ters on neural tube defects, holoprosencephaly, neuroblast migratory disorders, and "crossing the midline". Other chapters are based upon anatomical localization, such as "Abnormalitites of the spinal cord, brainstem and cerebellum" and "Abnormalities of the skull, meninges, choroid plexus and blood vessels", and one based upon a clinical presentation, "Hydrocephalus". The final chapters deal with destructive or encephaloclastic conditions such as hypoxic/ischemic encephalopathy in the fetus and their role in inducing developmental defects.

This monograph is so comprehensive and thorough that one has to look hard to find items to criticize. I was disappointed to find little discussion of the role of the fetal ependyma in brain development, such as in guiding axonal growth cones and participating in the arrest of neuronogenesis in the neuroepithelium and, in fact, "ependyma" is not even listed in the index. The chapter on hydrocephalus is brief and does not address the new genetic information on X-linked recessive aqueductal stenosis and certain other specific disorders leading to developmental obstructions of CSF pathways. Granuloprival cerebellar hypoplasia as a distinct entity and the embryological basis and experimental teratology of this condition in animals are not discussed.

Extensive references are listed at the ends of each of the chapters. Illustrations are well chosen and well demonstrate the findings described in the text. Most of the figures are of gross and microscopic pathology, but there are also some CT and MR images, a few pictures of fetuses or infants, diagrams of chromosomal karyotypes and genetic pedigrees. Several tabular summaries appear, such as "Ectomesodermal syndromes" and "Syndromes associated with agenesis of the corpus callosum".

In conclusion, I would strongly recommend this book for the personal library of all pediatric neuropathologists, pediatric neurologists, and neuroradiologists. It is an authoritative reference and well enough written to be read as a textbook. I am hopeful that it will become a "classic" and be republished as new and updated editions every few years.

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## ETIOLOGY OF PARKINSON'S DISEASE. 1ST EDITION. 1995. Edited by Jonas H. Ellenberg, William C. Koller, J. Langston. Published by Marcel Dekker, Inc. 600 pages. $C254.00

The editors are to be congratulated for producing this outstanding monograph. The goal of this book is to review in one single volume all pertinent information and available literature on the etiology of Parkinsonism. As such it is an ambitious book (560 pages), with 2413 references in the bibliography and many more found at the end of each chapter. The chapters are a collection of 14 reviews by experts, presenting the most up-to-date information available on the basic sciences of the etiology of Parkinson's disease. As a consequence, there are differences in writing style, and some of the reviews include the author's personal bias of his/her particular area of research. Throughout the book there are many tables, figures and diagrams enhancing the quality of each chapter. The print and quality of the paper is very good.

The book is divided into five sections covering clinical aspects of Parkinsonism, followed by the epidemiology of Parkinson's disease, hereditary factors, and concluding with an in-depth discussion of the putative exogenous agents that have been linked as possible causes of Parkinsonism. I particularly like the chapter written by Drs. Pahwa and Koller introducing the reader to a discussion of Parkinson's disease and the differential diagnosis of other akinetic-rigid syndromes. It is a very well written chapter reflecting the clinical expertise and breath of knowledge of the authors. It provides the reader with a "clinician's view" of the spectrum of Parkinsonism offering helpful clinical hints on how to differentiate these disorders. However, I was surprised to find an error on Table 2, page 12 where progressive supranuclear palsy (PSP) is included into the category of the multiple system atrophies with Parkinsonian features. Currently, most movement disorders experts will agree that the multiple system atrophies (MSA) include three main conditions: sporadic olivopontocerebellar atrophies, striatonigral degeneration and Shy-Drager syndrome. These three disorders have a common neuropathological marker, namely oligodendroglial neuronal inclusion bodies, and it is believed that these three conditions are part of the spectrum of MSA. PSP so far has not been found to have these pathological markers and most authorities would rather consider PSP apart from the multiple system atrophies. The term multiple system degeneration has been proposed as an all inclusive term for all these conditions including PSP, MSA and other neurodegenerative diseases.

Drs. Zack and Langston provide an interesting discussion on the evidence to support the contention that, after excluding all causes of Parkinsonism, idiopathic Parkinson's disease may include a heterogenous group of disorders. The authors warn that those involved in Parkinson's disease research should be aware of this possibility. The reader may find Dr. Fornos' chapter on the pathology of Parkinson's disease and its relevance to unravelling the pathogenesis of this condition very useful.

The section I found most important is the one containing the last three chapters. These chapters summarize the role of exogenous agents in the pathogenesis of Parkinson's disease together with a collection of 2413 references relating to the etology of Parkinson's disease. It is a gem of information that should be kept at hand for future reference. Unfortunately, as with any publication of this sort, the references can only be kept up-to-date to the moment of publication.

The book is intended for the neuroscientist and neurologist with an interest in Parkinson's disease and as such it is indeed a welcome addition to the Movement Disorders literature. This book is too specialized for a general audience and I believe neither the neurology nor neurosurgical resident would like the book much.

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## LACUNAR AND OTHER SUBCORTICAL INFARCTIONS. 1995. Edited by G.A. Donnan, B. Norrving, J.M. Bamford, J. Bogousslavsky. Published by Oxford University Press. 281 pages. $C125.00

Although their pathology was recognized by Pierre Marie, it was Dr. Walter Alvarez who recognized first the clinical importance of "little strokes", under which heading he included both TIAs and the lacunar stroke syndromes which are the subject of this book. After Miller Fishers initial pathophysiological *rapprochements* allowed definition of the commoner three or four syndromes, many others contributed small series