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BOOK REVIEWS

The Bible of Child/Pediatric Clinical Neuropsychology Has Been Written

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The Neuropsychological Evaluation of the Child. Ida Sue Baron. 2004. New York: Oxford University Press. 454 pp., $79.95 (HB).

Reviewed by R.W. BUTLER, *Associate Professor Pediatric, Division–Hematology/Oncology, Oregon Health & Sciences University, Portland, OR 97201-3098.*

It is with extreme pleasure that I write a review of this outstanding text, and also pride that I was selected to be the reviewer. When Dr. Lezak mailed me the book with a request to write a review for *JINS*, I literally called her and thanked her for this opportunity. I should note, this was not because I would receive a complimentary copy of *The Neuropsychological Evaluation of the Child*, as I had already purchased and read the text, and ordered an additional copy for my clinic and trainees' access. Dr. Baron has provided those of us in the field of child/pediatric neuropsychology with has long been needed: a general background on clinical issues in conducting neurocognitive assessments with children and adolescents, along with practical matters and concerns, such as how to cope with the varying needs of different referral sources, and providing feedback to parents. Moreover, and most essential, the text comprehensively reviews neuropsychological measures under all cognitive domains, and presents exhaustively researched historical and current normative data for the developmental population. This compilation is an excellently written book that is comprehensive, detailed, current, thoughtful, and an invaluable reference for every child and pediatric neuropsychologist. Indeed, our colleagues who specialize in adult neuropsychological evaluations would well benefit from reading the text because the clinical insights are germane to all ages, and the normative data will enrich their understanding of brain function and progression throughout the development years.

I will briefly outline the structure and content of *The Neuropsychological Evaluation of the Child*. The text begins with a discussion of how one encounters many different referral sources in the field of child neuropsychology. Pediatricians, school personnel, parents, pediatric neurologists, and other pediatric medical specialists will all request neuropsychological evaluations. Each source will have individual and varying aims, goals, and questions. Thus, it is appropriately emphasized that one needs to closely attend to the referral source when considering the structure of the evaluation, and reporting of results. Pragmatic and logistic issues are addressed. Chapter 2 discusses important practical and clinical concerns such as the environment in which testing should occur, scheduling, and establishing rapport with the child/adolescent. An added bonus is the inclusion of a structured parent interview that will provide the child neuropsychologist with an excellent template for recording history and family information. The next chapter addresses how one communicates results, both within the format of a written report, and also during interpretive/feedback sessions with the parents. In this section Dr. Baron shares with us her lessons from extensive clinical experience, as well as her professional child neuropsychological assessment and diagnostic acumen. The remainder of the text is devoted to cognitive domains and the presentation of normative data. Descriptions of virtually every neuropsychological test appropriate for children and adolescents are presented, and the corresponding normative data are rich and indispensable. Following an outline of approaches to domain assessment, measures of intelligence are described with relevant reliability and validity information, along with appropriate normative considerations. I found this brief review to be extremely clinically useful and practical. Unfortunately, the 4th version of the Wechsler Intelligence Scale for Children is not included in this section due to its recent publication. Dr. Baron then proceeds to evaluate tests by neurocognitive domain, and on an extremely refreshing note, this is not done in a rote manner. In addition to listing available tests under each domain along with relevant normative data, if not supplied by the test publisher, theoretical considerations have been addressed. For example, under the first domain, executive function, the chapter begins with a discussion on the construct of executive functions in general, subdomains, and relevance over the developmental span. The following neurocognitive domains are then reviewed:

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attention, language, motor and sensory/perceptual examinations, visuoperceptual, visuospatial and visuoconstructional functions, and finally learning and memory. While recently published, over the past year, and revised test batteries are not reviewed by the text, in accord with publishing and timing demands, this is an unavoidable concern that will undoubtedly be addressed in a future revision of *The Neuropsychological Evaluation of the Child*. Quite plainly, the child clinical neuropsychologist has at his/her fingers a wealth of practical clinical advice, psychometric information, normative data, and test interpretative knowledge that will clearly aid the patient and his/her parents in the formulation of appropriate treatment recommendations and planning.

This text has obviously been a labor of love for Dr. Baron. Her efforts have resulted in a product that has set the gold standard for clinically relevant manuals directed towards child/pediatric neuropsychologists. This book should be on every clinical neuropsychologist's shelf. As noted earlier, even my adult colleagues will benefit from the extensive references, adroit clinical information, and the vast knowledge presented on neurodevelopmental progression over the childhood and adolescent years. A text that was long needed has arrived, and it does not disappoint. I found no flaws in this work. I would, however, like to suggest to the author that in further editions she consider including measures of behavior and psychopathology. A thorough child/pediatric neuropsychological evaluation will include assessments of behavioral and psychological functioning, and there are numerous other and self-report measures for the developmental population. Additionally, issues regarding parent versus teacher observations are very relevant to the interpretative process in a neuropsychological evaluation, and also have important treatment implications. While addressing the behavioral spectrum will enlarge the text, and also the demands on the author, it will greatly amplify the clinical utility of the text. I am already eagerly anticipating the 2nd edition of *The Neuropsychological Evaluation of the Child*. If you specialize in child/pediatric neuropsychology, purchase this text immediately, read it and use it, and if you happen to see Dr. Baron at one of our conferences/meetings, thank her.

Useful Backward and Forward Reflections

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Pathways to Prominence in Neuropsychology: Reflections of Twentieth-Century Pioneers. Anthony Y. Stringer, Eileen L. Cooley, and Anne-Lise Christensen, 2002. New York: Psychology Press. 324 pp., $64.95.

Reviewed by Lloyd I. Cripe, *Private Practice, P.O. Box 250, Carlsborg, WA 98324.*

The farther backward you can look, the farther forward you are likely to see.
—Sir Winston Churchill

Pathways to Prominence in Neuropsychology discusses the origin and development of research and clinical neuropsychology in the 20th century. This is an important first book to help us better understand where we have been, where we are, where we are going and who we are, but be forewarned that the writer of this review is extremely biased, believing that history is both interesting and potentially useful to enlighten our individual and collective journeys. The writing of history, its facts and interpretations, is fraught with challenges and pitfalls, especially when looking at ourselves. As the American humorist Herb Shiner once said, "Nothing has changed the course of history as much as the historian.

The book begins with an overview that explains there is no exact point in time when neuropsychology evolved, but it emerged from various pathways. Although the clinical work of neurologists like Broca, Wernicke, and Hughling-Jackson is recognized in the book, the pathways most discussed are those that occurred after the 1900's. The conclusion is that neuropsychology grew out of four main paths: investigations by neurologists of manifestations in clinical environments; mental ability testing developed in military and educational settings; use of standardized norm-referenced tests applied in clinical medical and research settings; and experimental detailed animal ablation techniques used to unravel brain–behavior relations. Regional differences in the evolution of neuropsychology are recognized for the United States, Canada, Western Europe, the Soviet Union, and Latin America. It is also recognized that there were differences between developments in academic and clinical neuropsychology, with the most rapid developments occurring the last 50 years.

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Following this overview, the book is divided into three major sections entitled: part I, "Pathways Unforgotten," which discusses the work of Nelson Butters, Henry Hécean, Aleksandr Luria, Roger Sperry and Hans-Lukas Teuber. The chapters are written from the perspective of other persons with the exception of the chapter by Nelson Butters, which was written shortly before his death in 1995. Part II, "Pathways Remembered," is the work of such living contributors as Dirk Bakker, Anne-Lise Christensen, Kenneth Heilman, Edith Kaplan, Manfred Meier, Oscar Parsons (now deceased), Karl Pribram, Ralph Reitan, Byron Rourke and Otfried Spreen.

Part III, "Pathways Imagined" concerns the current status and future of neuropsychology. Writers include Russell M. Bauer discussing clinical neuropsychology, Laird Cermak discussing research neuropsychology, and Anthony Y. Stringer the role of neuropsychology in rehabilitation. Dr. Bauer offers some useful hopes and suggestions in a cleverly title chapter "To infinity and beyond: Clinical neuropsychology in the twenty-first century." Cermak discusses important issues regarding past, present and future scientific neuropsychological research. Both of these authors present important thoughts that merit serious pondering.

The book is generally well written and edited. Because each chapter is written by a different author, the quality of writing varies. Of the many well-written chapters, chapter 5 by Antonio E. Puente on Roger W. Sperry is exemplary. It is a succinctly written account of Sperry's many contributions and a thoughtful tribute to Puente's mentor.

The book has several weaknesses:

- A number of key players from the past and present who deserve chapters are missing. Examples of absent notables are, André Rey, Ramón Cajal, Kurt Goldstein, Charles Matthews, William Gaddes, Arthur M. Benton, D. Frank Benson, Muriel D. Lezak, M.-Marcel Mesulam, and Jeffery Cummings.

- Pictures are included for part I, providing important visual memories, but they are not included for part II. It would have been nice to have images of all the past and present persons upon which the book focuses.

- There is a lack of depth in the autobiographical information regarding the patchwork of persons involved in the development of clinical and research neuropsychology

- The significant controversies in neuropsychology are mentioned, but not discussed in any depth. It would have been useful to more openly present these matters and offer some ideas into their sources and potential resolutions.

All of the professional endeavors of the key players are best understood in the light of who they were as persons. Their professional work and focus are significantly shaped by their personalities and psychological styles. More background about these important colleagues—our fellow human beings—would be both interesting and useful in understanding their journeys. Despite the limited amount of personal information, some of the autobiographical chapters are of interest not only because of the facts revealed but also because of the potential insights into the authors. Mark Twain made the following comment about autobiographies:

> An autobiography is the truest of all books, for while it inevitably consists of extinctions of the truth, shirkings of the truth, partial revealments of the truth, with hardly an instance of plain straight truth, the remorseless truth is there, between the lines.

Chapter 14 by Ralph Reitan, entitled "The best-laid plans—and the vagaries of circumstantial events," is of particular interest because of the strong influence the Halstead-Reitan Neuropsychological Test Battery has had upon many clinical neuropsychologists. The chapter reveals interesting facts about the development of that particular clinical approach and also "between the lines" about Dr. Reitan. He is both a very significant early contributor to the development of clinical neuropsychology (especially in North America and Northern Europe) and an interesting personality. This chapter illuminates his past and present journey.

Neuropsychology is the creation of a hodgepodge of bright obsessive minds and colorful characters whose dedication and productivity have intentionally and unintentionally made neuropsychology happen. These interesting persons have mostly worked independently. While there has never been any master plan orchestrating an integrated development, the discipline and practice of neuropsychology has grown. The pieces have gradually merged to form a recognized and viable professional collective. This is especially true of clinical neuropsychology in North America.

History is like that. Often the pieces initially seen as unconnected disorganized fragments eventually come together to form meaningful patterns. The noted historian William Manchester once stated this clearly:

> History is not a random sequence of unrelated events. Everything affects, and is affected by, everything else. This is never clear in the present. Only time can sort out events. It is then, in perspective, that the patterns emerge.

This is also true of neuropsychology and this book helps understand the pattern of our brief history. It is highly recommended that this book be read, digested, and discussed by all neuropsychologists, especially those who appreciate the importance of history in guiding our future. By taking the time to look farther backward we can potentially move farther forward.

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A Classic Renewed

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Clinical Neuropsychology. Fourth Edition. Kenneth M. Heilman and Edward Valenstein (Eds.). 2003. New York: Oxford University Press. 744 pp., $78.00 (HB).

Reviewed by Jenni A. Ogden, Ph.D., FRSNZ, *Associate-Professor of Psychology, Dept. of Psychology, University of Auckland, Private Bag 92019, Auckland, New Zealand.*

As a 1st-year graduate student and new convert to clinical neuropsychology, the second book I purchased in this exciting area was the first edition of Heilman and Valenstein's "Clinical Neuropsychology" published in 1979. It will come as no surprise to most readers that the first book I purchased was Lezak's first edition of "Neuropsychological Assessment," published 3 years earlier, and of course a required text for our graduate course. As a teacher of that very same course over the past 18 years, I have recommended the various editions of both these texts to my students as the "standard" texts, a practice I imagine is shared world-wide. Thus, at one level it seems almost unnecessary to write a review of such a classic text, and at the same time to do it justice is a humbling task which I have no hope of fulfilling. All I can do is give a small taste of this latest offering edited by two of the great neurologists (and neuropsychologists) of modern times.

Readers of this review will fall into two categories; those new to clinical neuropsychology who want to know which books they should spend their inadequate text book budgets on, and those who have been in the field for some time and very likely already possess one or more of the previous editions of the book. For this group, the primary concern is whether they can fit another book on their already groaning book shelves, and if they do add this edition will it provide sufficient added information to make the purchase worthwhile. My response to both these groups of readers is to go ahead and purchase this fourth edition, firstly for reasons that I will briefly set out below, and secondly because there comes a point in the lives of editors when they simply refuse to take on a task as mammoth as this again, and I predict that there may never be a fifth edition, at least not with Heilman and Valenstein as willing editors. The fourth edition may therefore become a collector's item.

For new and old readers, this text describes in detail the classical neuropsychological disorders, and includes new "classics" as old classics become re-categorised and better understood. These descriptions are informed by research findings and include the neurology, neuroanatomy and neuropathology of the main disorders as well as describing the neuropsychological impairments, usually with a broad description of how these impairments are assessed. Each chapter is entirely independent of the other chapters, and a common series of chapter section headings are not used, allowing each chapter to follow a structure that fits the demands of that specific topic. In total the 21 chapters are written by 34 authors, all experts in their fields.

The book as a whole has been well structured. The editors' introduction is similar to their previous edition introduction but with the addition of some salient comments on the computational models and functional imaging techniques that seem almost to be flooding the neuropsychology research literature in recent years. Their brief but wise comments on the limitations of current functional MRI methods as a means of understanding the relationships of brain to higher cognitive functions serve as a caution to the new cluster of neuropsychologists and cognitive psychologists who may be seduced into thinking the research findings emanating from these exciting new technologies supersede previous knowledge gleaned from more pedestrian assessment methods. This introduction thus provides a firm footing for the following 20 chapters where evidence from a wide range of investigative methods, along with varied theories and hypotheses, are used to build a multidimensional picture of brain–behavior relationships.

As a generalization, where authors of chapters include at least one of the authors of the same chapter in the third edition, the revisions are often relatively minor, although always with some new findings described, as well as one or more new sections, usually including new information on research flowing out of the fMRI literature, for example. However, 11 chapters are written by new authors, and many of these are on new topics, or topics combined in a new (and more functional) manner. Of particular note is the much expanded section of six chapters on disorders that come under the language or aphasia umbrella. The introductory chapter for this section by David Caplan titled "Aphasic Syndromes" provides a thought-provoking essay on syndromes generally and the classic and modern ways of thinking about syndromes of aphasia in particular. Caplan projects an exciting vision of the future of aphasia research given the new interaction of classical neurology with the wide ranging and increasingly sophisticated behavioral and imaging methods now available. The following five chapters on different language disorders are complex, but provide clear descriptions, often with excellent diagrams, and up-to-date research reviews of the field. Clearly, chapters such as these are written for the more experienced neuropsychologist, and may be too detailed for many undergraduate students.

There are, however, many chapters in the book that I would recommend to undergraduates and experienced clinical neuropsychologists alike if they wish to discover the most important clinical facts about a disorder, as well as

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gaining a reasonably balanced view of current theory and research. The chapter titled "Neglect and Related Disorders" written by the two editors and Robert Watson, is an excellent example of such a chapter. This chapter has been revised with each edition of the book—for example the section on neurorehabilitation has been up-dated to reflect recent research discoveries—but remains arguably the best general description of neglect ever written. The chapters titled "The Callosal Syndromes," "The Frontal Lobes," and "Amnestic Disorders," also written by at least one of the authors of the same chapters in the previous edition, similarly provide a sound and broad description of the topic with the addition of relevant new research-based information. There are many other chapters with the same attributes. A winning feature of this edition is the inclusion of some entirely new topics, including a chapter on the fascinating anosognosia class of disorders, one titled "Hallucinations and Related Conditions," and another titled "Pharmacotherapy of Cognition."

In conclusion, this fourth edition of a classic text is a very readable and contemporary mix of old (but updated) favorites, completely new chapters on topics also found in the previous edition, and chapters on completely new topics. In the tradition of books published by Oxford University Press, it is a beautiful book, and although a little too heavy (in both senses of the word) and thought-provoking to read in bed, it is certainly eminently more satisfying (and more reliable) than surfing the neuroscience web pages. I have no compunction in recommending that any serious student of clinical neuropsychology, whether new to the game or near retirement, takes out a second mortgage if necessary to purchase this book for their own shelves.

Mild Cognitive Impairment: Can We Reliably Detect Alzheimer's Disease Before the Dementia Begins?

DOI: 10.1017/S1355617704240164

Mild Cognitive Impairment Aging to Alzheimer's Disease. R.C. Petersen (Ed.), 2003, New York: Oxford University Press. 269 pp., $55.00.

Reviewed by Feggy Ostrosky-Solis, Ph.D., *Head Neuropsychology and Psychophysiology Lab, Faculty of Psychology, National University of Mexico.*

People are living longer and along with this phenomenon emerges the concern about the quality of life as the person ages. While dementia is by no means a natural consequence of aging, both its incidence and prevalence increase dramatically with age, from 0.5 percent per year at the age of 65 years to nearly 8%/year after the age of 85 years (Evans et al. 1989). Alzheimer's disease (AD) is the most common cause of dementia. Although the goals of treatment in patients with AD have been to improve or, at least, to slow the deterioration of memory and cognition and to maintain independent function, research is moving from controlling symptoms to early identification and prevention of age-related cognitive disabilities.

Increasing evidence now suggests that the early pathogenic process of AD is protracted and may extend over decades. This preclinical stage includes a latent phase stretching from years to decades, where there may be no observable symptoms of the disease, followed by a shorter prodromal phase where mild symptoms are observed but preclude a clinical diagnosis. Unknown promoting factors somehow associated with aging convert this latent phase into a malignant cascade of molecular events that lead to degenerative neuronal process (Katzman, 1993, Petersen et al. 1999). This intermediate or transitional stage has been referred to by various names including, incipient dementia, prodormal AD, isolated memory impairment, and mild cognitive impairment (MCI). Currently, MCI refers to the clinical condition between normal aging and AD in which people experience memory loss to a greater extent than one would expect for their age, yet they do not meet currently accepted criteria for clinically probable AD (Petersen et al. 1999). These people progress to clinically probable AD at a considerably accelerated rate compared with healthy age-matched individuals. Consequently, this condition has been recognized as suitable for possible therapeutic intervention. As Selkoe (1997) points out, the most effective treatments for complex, chronic diseases like AD are usually those that interrupt an obligatory step occurring before a progressive cascade of cell damaging events. Therefore, the earlier the detection the better possibilities of modifying the course of the disease.

This volume is a broad and encompassing resource that provides research findings on the transitional condition between normal aging and very early AD, consisting of 12 chapters written by acknowledged experts currently engaged as active researchers in their respective topic areas. The chapters are stellar in their readability and informative nature. The initial chapter written by the editor, Ronald Petersen, outlines the conceptual nature of MCI as it currently exists. It addresses some of the controversial areas, including its clinical presentation (amnestic form, multiple-domain form, and single non-memory domain) and the etiological heterogeneity, seen in degenerative as well as non-AD degenerative conditions such as hippocampal sclerosis. This last one

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may progress to other forms of dementia such as vascular dementia, or may remain static, thus forming a group of false-positive: patients with MCI who do not progress.

The clinical chapters (2, 3, and 11) provide an historical perspective of the cognitive and functional characteristics (chapter 2) and of the noncognitive symptoms, such as changes in mood, personality and emotion as potential early markers of the presence of AD (chapter 3). Chapter 11 reviews the different types of examination necessary for making the diagnosis of MCI including clinical history, mental status examination, general neurologic and medical exam, and neuropsychological testing. The role of neuropsychological testing in establishing the diagnosis of MCI has been controversial. Some have advocated strict cognitive cutoffs to operationalize the diagnosis, while others have proposed less rigorous clinical criteria. The neuropsychology chapters (4 and 5) raise questions as to the appropriate standards for comparison, and present normative and clinical approaches to the cognitive characterization of normal subjects.

The structural and functional aspects of neuroimaging of individuals with MCI are treated in chapters 6 and 7. Chapter 6 points out that MRI-based volumetric measurements of hippocampus and/or entorhinal cortex are useful predictors of progression from MCI to AD. Functional neuroimaging studies, using single photon emission computed tomography, have reported areas of hypometabolism in posterior cingulate, and using positron emission computed tomography individuals with a genetic (familial) risk factor of AD show areas of hypometabolism in the temporal parietal regions while they are still asymptomatic. Chapters 8 and 9 review the neuropathology of AD and MCI. Data suggest that normal aging is distinct from the neuropathology of MCI or of AD, but that the latter two are remarkably similar in type and neuroanatomical distribution of lesions and are primarily differentiated by the quantity of lesions. Biomarkers such as CSF tau, CSF AB42, and APP isoforms in platelets, neural thread protein, and p97 are discussed as important adjuncts in making the clinical diagnosis of MCI. The final chapter reviews the current status of AD therapy and outlines trials that are underway for MCI.

In conclusion, this book is a collection of well-written reviews that offers the most recent advancements in the field. Its chapters are well written, well organized, and well referenced. This integrated information can help to clarify whether MCI is truly a diagnostic entity that can be characterized for treatment intervention. Thus the concept of MCI could be a very useful classification for increasing the opportunity of effective treatment. It is important to keep in mind that MCI appears to identify persons at significantly elevated risk to progress to an untreatable dementia but there is still a large proportion of subjects that fulfill the MCI criteria who do not progress to dementia, therefore, the book should have included recommendation concerning ethical issues in the diagnosis and treatment of individuals with MCI.

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