

Book Reviews

THE VENTRICLE OF MEMORY. 1989. First Edition. By Macdonald Critchley. Published by Raven Press. 223 pages. \$45 Cdn. approx.

The subtitle of this interesting collection of reminiscences is "Personal Recollections of Some Neurologists". Such carefully chosen words define well the scope of this delightful volume. Readers should not expect to find full or referenced biographies in these pages. However, those who read the 21 short essays will be rewarded by the author's keen insights into the strengths, eccentricities, and contributions (some of them forgotten) of an interesting group of neurologists, neurosurgeons, or neuropsychologists whose memory Critchley has chosen to perpetuate. The writing flows effortlessly and most chapters are sprinkled with appropriate quotations that range from William Shakespeare to Richard Llewellyn.

The author knew and, in one way or another, admired each of the subjects presented in this collection of essays. Thus, most of the essays in this collection are warm tributes that generously preserve the memory and enhance the recognition of a group of individuals who contributed to clinical neurology and neuropsychology during the last 100 years. The selection of subjects is eclectic, reflecting the author's links with the classic period of neurology at the National Hospital, Queen's Square as well as his broader associations with neurologists in Europe and North America who shared his interests in speech and other higher functions of the nervous system. Neurologists will be particularly interested in Critchley's recollections of Adie, Alajouanine, Bender, Cooper, Denny-Brown, Garcin, Kennedy, Leriche, Lhermitte, Monrad-Krohn, and Walshe. Because Critchley has written about them elsewhere, James Collyer, Gordon Holmes, and Kinear Wilson are not the subject of essays in this volume but comments on them appear in relation to several of the chapters. For example, in the chapter on J.S.R. Russell, readers will learn that Holmes insisted on detailed neurological histories and examinations even in patients in whom the diagnosis was obvious from the outset; he did not subscribe to the practice of instantaneous diagnosis of some of his colleagues. One can only speculate about the omission of other Critchley colleagues, some of them his junior; perhaps a subsequent volume will be devoted to such individuals.

What do we learn about the author himself in these reminiscences? To his credit, very little. Although it is clear that he greatly enjoyed the social companionship and intellectual interactions with his subjects, the emphasis is on them rather than himself. Nevertheless, readers are permitted some insights into the thinking of a traditional neurologist and aphasiologist from a time when clinical neurologists were not embarrassed to consider the possible philosophical or sociological implications of neurologic disorders. In the current era that we somewhat arrogantly define as "scientific neurology", younger readers may find it curious that Critchley seems to distinguish rather rigidly between clinical neurologists and scientists. Pendulums of thought and fashion inevitably swing!

Readers who have not memorized long passages of Shakespeare, will have to turn to the epilogue to learn that the title

"The Ventricle of Memory" is from Shakespeare's "Loves Labours Lost". In this, his nonagenarian year, we can only wish Macdonald Critchley the good health that will permit him to delve further into the ventricle of his own memory to produce more of these interesting and insightful reflections on his life and times.

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NEUROBIOLOGY OF PANIC DISORDER: FRONTIERS OF CLINICAL NEUROSCIENCE, Volume 8. 1990. Edited by James C. Ballenger. Published by John Wiley & Sons, Inc., New York. 391 pages. \$109 Cdn. approx.

This is a very timely review of an important area of research by the co-editor of *Neurobiology of Mood Disorders* which was the first volume in this series. The 22 essays are divided into eight areas: animal models, preclinical studies, genetics, postulated brain mechanisms for panic anxiety, challenge strategies, anxiety and depression and finally immunology and sleep abnormalities. All essays are written by investigators familiar to those who follow this literature. All 52 authors are at U.S. centres save five (Sandra E. File, U.K.; Vivette Glover, U.K.; J.C. Pecknold, Canada; Meeten Sandler, U.K., and Svenn Tøgersen, Norway).

Patients with panic disorder present frequently to family physicians and many specialist clinics and often see over five physicians before being referred to a psychiatrist. Effective treatment is available by pharmacologic means (e.g. imipramine, clomipramine, alprazolam, phenylzine) and behavioral means (exposure therapy and cognitive therapy).

The differentiation of panic disorder by biological means is very exciting. Interest in this disorder increased tremendously when Donald Klein used imipramine with efficacy to treat anxiety associated with panic attacks in 1981. He called this the second psychopharmacological dissection of anxiety (phenothiazines were the first) and likened the progress to the discovery of different causes of fever. The differential response of anxious patients to phenothiazines and imipramine revealed previously unappreciated biological differences.

Familiar milestones in this differentiation include the panic response to lactate infusion which can be blocked by imipramine and the discovery by PET scanning of an increased cerebral blood flow to the right parahippocampal gyrus in subjects who would later experience panic with lactate infusion. The first MRI study was conducted in Montreal by R. Fontaine et al who reported significant cortical atrophy in panic disorder patients compared to the control group.

Besides citing these and other important findings, some authors give excellent background material which help to review the studies with heightened appreciation and criticism. Three articles stand out in this regard: Preclinical Studies of the Mechanism of Anxiety and its Treatment by Sandra E. File; Psychological Perspectives in Pharmacologic Challenge Testing by M. Katherine Shear, and PET, Panic Disorder and Normal Anticipatory Anxiety by Eric M. Reiman. For example, Dr. File

noted that animal tests of anxiety have not detected anxiolytic activity of antidepressants. The screening of other compounds such as drugs acting at 5-HT receptors is then very difficult. I would have appreciated more of this educational/critical discussion from some of the other authors; otherwise the writing is complete, coherent and authoritative. There is repetition but this adds to our understanding as we see how each researcher takes similar data and points out different relationships relevant to their special field of interest.

The book demonstrates a vibrant and comprehensive research effort. I recommend it.

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AMYOTROPHIC LATERAL SCLEROSIS: CONCEPTS IN PATHOGENESIS AND ETIOLOGY. 1990. Edited by Arthur J. Hudson. Published by University of Toronto Press. 370 pages. \$75 Cdn.

This book consists of 15 chapters by 40 authors and is a report of a symposium held in Vancouver, British Columbia, as part of the 22nd Annual Meeting of the Canadian Congress of Neurological Sciences. It is edited by Arthur J. Hudson, Professor, Departments of Medicine and Clinical Neurological Sciences, University of Western Ontario, and Director of Research, University Hospital, London, Ontario. He founded the Amyotrophic Lateral Sclerosis Society of Canada in 1976 and has had a major interest in this disease for years.

The chapter by Kim presents evidence that cultured human fetal spinal cord neurons are probably the most promising model for study of the disease. The fact that the addition of skeletal muscle to spinal cord culture enhances long term survival of neurons and promotes axonal growth and increased choline acetyltransferase activity is clearly important and alluded to in several other chapters. The neurite growth enhancing properties of human fetal skeletal muscle protein is exciting and possibly a promising aspect of neuron biology.

The second chapter appropriately deals with the neurotrophic interactions of anterior horn cells and their targets and presents good evidence that spinal cord neurons are sensitive to and influenced by, target derived factors. Dawson, Hancock, and McCabe describe 40 patients with early onset prolonged amyotrophic lateral sclerosis-like symptoms shown to have a partial deficiency of the lysosomal hydrolase N-acetyl-B-D-hexosaminidase.

The difference between classical ALS and this disorder is clear but here is a hint as to abnormal metabolism in neurons which suffer a similar fate to those of ALS.

Another possible model is the retrovirus-induced lower motor neuron disease of mice and the similarities between the cord disease and spongiform encephalopathy are thought provoking.

The immunologic aspects of motor neuron disease are well reviewed and an excellent chapter by the Editor of the book is included on the differences in pathogenesis and etiology of ALS and similar syndromes. Of the two dozen types of ALS or diseases resembling ALS, all are compared to the common benchmark, sporadic, form of the disease. Every clinical neurologist should read this chapter.

Haverkamp and Oppenheim also point out that the integrity

of the target organ (skeletal muscle) has a positive effect on the survival of embryonic chick motor neurons. Thus, both Kim and Haverkamp and Oppenheim have suggested that a specific muscle protein promotes neural growth when tested in quail and mouse spinal cord neuron cultures. Here are two significant although separate contributions suggesting that the neuron may be as dependent on the integrity and function of the target organ as the reverse.

The section on epidemiology by Armon and Kurland compares classic and western pacific ALS from several points of view. It also deals with the cycad seed, a major food source for the Chamorros, and held by some to be a toxic agent etiologically significant in pacific ALS. This chapter is interesting and easy to read and the epidemiological similarities of the three apparently primary nerve cell diseases (classic, familial, and western pacific amyotrophic lateral sclerosis) are compared. The pathological variations and locations of the disease process in ALS is well reviewed by Hirano et al. This includes a discussion of the various types of ALS including the animal models plus parkinsonism-dementia complex and Alzheimer's disease. Evidence is presented that an assortment of etiological agents may result in anterior horn cell damage and loss.

The chapter by Steele et al relating to nutritional factors in amyotrophic lateral sclerosis on Guam includes an interesting history of the Mariana Islands and the indigenous Chamorros. The historical background about amyotrophic lateral sclerosis and parkinsonism-dementia complex in these islands is well written. The evidence that the seeds of *Cycas circinalis* are etiologically important in the ALS/PD of the Micronesian Islands is strong and the following chapter is an even more detailed account of environmental factors in the etiopathogenesis of ALS/parkinsonism-dementia complex of Guam. The affirmative evidence is presented by Spencer, Ross, Kisby, and Roy. The negative aspect of cycad toxicity is presented in three pages by Carleton Gajdusek.

The post-poliomyelitis motor neuron disease controversy is well covered.

In general, this book is an excellent review of the current state of knowledge on amyotrophic lateral sclerosis with some information on parkinsonism-dementia complex and a good deal of information on the concentration of both diseases in the Southwestern Pacific Islands. It is well written, beautifully printed, and easy to read. This is a significant and worthwhile contribution to the current neurological literature and Arthur J. Hudson and his fellow authors are to be congratulated. The book is indexed.

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SPINAL DISORDERS IN THE CHILD AND ADOLESCENT: STATE OF THE ART REVIEWS. 1990. Edited by John D. Hsu. Published by Hanley & Belfus, Inc. 257 pages. \$40.00 Cdn. approx.

This is a multi-authored volume providing a review of the "state of the art" in paediatric spinal problems. The emphasis of the editor and publisher is the incorporation of recent published and presented data within the clinical framework of authoritative