

## BOOK REVIEWS

### **Everything the Public Wanted to Know About Memory and May (or May Not) Have Been Afraid to Ask**

*Memory: Remembering and Forgetting in Everyday Life*, by Barry Gordon. 1995. New York: Mastermedia Limited. 292 pp., \$25.00.

Reviewed by GLENN J. LARRABEE, Ph.D., *Center for Neuropsychological Studies, University of Florida, and Sarasota Memorial Hospital.*

*Memory: Remembering and Forgetting in Everyday Life* is the first book sponsored by the Dana Alliance for Brain Initiatives, an organization founded in November, 1992, and comprised of neuroscientists dedicated to expanding public understanding of the brain. The impetus for forming the Dana Alliance was the perceived limited effect of the Presidential declaration of the “Decade of the Brain,” to generate public interest for support of brain research. The educational goals of the Dana Alliance, highlighting the significance of brain research and its major importance for the general public, are well served by Dr. Gordon’s volume on memory. Indeed, *memory* is probably the neuroscience topic of greatest interest to the general public. Dr. Gordon does a masterful job of interlacing basic scientific research and knowledge regarding memory function with practical, everyday, “every-person” memory experiences, successes, and failures.

Although Dr. Gordon followed a planned sequence in the book, it is also written so that it can be read piecemeal, in a paragraph, chapter, or section-at-a-time fashion. *Memory* is organized in five sections: Part I, “Myths and Worries” (chapters 1, 2); Part II, “Coming to Know Your Own Memory” (chapters 3–14); Part III, “Is Your Memory Normal?” (chapters 15–19); Part IV, “People with Problems: What Can Make Your Memory Worse” (chapters 20–35); and Part V, “Improving Your Memory” (chapters 36, 37).

The lay reader’s attention is immediately captured by the first two chapters, “Common Memory Myths Debunked” (e.g., “People can forget their identities and get them back from a blow on the head”; “The more your memory problems bother you, the more serious they are”), and “What Are You Worried About,” which presents data on *common* memory complaints based on research by Dr. Karen Bolla and colleagues (e.g., 83% of persons surveyed reported problems forgetting names). These two chapters capture the reader’s interest by (a) referencing common concerns regarding memory; and (b) setting the expectation that every concern

about memory is not necessarily an ominous sign of impending neurological deterioration.

Part II of Gordon’s volume, “Coming to Know Your Own Memory,” further engages the reader by presenting personally relevant memoranda and “tests,” for example, recognition of famous faces, slogans, or historical information. This section also introduces memory research and theoretical concepts, making the distinction between recall and recognition and providing an illustration of memory associative networks. Déjà vu, jamais vu, and source amnesia are discussed using practical, everyday examples. The distinction is made between immediate and long-term memory. Implicit memory is considered in relation to the “unconscious” and to procedural memory. Learning, consolidation, storage, retrieval, and forgetting are discussed using everyday examples.

Following discussion of the processes by which human memory operates, Gordon reviews the neuroanatomy of memory, including relevant diencephalic and temporal lobe structures. The reader is introduced to the dissociation between impaired explicit memory *versus* preserved implicit memory in amnesia. Nerve cells, and neurotransmitters are discussed in easy-to-understand terms, with clear illustrations.

Part III, “Is Your Memory Normal?”, provides a practical discussion of what is normal *versus* abnormal memory functioning, discussing neurologic, toxic, and emotional contributions to memory dysfunction. This section includes a self assessment questionnaire and a questionnaire to be completed by a spouse or close friend. Although this part of the book is quite useful for self-assessments, Gordon emphasizes that if there is any worry about one’s memory (self-concern or particularly, concern by others), the reader should seek evaluation by appropriate medical professionals. Most of Part III is involved with normal memory phenomena, such as the tip-of-the-tongue experience, how normal memory behaves, including a discussion of gender differences, and

the reconstructive nature of recall. Also considered are the “super memories” of mnemonists.

Section IV discusses actual clinical memory disorders. This begins with a consideration of nonneurologic influences on memory, such as being overly concerned about typical everyday lapses in memory function, and the results of overloading a normal memory. Prescription drugs with potential to negatively affect memory are discussed, as well as the disruptive effects of depression, anxiety, and the unavoidable affects of normal aging on memory function. These normal nonneurologic factors are followed by a comprehensive discussion about Alzheimer’s disease including symptoms, differential diagnosis, and possible etiologic factors, including genetic contributions and apolipoprotein E. The section on dementia is followed by discussion of amnesic disorders.

At this point in the book, the reader has a good understanding of how normal memory truly operates, and how this is disrupted by diseases such as dementia or amnesia. Gordon then provides an interesting chapter on how the media portrays amnesia, followed by a chapter entitled “Head Injury—Real and Imagined” (including a discussion of malingering). Subsequently, amnesia, emotional trauma, and the unreliability of “recovered memories” are considered.

The final two chapters discuss ways of improving one’s memory, including what works and what does not work. This section provides discussion of very pragmatic, easy-to-use principles.

This practical, easy-to-read book is followed by an 11-page appendix with suggested further readings for the lay person and for the professional. The appendix provides general references as well as references organized to follow the five main sections of the book.

This is an excellent text for the lay public, providing up-to-date information on such topics as apolipoprotein E and age-associated memory impairment. Complex theoretical concepts such as explicit and implicit, declarative and procedural memory are discussed in easy-to-understand language using everyday examples. By the end of the volume, the reader has a good understanding of how memory works, and a clearer understanding of what constitutes normal *versus* abnormal memory function.

This volume should be of significant interest to the intelligent lay public. The material is probably too complex for memory disordered patients, but is definitely useful for their relatives and significant others, and could be quite therapeutic for the intelligent, “worried well” patient. This book would also be an excellent companion text for an undergraduate course on learning and memory. On a professional level, the text can give the clinician who sees memory disordered patients a new perspective on how these patients (and their spouses) may come to view and understand their memory disorders. This volume is of particular value to the internist or family practitioner who has a large geriatric practice, but who is not specifically trained in behavioral neurology or neuropsychology.

## All Rose Bushes Have Some Thorns

*Ecological Validity of Neuropsychological Testing*, R.J. Sbordone and C.J. Long (Eds.). 1996. Delray Beach, FL: St. Lucie Press. 513 pp. \$89.95.

Reviewed by WENDY A. LAW, Ph.D., Assistant Professor, Department of Medical and Clinical Psychology, Uniformed Services University of the Health Sciences, Bethesda, MD 20814.

*Ecological Validity of Neuropsychological Testing* is a 20-chapter edited volume that is well organized by topical sections and truly reflects the worthy and strenuous efforts “of many highly respected and prominent neuropsychologists,” as noted by the editors. In addition to its appropriate selection of topics and noteworthy contributors, the editors assert that a primary emphasis is to mandate the identification and use of empirically based procedures in interpretation of neuropsychological test results. Despite this mandate, the introductions, to neuropsychological testing by Dr. Charles J. Long in chapter 1, and to ecological validity by Dr. Robert J. Sbordone in chapter 2, appear to reflect the authors’ professional opinions and beliefs more than empirically driven research findings. The primary emphases in these ini-

tiating two chapters seem unnecessarily negative regarding the current status of neuropsychology as a worthy discipline, and contrast sharply with the extensive discussion of issues that are associated with other disciplines.

In chapter 3, Dr. Andrew W. Siegal attempts to provide an integrated theoretical approach for examining contributions that can be obtained from inclusion of a comprehensive history, observational data, and self-reported levels of functioning. Unfortunately, the primary focus of the chapter centers on repeated reference to a graphical figure that is incomplete, and consequently incomprehensible in relation to the text. Nonetheless, this chapter does provide an exhaustive history format that is recommended by the author and is appended at the end of the volume. Dr. Gerald Gold-

stein begins the second section of the book with chapter 4 by reviewing what are purportedly necessary contributions from ecological psychology, behavior theory, and rehabilitation technology to the ecological validity of neuropsychological evaluation. However, like the introductory chapters, greater emphasis is placed on what neuropsychology is not, rather than what neuropsychology is or how it can be enhanced through cooperative efforts with these other existing disciplines.

Beyond these earliest somewhat discouraging chapters, the character of the volume changes considerably. Chapters 5, 6, and 7 are refreshingly honest in asserting the diversity of current neuropsychological practices, as well as the existing linkages with ecological validity concerns, offering suggestions for enhancing or modifying existing measures. In addition, there is clear recognition of the lack of specificity or meaningfulness with “ecological validity” itself. These three chapters, by Drs. Michael D. Franzen and Karen L. Wilhelm (chapter 5), Dr. David E. Hartman (chapter 6), and Dr. J. Michael Williams (chapter 7), thus provide a well-rounded introduction to issues in the ecological validity of neuropsychological assessment practices.

The final section of the book begins with several chapters examining the contributions of specific cognitive domains to behavior, with emphasis on the behavioral impact of both normal and disrupted functioning. Drs. Kimberly A. Kerns and Catherine A. Mateer, in chapter 8, and Dr. Lloyd I. Cripe, in chapter 9, respectively provide empirical reviews of the complex processes associated with attention and executive functioning. Each chapter then examines the limitations of the relationship between quantitative neuropsychological data and evaluation of these component processes, highlighting the advantages of incorporating objective qualitative assessment with standard summary scores. The discussion of perceptual functioning by Drs. Barbara Ann Cubic and William Drew Gouvier in chapter 10 also reviews distinct processes and assessment measures commonly involved in evaluation of this cognitive domain. Additionally, this chapter introduces a brief review of published literature on neuropsychologically-based interventions designed to remediate functional aspects of perceptual impairment, including suggested strengths and weaknesses of several different intervention approaches.

In chapter 11, Drs. Glenn J. Larrabee and Thomas H. Crook discuss the contributions of questionnaire data and direct and simulated memory measures to understanding the relationship between neuropsychological assessment of memory and everyday memory function. Dr. Bruce Crosson then describes, in chapter 12, a variety of complex processes associated with assessment of language by providing a gold standard set of criteria for selecting measures to conduct a thorough evaluation. Dr. Crosson completes the chapter by summarizing potential functional effects of subtle language difficulties, differentiating contributions of empirical findings from his professional experiences and opinion. As with the earlier chapters, emphasis is placed on the significant limitations and inadequacy in using test scores

in isolation when interpreting, understanding, and describing complex cognitive functions.

Chapter 13, by Dr. Linas A. Bieliauskas, examines relations between neuropsychological assessment of distinct cognitive domains and performance of daily activities in the elderly population. The analysis presented by Dr. Bieliauskas captures the essence of logical extrapolation to questions of ecological validity from results obtained using current neuropsychological practices. In chapter 14, Drs. Patricia Perez-Arce and Antonio E. Puente then review assessment issues related to ethnic-minority populations, highlighting the misinterpretation of quantitative findings when culturally relevant considerations are not incorporated into the evaluation process. These authors also address the futility of ecological validity issues in neuropsychological test data, if they are not appropriate for the population being evaluated.

Chapter 15 introduces the necessary circularity in using independent psychometric “metameasures” of ecological validity such as are reflected in school tests and graded performance. The authors, Drs. Lawrence C. Hartlage and Donald I. Templer, also contrast different aspects of the predictive utility of the Halstead-Reitan Battery for Children and the Luria Nebraska Neuropsychological Battery for Children. Drs. Tedd Judd and David Fordyce, in chapter 16, indirectly address ecological validity issues of a specific *population* through their examination of personality test use in neuropsychological assessment. Specific emphasis is given to the importance of differentiating findings from standard personality tests that are used for evaluating psychiatric populations from the psychological, psychiatric, or personality changes that often occur in association with central nervous system disruption. Dr. Arthur M. Horton then introduces, in chapter 17, methodological, conceptual, and research issues related to ecological validity of neuropsychological testing in drug abusers, clearly acknowledging the limited empirical research available for this topic.

At the end of the volume, chapters 18 and 19 provide overviews of the direct extrapolation of neuropsychological testing to rehabilitation and vocational functioning. First, Drs. Brian T. McMahon and Linda R. Shaw acknowledge the valuable contributions of a multidisciplinary approach and, in the next chapter, Dr. Thomas J. Guilmette and Marianna Pinchot Kastner emphasize the importance of a multidimensional examination by the neuropsychologist, reflecting between-group and within-group emphases. Finally, Dr. Barbara A. Wilson concludes the volume with the extrapolation of ecological validity issues from neuropsychological assessment to pragmatic, real-life difficulties associated with improvement after severe brain injury. This important chapter explicitly notes the wide variability in current theoretical and practical approaches to ecological validity and professional neuropsychology as a discipline, highlighting the distinction between indirect inference and direct description of behavioral deficits from neuropsychological assessment. Further, it provides a brief review of select assessments that were specifically designed to predict patient performance in real-life settings.

As with most edited volumes, the variety of writing styles and neuropsychological perspectives makes continuous reading an exhausting task. This volume is best absorbed in small doses, with specific topic interests guiding selection of chapters for review. It is unfortunately confusing as a summary volume on the ecological validity of neuropsychological testing, although it is probably the best available at the present time. Nonetheless, this book does provide ample opportu-

nity to read about, and debate on, the clearly heterogeneous perspectives and approaches to ecological validity issues in neuropsychological testing. In addition, because of its diversity in topics and perspectives, it offers food for thought regarding the relative contributions of current neuropsychological assessment practices and the future direction of neuropsychology as a profession.

## **Pediatric Head Injury: Past, Present, and Future**

*Traumatic Head Injury in Children.* Sarah H. Broman and Mary Ellen Michel (Eds.). 1995. New York: Oxford University Press. 293 pp., \$45.00.

Reviewed by VICKI ANDERSON, Ph.D., *University of Melbourne, Victoria, Australia.*

This text provides a thorough account of the current state of knowledge in pediatric head injury, emphasizing methodological problems and conceptual complexities existing in the field. The editors note that it evolved from a meeting associated with the conference of the National Institute of Neurological Disorders and Stroke (1993). This collection of papers includes contributions from various research groups, each of which has played a major role in advancing our understanding of pediatric head injury. The strength of the volume rests on its emphasis on the need to utilize a specifically developmental framework, rather than simply extrapolate from adult head injury models. It is an excellent reference for both clinicians and researchers, encompassing as it does, a fairly exhaustive account of the ongoing development of knowledge, the nature of expected deficits, and the important risk factors that may interact to determine outcome, as well as the methodological pitfalls inherent in the field.

The text is divided into three major parts. Part 1 provides an up-to-date discussion of the inconsistency of definition in head injury, and related problems in determining predictors of outcome. The volume begins with a chapter by Fletcher and colleagues emphasizing variability of outcome following pediatric head injury, and the possible reasons for this. These authors describe the multitude of difficulties encountered in the field, including the ever-changing developmental context of the child, the lack of clarity of definition, the paucity of appropriate measures for gauging injury severity, the heterogeneity of the head injury population, and the lack of knowledge regarding prognosis and predictors of outcome. These various themes are taken up by many authors in subsequent chapters. Having introduced the reader to the complexities of the field, the text then moves to discuss current knowledge with respect to epidemiology (Kraus) and pathophysiology (Bruce). While

these chapters provide a useful orientation for newcomers to the field, they also include valuable material stressing aspects of specific relevance to the pediatric age range.

Part 2 gives a comprehensive account of the development of knowledge of pediatric head injury. It includes a range of research-based material that addresses various aspects of behavior that are disrupted as a consequence of head injury. This section reviews the contributions of a number of eminent pediatric research programs: It traces the earliest studies of the groups, the ongoing accumulation of knowledge, and the methodological problems each group encountered. David Shaffer gives an account of early British studies that investigated the relationship between pediatric head injury and behavioral disturbance, noting methodological factors hampering progress in the field; in particular the problems of establishing a causal link between injury and behavioral problems. Harvey Levin outlines his group's extensive research program, beginning with their original studies, which addressed broad-based research questions, to more focused studies of language and memory and, most recently, to studies seeking to establish associations between neuropathological parameters and neurobehavioral symptoms. In chapters 6 and 9, the nature of high level sequelae including language disturbance (Chapman) and attentional deficits (Dennis and coworkers) are described, with an emphasis on the need for careful characterization of such problems. These authors illustrate how recent advances in theory and experimental methods devised for noninjured populations may enhance our understanding of these abilities in the pediatric head injury population. Taylor and his colleagues give the reader some insight into the importance of family functioning for outcome following pediatric head injury, pointing out the limitations of previous research and describing their current research program, including some preliminary findings. Two

chapters are devoted to the search for clarification of outcome following mild head injury in children. Asarnow's group and Bijur and Haslum employ contrasting methodologies in their attempts to improve understanding of this controversial issue.

Part 2 provides "one-stop shopping" for the reader who is seeking an in-depth understanding of the issues associated with pediatric head injury, and thus is an excellent reference tool. However, not much new data is presented. Many of the chapters review previously published work or describe ongoing research programs for which only preliminary data are available.

Part 3 addresses the perennial problems of outcome and intervention. From the tenor of each of these chapters it is clear that the study of these issues is in its infancy and fraught with difficulties. The authors each refer to the previously noted risk factors that make endeavors such as evaluation

of interventions or characterization of outcome extremely difficult. However all stress the importance of persisting in these studies and include suggestions for devising appropriate methodologies.

The final two chapters (those of Shaywitz and Benton) provide the reader with a concise summary of the important issues in the field.

Each contributor has stressed the complexity of conducting quality pediatric head injury research and the problems associated with the heterogeneity of the population. Most authors endorsed a need to consider specific risk factors including injury severity, age at injury, time since injury, premorbid abilities, psychosocial factors. There was a strong emphasis on taking a longitudinal, developmental perspective, rather than simply assuming adult models apply. In summary, this text is long overdue and most welcome.

## Memory and its Disorders

*Searching for Memory: The Brain, the Mind, and the Past*, by Daniel L. Schacter. 1996. New York: Basic Books. 398 pp., \$27.00.

Reviewed by PAUL J. MASSMAN, Ph.D., *Department of Psychology, University of Houston, and Department of Neurology, Baylor College of Medicine.*

By any yardstick, this book is an impressive accomplishment. Daniel Schacter has produced a work that will inform and engage a wide audience, ranging from the sophisticated lay reader to clinical and research neuropsychologists, including those who already know a good deal about memory and its disorders. In a graduate school neuropsychology curriculum, this book would be a useful supplement to some of the drier treatments of memory found in textbooks and journal articles. Of course, many topics in memory research (e.g., neurobiology, neural networks, working memory, the relationship between language and memory, as well as more practical issues regarding clinical memory assessment) cannot be addressed in a book such as this. However, concerning the many issues that *are* presented, Schacter certainly provides sufficient theoretical and empirical meat, as well as the spice of numerous literary references (Márquez, Bellow, Proust, etc.); 28 artistic reproductions (paintings, sculpture, collages, photographs, even MRI "art"); cogent, often poignant, observations by artists, patients, and other acquaintances about memory function and dysfunction; and thought-provoking personal anecdotes and reflections. The human brain's awesome abilities to engage in "mental time travel" are juxtaposed with the fragility and malleability of these processes.

The text of the book clearly presents Schacter's major theses, but for the reader interested in pursuing issues in

greater depth, he also provides nearly 500 detailed, substantive footnotes and over 800 references spanning the cognitive psychology, cognitive neuroscience, and neuropsychology literatures. It will be the rare reader whose interest will not be piqued enough to acquire and read additional material referred to in this book.

Schacter covers the familiar territory of research done with primates, Korsakoff's patients, Alzheimer's patients, and patients H.M., R.B., Boswell, and G.R., but does an admirable job of presenting this information in a stimulating manner and placing it in historical and theoretical context. Not surprisingly, he also presents much of his own implicit memory and PET scan work. While this material deserves to be included for its scientific merit, Schacter also manages to convey the (at least occasional) personal thrill and satisfaction of the research enterprise.

In addition to exploring mainstream issues in memory research, Schacter tackles the thorny topics of "recovered" memory (of abuse, satanic rituals, etc.), psychogenic amnesia, multiple personality, traumatic flashbacks, déjà vu, and flashbulb memory. Regarding the recovered memory controversy, many of us have probably had the experience of friends or relatives asking us something like, "Hey Ms./Mr. Brain Expert, what's your take on this epidemic of people remembering previously "repressed" episodes of abuse?" At

least having heard of Elizabeth Loftus, we may have muttered something like, “Well, some people, especially children, may be influenced by repeated, leading questions put to them by therapists or other authority figures who “want” them to remember incidents of abuse, to create “memories” of events that never happened.” After reading Schacter’s book, one can surely give a more complete, sophisticated response.

Schacter places his discussion of this and other examples of possible false recollections in the context of memories being “imaginative reconstructions” of the past. The original engram (which, of course, was itself influenced by the idiosyncratic encoding operations of the individual in a specific encoding environment) is combined with the present retrieval cue to form a new, emergent recollective experience. In addition, many memories are retrieved multiple times and so may undergo an evolution in content as different retrieval cues are encountered.

In psychotherapy, especially, the past is continuously being reconstructed and reinterpreted by the patient with the help of retrieval cues provided by the therapist. When asked to retrieve old, blurry memories of events which may or may not have actually occurred, the retrieval cue may become a large part (or the only part) of the engram + cue combination. The willingness of a person to accept this combination as representing an event that really happened probably depends on the perceived reliability of the retrieval cue (which is usually high in the case of a therapist or authority figure), expectations about what could have or should have happened based on other experiences and beliefs, and the ability to distinguish self-generated thoughts from memories of actual, external events (a type of source memory).

Schacter adds that hypnosis creates a retrieval environment that increases a person’s willingness to call just about any mental experience a memory. Also, visualization of a supposed prior event, especially under the “guidance” of a therapist, is a potent method for creating the kind of subjective feeling that accompanies an authentic memory, perhaps in part because visual imagery and visual perception appear to activate the same cortical regions. Finally, discussing recovered memories with others in the context of group therapy could add still more confidence to the belief that the recovered abuse really happened, and perhaps the memory of this abuse could even evolve to incorporate elements of the abuse stories of others in the group.

While providing all these caveats in evaluating the authenticity of recovered memories, Schacter points out that we really do not know if “pseudomemories” are rare or widespread, and that we should not let our concern about false memories blind us to the pain of actual abuse survivors. Rather than trying to score political points on one side or the other, investigators should be working to devise better techniques to distinguish real memories from pseudomemories.

Schacter applies this same type of discerning treatment to the other difficult topics mentioned earlier, e.g., psychogenic amnesia. Readers will be left with a clear idea of what is presently known and unknown about these issues, along with some tantalizing clues which may point the way to the resolution of unanswered questions. In summary, this is an engrossing work and, in cost-benefit terms, the ratio of interesting ideas to price per page is certainly among the highest you are going to find in a medical, or any other, bookstore!

## A Vital Need for Consensus

*A Guide to Adult Neuropsychological Diagnosis*, by Anthony Y. Stringer. 1996. Philadelphia: F.A. Davis Company. 510 pp., \$69.95.

Reviewed by PAUL J. ESLINGER, Ph.D., *Professor of Neurology and Behavioral Science, College of Medicine, Pennsylvania State University, Hershey, PA 17033.*

This soft cover volume is designed to provide a common frame of reference for adult neuropsychological disorders and attempts to meet this challenge by providing operational definitions for more than 140 diagnostic classifications. With the assistance of Robert Green, MD, Anthony Stringer, Ph.D. has taken an important step toward defining and categorizing the vast sea of adult cognitive, emotional, and behavioral impairments that have been associated with acquired brain injuries. The main approach is a descriptive one that enumerates the types of clinical indicators and ancillary features associated with neuropsychological disorders.

This approach is to be differentiated from those based primarily on theoretical notions, neuroanatomy, syndromes, and underlying mechanisms of nervous function and its pathophysiology.

The book is organized around 18 categories of neuropsychological disorders. These range from disorders of alertness, concentration, and stimulus processing (including neglect, form imperception, spatial imperception, localization, and recognition) to disorders of oral and written language, memory, emotional communication, visual-motor integration, interhemispheric transfer, cognitive regulation

of movement, calculation, illusion, and hallucination, and the broad categories of intellectual decline and disorders of emotion, ideation, and behavior. Each chapter begins with a synopsis of nomenclature, followed by itemization of the clinical indicators, associated features, factors to rule out and lesion inferences for several neuropsychological disorders. Brief comments are offered on issues of etiology, disabling consequences, and pertinent assessment instruments. Several case descriptions illustrate diagnostic points.

The choice of diagnostic categories constitutes an interesting line-up, notable for its inclusions as well as omissions. For example, illusion (metamorphopsia) and hallucination (hallucinosia) are rarely considered a major diagnostic category. Disorders of concentration are usually not identified as a separate category from attention. In this volume, concentration refers to the voluntary and purposeful direction of one's thoughts and actions toward stimuli. This results in disorders identified as "concentration span reduction" and "divided concentration deficiency," whereas attentional disorders are reserved for various aspects of stimulus neglect. Such distinctions are debatable and require far greater definition and elucidation within our field.

The listing of diagnostic categories curiously omits any direct reference to what have come to be known as "executive function" disorders, perhaps the most challenging and puzzling to understand, diagnose, and treat. Yet the pressing reality is that executive function disorders are major clinical problems in need of a nomenclature and classification system that will advance their recognition and rehabilitation. Certain impairments subsumed under the rubric of executive functions are identified here, such as impulse disinhibition, perseveration, and what are termed "ideational constriction" and "ideational disorientation," referring to reduced ability to think flexibly, abstractly, and accurately. However, because these elements may not capture the breath and depth of executive function impairment, a strong argument for concurrent identification of certain syndromes can be made.

Classification of memory disorders is surprisingly cursory, given its high prevalence with brain damage and the notable advances of recent clinical research. Distinctions among recall, recognition and encoding—organizational processes, for example, are important in establishing how and why learning and memory break down, and how subsequent patient treatment may be oriented. Yet, patients who show delayed retrieval deficits with intact recognition are classi-

fied the same as those who show neither retrieval nor recognition memory and those whose poor retrieval is related to disorganized learning. Arguably, these might be considered secondary classifications to the primary memory impairment, but such distinctions are meant to capture the impaired elements of complex processes that may inform rehabilitation approaches.

The diagnostic categories employed by clinical neuropsychologists often harbor particular variations and descriptors others may not share. Hence, concerns about Dr. Stringer's or other's particular descriptive classifications would be quite common, and indeed a criticism that would not escape any clinical neuropsychologist. Moreover, such diverse views contribute to the vibrancy of our difficult field and is a driving force toward progressively delineating clearer, crisper, and more reliable distinctions that bear upon disorders of human behavior and eventually to their effective management. A consensus panel composed of representatives from the leading clinical neuropsychological organizations would be a bold initiative for drafting a fundamental yet comprehensive diagnostic system, for such a system is clearly needed. Readers will notice Dr. Stringer bravely tries to identify available diagnostic codes for neuropsychological disorders, but as demonstrated throughout this book, the DSM and ICD-9 diagnostic systems are woefully inadequate for neuropsychological disorders. Furthermore, there is likely to be increasing pressure from managed care organizations to link treatments and interventions to specific diagnostic categories. Therefore, attention to diagnostic issues is a burgeoning and vital challenge at this time.

Dr. Stringer's labors are to be highly praised for the initial steps taken in delineating diagnostic issues and categories. For seasoned clinicians, the volume presents much to discuss and debate. For students, it collates substantial amounts of clinical materials which need to be discussed and elaborated with supervisors. In addition to learning clinical indicators and associated features for neuropsychological disorders, students will benefit from considering the many factors to rule out and lesion localization inferences outlined for each disorder. For the field of neuropsychology, this volume may represent an important point of departure that challenges our most creative and disciplined efforts to further establish a working system of adult diagnostic disorders that are linked to the solid base of clinical research and to emerging efforts at intervention and treatment.

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## OTHER BOOKS OF INTEREST

Chihiro, O., Kimura, M., & McKenzie, J.S. (Eds.). (1996). *The basal ganglia V. Advances in behavioral biology* (Vol. 47). New York: Plenum Press. 519 pp., \$139.50.

Clark, A. (1996). *Being there: Putting brain, body, and the world together again*. Cambridge, MA: The MIT Press. 269 pp., \$27.50.

Gazzaniga, M.S. (Ed.). (1996). *Conversations in the cognitive neurosciences*. Cambridge, MA: The MIT Press. 193 pp., \$15.00.

Kesselring, Jurg (Ed.). (1997). *Multiple sclerosis*. Cambridge, U.K.: Cambridge University Press. 214 pp., \$59.95.

McIlwain, J.T. (1996). *An introduction to the biology of vision*. Cambridge, U.K.: Cambridge University Press. 222 pp., \$60.95.

Perry, R., McKeith, I., & Perry, E. (Eds.). (1996). *Dementia with Lewy bodies: Clinical, pathological, and treatment issues*. Cambridge, U.K.: Cambridge University Press. 510 pp., \$120.00. ISBN 0-521-56188-4.

*Multiple Sclerosis*. Jurg Kesselring (Ed.). (1997). Cam-

bridge, U.K.: Cambridge University Press. 214 pp., \$59.95. ISBN: 0-521-48018-3.

*An Introduction to the Biology of Vision*. J.T. McIlwain. (1996). Cambridge, U.K.: Cambridge University Press. 222 pp., \$60.95 hb; ISBN: 0-521-49548-2; \$24.95 pb; ISBN: 0-521-498902.

*The Basal Ganglia V. Advances in Behavioral Biology* (vol. 47). O. Chihiro, M. Kimura, & J.S. McKenzie (Eds.). (1996). New York: Plenum. 519 pp., \$139.50. ISBN: 0-306-45386-X.

## ALSO OF INTEREST

Both these books address issues in cognitive neuropsychology: Gazzaniga's from a neuroscience perspective, Clark from insights derived from artificial intelligence experiments and sophisticated robotics.

*Being There. Putting Brain, Body, and the World Together Again*. A. Clark. (1996). Cambridge, MA: The MIT Press, 269 pp., \$27.50. ISBN 0-262-03240-6.

*Conversations in the Cognitive Neurosciences*. M.S. Gazzaniga (Ed.). (1966). Cambridge, MA: The MIT Press, 193 pp., \$15.00. ISBN 0-262-57117-X.