texts are encyclopedic in scope, provocative and timely in their content, and well edited. They are clearly not intended for the beginner in this field but will serve as a benchmark for the researcher and the serious student of memory for many years.

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EVOKED POTENTIAL PRIMER: VISUAL, AUDITORY AND SOMATOSENSORY EVOKED POTENTIALS IN CLINICAL DIAGNOSIS. By Rainer Spehlmann. Published by Butterworth, 1985.

This book is an introduction to the use of evoked potentials in clinical diagnosis. Although it is similar in format to the author's "EEG Primer," it is quite different in style. The "EEG Primer" distilled the literature and provided wise counsel; the "Evoked Potential Primer" reviews much more literature and presents much less judgement.

The book is a complete and up-to-date review of the literature on the evoked potentials. Just over 1500 papers are referenced by a well organized text. If one wishes to look up a paper discussing the effects of disease A on evoked potential Z, this book is very good. I certainly found papers that I had not previously come across in my haphazard reading.

Some of the book's many tables are very helpful. I particularly liked the tables classifying abnormal waveforms and suggesting clinical interpretations for each. There are few other places to find an interpretative sequence that goes from the recorded waveform toward the pathology rather than vice versa. At times, however, the tables in the present volume are more tedious than helpful. One does not really need to know all the

possible ways of classifying the evoked potentials. It is better to know a few and to understand their hierarchy — to have a schema rather than a list.

One very frustrating aspect of this book is its scarcity of numbers. I agree that each laboratory should gather its own normative data. Nevertheless, these values must then be compared to those already in the literature. The means and the variances of the measurements in one laboratory should be the same as those in another, or at least explainably different. Unfortunately, the book does not provide the reader with sample data for comparison. Nowhere in the book is there any mention that the normal interpeak latency between waves I and V of the brainstem auditory evoked potential in an adult is 4 ms or that the upper limit of normal for this interval is 4.5 or 4.6 ms. The reader will also search in vain for information about the incidence of abnormal visual evoked potentials in multiple sclerosis or the relationship between height and latency in the somatosensory evoked potentials.

Another disconcerting factor is the author's unwillingness to judge the literature. He refers to many papers with the format "disease A has been reported to cause abnormalities in evoked potential Z" without providing the reader with any idea whether he considers the findings valid or important. This is unfortunate, since for any student an ounce of opinion is often worth a pound of information.

This book is worth buying as a reference book for the laboratory. I would not recommend it as a textbook for the neurology resident who seeks to learn about evoked potentials.

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BASIC HUMAN PHYSIOLOGY. 1984. By D.F. Lindsley and J.E. Holmes. Published by Elsevier, New York. XVI + 368 pages.

"Billy had unconsciously permitted his pony to drop into a lazy walk". So begins the final chapter of this splendid text. All the topics previously dealt with are quickly reviewed while describing the behaviour of a cowboy in an extract from an Edgar Rice Burroughs western. It is a moonlit night, "and Billy's eyes are dark adapted — the rhodopsin content of his rods is at its highest level. The dim illumination decreases the sensory input to the pretectal area neurons responsible for the light reflex . . .". Here, then, is an unusual medical text with weighty content presented in an entertaining and an often witty format. Few textbooks are written to amuse but this one frequently stimulated me to laughter. There are limericks and one-liners, "the limbic system is more a state of mind than an anatomical structure". The book evolved from class handouts used in teaching over the last 15 years. Clearly, the authors know what helps students to master this difficult material.

The overall plan of the book is conventional: elementary anatomy is presented first followed by considerations of the brain's environment. This is succeeded by chapters on the basic cellular physiology of nerve, synapses and muscle. Systems neurophysiology is covered by chapters on somatosensory and motor functions, the special senses, the consciousness, autonomic and limbic systems, and finally the cortical association areas. Each chapter begins with a list of objectives and concludes with a series of review questions for which answers

are provided. An extensive bibliography assists the motivated student to read further. Within each chapter, lists, summaries and tables are used extensively to reinforce important concepts or emphasize distinctions, for example, the sequence of events in excitation-contraction coupling. Frequent clinical examples are provided to introduce or illustrate physiological principles. The language of the text is refreshingly simple and straightforward. Clinical jargon is minimized but essential clinical terms are carefully defined. The numerous diagrams are helpful and most have been specially drawn or adapted from more complex illustrations in other sources.

This text is "basic" in both approach and level. It does not match the complexity of, say, Kandel and Schwartz's "Principles of Neural Science", nor does it provide sufficient clinical information to satisfy the M.D. curriculum requirements in neurology. In spite of these limitations, I recommend it highly to medical students as a stimulating and readable introduction to the neurosciences. It will be particularly valuable to those whose pre-medical education was not in the traditional basic sciences. I also recommend it to all involved in teaching medical students. This remarkable book provides us with a model for enlivening our own teaching.

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RECENT ADVANCES IN EPILEPSY. Volume 2. By T.A. Pedley and B.S. Meldrum. Published by Academic Press Canada. 344 pages. \$73.00 Cdn.

This second volume of Recent Advances in Epilepsy reviews a wide range of basic and clinically relevant topics related to epilepsy.

The reviews are concise and the contributions are of even quality. Some interesting, relatively new topics are included such as cognitive effects of antiepileptic drugs. Helpful chapters on recent advances with benzodiazepines, therapeutic monitoring of antiepileptic drugs, and neonatal seizures also appear.

The volume is a virtual "must" for the epileptologist. The general neurologist would also find this valuable if his practise includes several epileptic patients. Pediatricians and internists may also find it useful. The basic scientist as well as the epileptologist will find the reviews of cellular mechanisms of focal epileptogenesis and cerebral energy metabolism and seizures comprehensive and useful.

The book is well edited and can be thoroughly recommended.

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GENETICS AND NEUROLOGY. By Sarah Bunday. Published by Churchill Livingstone, 1985. 340 pages. \$70.00 Cdn.

The objective of this book, as stated in the Preface, is "to provide practical information regarding clinical delineation of different entities, their genetic mechanisms, and the recurrence risks for genetic counselling". It is assumed that readers of the book will have a basic knowledge of genetics. The author chose not to cover amino-acid disorders, organic acid disorders, multiple malformation syndromes, psychiatry (apart from dementia), and mental deficiency.

The book contains three very informative appendices covering (1) the frequency of consanguineous matings among parents