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BOOK REVIEWS

What Clinicians and Researchers Should Know and Remember About Amnesia: A Classic Book

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The Amnesias: A Clinical Textbook of Memory Disorders, by Andrew C. Papanicolaou. 2005. New York: Oxford University Press, 336 pp., $57.50 (HB).

Reviewed by Jose Leon-Carrion, Ph.D., *Human Neuropsychology Laboratory, University of Seville and Center for Brain Injury Rehabilitation (CRECER), Andalucia, Spain.*

Memory is one of the best-studied complex cognitive functions described in the neuropsychological literature. Excellent textbooks and research articles about memory and the brain are, and continue to be, published. Yet, it is difficult to integrate clinical and applied features of memory disorders with basic science data. This may be due to our uncertainty about whether a damaged brain functions like a healthy brain and whether results about cerebral functioning and memory processes for a healthy individual can be applied equally well to someone who has incurred brain damage. Brain circuitry is altered in the presence of brain injury, including the mechanisms of remembering and forgetting. Basic clinical studies of normal memory teach us what is "not" normal but we have learned far less about "how" the brain really functions in the presence of amnesia.

The Amnesias: A Clinical Textbook of Memory Disorders has a strong conceptual and theoretical base and is addressed to clinicians. This book is concerned with cerebral functions and the decay of memory mechanisms and processes: the amnesias. Every good book should begin by defining and clarifying the subject under study, which is deftly accomplished. In Chapter 1, *Phenomena and Constructs*, Andrew C. Papanicolaou writes clearly and extensively on the confusion that exists in ordinary speech and in technical discourse regarding the term "memory". He clarifies that when we use the term memory, we are referring to any of at least six distinct possibilities: a function, brain structures, neural codes, experiences, a category label, or a system. These distinctions are expressed with elegance, intelligence, and clarity. Explanation is provided about the common and diverse aspects of aphasia, agnosia, and apraxia, of mnemonic and amnesic phenomena, of the varieties of episodic and semantic memories, and, of implicit memories and their groupings. Autobiographical memories are explained in the context of episodic, semantic, and implicit memories. The author also provides ample discussion about constituent functions of the primary system, immediate or short-term memory, working memory, and retrieval before addressing the secondary memory system and its constituent functions. He ends with an overview of amnesia syndromes. This is a compact and clear chapter that is essential reading for those who must understand the phenomenon of memory in their day-to-day clinical practice.

Chapter 2, by Pramod Dash et al., focuses on the *Putative Brain Mechanisms of the Various Memory Functions*. The authors discuss the gross anatomical unit that constitutes the mechanisms of basic primary and secondary memory functions, microscopic biochemical events, and the influence of hormones and drugs on memory systems. They explain which brain structures are involved in encoding and retrieval, and consolidation. They also discuss the mechanisms of the secondary memory system, the long-term storage of memory traces, the role of the thalamus in memory function, and the relationships between memory and emotions. An important part of this chapter is the clear explanation of how neurotransmitter systems are involved in memory and what effect drugs, hormones, or stress will have on these systems.

Chapter 3, by Alexandra Economou et al., entitled *Age-Related Memory Decline*, begins by defining normal or successful aging as the absence of specific diagnostic or medical conditions, and intact physical and cognitive functioning. The authors then discuss the symptoms of memory difficulties in the elderly. The section dedicated to the differential diagnosis between dementia and normal memory problems related to aging includes two descriptive cases that follow age-related brain changes. The chapter ends with responses to four questions regarding age-related memory decline.

Chapter 4, by Economou et al., *Amnesia Associated With the Dementias*, explains how dementia-related amnesic syndromes vary not only in the neuroanatomical location of the damage but also in the progression and spreading of the degeneration. Six cases illustrate different syndromes: mild Alzheimer disease, strategic thalamic infarct dementia, tem-

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poral variant frontotemporal dementia, subcortical ischemic vascular dementia, Parkinson disease dementia, and frontal variant frontotemporal dementia. The chapter concludes with a discussion about epidemiology and predisposing factors, differential diagnosis, pathophysiology, prognosis and treatment, and conclusions and speculations.

Chapter 5, by Papanicolaou et al., *Semantic Amnesia*, is dedicated to consideration of the loss of, or inaccessibility to, facts and concepts that have been part of one's store of knowledge. Three clinical cases illustrate the syndrome and special emphasis is given to differential diagnosis, pathophysiology, and prognosis and treatment.

Rebecca Billingsley-Marshall et al. authored Chapter 6, *Limbic Amnesia*. Damage to the limbic system results in anterograde and retrograde deficits in explicit memory, the most consistent symptom being anterograde episodic amnesia. The authors explain how to test and confirm the symptoms associated with medial temporal lobe amnesia, diencephalic amnesia, and basal forebrain amnesia, and they also discuss precipitating factors, differential diagnosis, pathophysiology, and prognosis and treatment.

Chapter 7, *Traumatic Amnesia*, by Mary Kosmidis et al., is concerned with memory disorders associated with a traumatic brain injury (TBI). Symptoms are presented through study of three cases from the literature. The types of memories affected by TBI and associated neuropsychiatric sequelae are discussed, as are precipitating factors, pathophysiology, and prognosis and treatment.

Simos and Papanicolaou authored Chapter 8, *Transient Global Amnesia*, in which they describe an apparently benign disorder of memory that has a sudden and disconcerting onset, is resolved almost entirely within a few hours, and rarely lasts more than 24 hours. Three cases from the literature are presented along with a thorough discussion of definition and clinical symptoms. As in other chapters, precipitating factors, differential diagnosis, pathophysiology, and prognosis and treatment are well discussed.

In Chapter 9, Papanicolaou and Kosmidis grapple with a condition that is difficult to diagnose: *Transient Epileptic Amnesia*. It is characterized by transient episodes of amnesia, which take place while the patient behaves normally. Clinical features and differential diagnosis are discussed.

Chapter 10, *Electroconvulsive Therapy-Induced Amnesia*, by Papanicolaou and Kosmidis, describes memory impairment that occurs after electroconvulsive therapy (ECT), and which is characterized by a disruption of the process of consolidation of newly learned information during induced seizures.

In Chapter 11, Savvidou et al. discuss *Psychogenic Amnesias*. Three characteristics are well described: that psychogenic amnesia is exclusively retrograde in nature, is highly selective, and has deficits that are reversible. Four clinical cases are presented and different controversial treatments are described.

Papanicolaou, in the 12th and final chapter, writes *Notes for a Theory of Memory* with the intention of providing a theoretical framework within the reasonable working hypotheses that are widely accepted today. The book ends with an *Appendix of Neuropsychological Tests* written by Loring, and an extensive number of references covering current and significant literature on memory and amnesias.

In general, it is important to note that despite being a collective effort, the book is also the work of one author in particular. Papanicolaou participated in every chapter, and ensured that each had a similar structure. This gives the book a special coherence for which the reader is grateful. Overall, this well-written book clearly discusses relevant concepts and research. Clinicians will want to include *The Amnesias: A Clinical Textbook of Memory Disorders* in their resource library and will value it as a practical handbook that covers amnesia syndromes likely to be encountered in neurological or psychological patients. It is an indispensable resource for university teaching on amnesia and related disorders and it is equally indispensable for any neuropsychologist, neurologist, or neuropsychiatrist. Books such as this one are also particularly important for memory researchers, given its numerous heuristic suggestions. It is a book I highly recommend.

The New Compendium: A Mature Work of Outstanding Scholarship

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A Compendium of Neuropsychological Tests, Third Edition: Administration, Norms, and Commentary, by Esther Strauss, Elisabeth M.S. Sherman, and Otfried Spreen. 2006. New York: Oxford University Press, 1216 pp., $99.00 (HB).

Reviewed by Steven Hughes, Ph.D., *Department of Pediatrics and Neurology, University of Minnesota Medical School, Minneapolis, MN*

Many regard *A Compendium of Neuropsychological Tests* as an essential reference text. Principally valued for its test reviews, normative data, administration instructions, and commentary, its reviews of cognitive domains have also provided a useful overview of the field of neuropsychology. Published eight years after the second edition, one might expect the Third Edition to feature revised entries for updated tests, new entries for recently published tests, prun-

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ing of tests that are no longer in general use, and other minor revisions where appropriate. In fact, the new edition of the *Compendium* delivers dramatically more. As stated in the preface, the goal for this edition was to create a user-friendly reference work that covered all the relevant details of the most frequently used neuropsychological tests, and to provide a general overview of issues "germane to neuropsychological assessment." In short: To help you "know your tools" and to function as a guidebook to the practice of neuropsychology. These goals are surely met—beyond all expectations.

Compared to its predecessor, the third edition is a complete reworking of the text, and it has grown in almost every conceivable way. It is longer (1,216 compared to 736 pages), the page format is larger (8.5 in. by 11 in. compared to 7 in. × 10 in.), and it features a third author (Elisabeth Sherman). Domain-specific introductory material is expanded in many chapters, and two more general introductory chapters have been added to the beginning of the book. The actual number of tests reviewed has not grown proportionally (it now stands at 108 compared to 98), but reviews themselves are far more extensive (the main reason for the book's increased length).

In previous editions, selection of tests for the *Compendium* was based on their use in the University of Victoria Neuropsychology Laboratory. For this edition, the authors based inclusion on review of recent literature. Tests from the second edition were retained if they were still in general use; new tests were added based on their appearance in the literature (and the authors' sense of emerging trends in the field). The result is a full reorganization of the book that is both more specific in addressing tests of interest to neuropsychologists, and more general in addressing tests used by a greater number of neuropsychologists.

In total, fifty-four new tests have been added, while the occupational, vocational, and most of the general psychosocial and behavioral measures have been removed. The third edition also features expanded coverage of pediatric measures (e.g., the NEPSY, Test of Everyday Attention for Children, Behavior Rating Inventory of Executive Function, Children's Memory Scale, Gray Oral Reading Test-IV), and some pediatric tests formerly discussed in reviews of their adult counterparts are now separately reviewed (e.g., Wechsler Intelligence Scale for Children-IV, Wechsler Preschool and Primary Scales of Intelligence-III, and the California Verbal Learning Test-Children's Version). In addition, where applicable, reviews of adult-based measures also highlight normative data available for children and adolescents.

The format of test reviews has been changed and is more consistent. Each test's age range is reported at the beginning of its review, and far more extensive use of headings, subheadings, and tables significantly aids navigation within the expanded reviews. For example, the review of the Rey-Osterrieth Complex Figure Test (ROCF) has almost doubled in size (it now spans 30 pages with 158 references, up from 22 smaller pages and 73 references in the second edition). Finding a description of IQ or of a demographic variable's effect on the ROCF is nevertheless simple, as it is easy to flip through to find "Demographic Effects," and from there look for subheadings for Age, Gender, IQ, Education, or Ethnicity.

Chapter introductions also include a table listing test names, age ranges, administration time and other relevant details for the tests described in that section, and, at least for main subject areas (e.g., general cognitive functioning, executive functions, memory), these introductions have been expanded. New material for the chapter on assessment of response bias is particularly welcome and even includes information on management of clients and communication of findings when suboptimal performance is suspected. Finally, two new general introductory chapters join the existing chapters on history taking, test selection, and report writing. The new material presents an excellent, concise review of general principles of psychometrics and norm selection. Given the *Compendium's* role as a general reference work, this material might be overlooked by the reader, which would be a shame as the information they contain is valuable and presented well.

Certainly the *Compendium* cannot be all things to all people, and it seems petty to criticize its inevitable omissions, yet those who work with children will still notice some absences, including the Mullen, the UNIT, and other specialized tests such as the CTOPP. Such omissions are certainly forgivable, as the pediatric coverage is really quite expanded and there is much here that benefits both the adult and pediatric specialist. Some may wish that the increased size of this edition might have meant more reviews overall. Given the frustration occasionally encountered when a favorite test was found missing in past editions, this is understandable. Perhaps the authors' decision to include tests based on a literature review means that this will happen less often (what you want to find may be more likely to be there). As for the scope of the reviews, the individual reader must decide whether the authors' decision to go "deep" rather than "wide" was a good one. Even in their expanded form, the reviews remain as readable as they are informative, and the commentary on each test is simply invaluable. One would hate to see any of this material removed for the sake of brevity. Following recent trends among neuropsychology texts, this is also quite a large book, and two volumes would be welcome if it were to expand much further. It would also be helpful for the publisher to find a way to include the text on a CD-ROM, as this would greatly aid those who bring their work on the road.

Should you buy this book? In deciding, the reader must confront the question posed in the preface: "How well do you know your tools?" Most neuropsychologists would surely answer, *"Not as well as I wish I did."* Having a copy of the third edition of the Compendium at hand would help any of us 'know our tools' substantially better. *A Compendium of Neuropsychological Tests, Third Edition* is a mature work of outstanding scholarship, and it should find a place on every neuropsychologist's desk.

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Ethical Practice By the Book

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A Casebook of Ethical Challenges in Neuropsychology. Shane S. Bush (Ed.). 2005. New York: Psychology Press. 300 pp., $87.50 (HB).

Reviewed by Ida Sue Baron, Ph.D., ABPP-CN, *Independent Private Practice, Potomac, MD and Reston, VA, USA*

The publication of *Ethical Principles of Psychologists and Code of Conduct* by the American Psychological Association (2002) became an impetus for *A Casebook of Ethical Challenges in Neuropsychology*, edited by Shane Bush. Dr. Bush was also senior co-editor of *Ethical Issues in Neuropsychology* (Bush & Drexler, 2002), a volume that was specifically intended to aid neuropsychologists who were struggling with ambiguities related to the general guidelines in the APA 1992 Ethics Code. Both volumes are part of the Taylor and Francis series entitled *Studies on Neuropsychology, Development, and Cognition*. In the current volume's Foreward, Richard Naugle acknowledges how difficult it can be to obtain an overview of the ethics code and emphasizes how important it is that psychologists both understand the code and provide reasoned responses based on its standards in order to engage in ethical practice. His endorsement of this volume as a means to that end is not misguided.

This volume is divided into 13 Sections. Section 1, *Differences Between the 1992 and 2002 APA Ethics Codes: A Brief Overview*, briefly highlights changes and updates between the 1992 and 2002 Codes, the most significant of these regarding competence, informed consent, multiple relationships, multicultural issues, and release of test data and materials. Beginning with Section 2 and continuing through Section 13 a brief Editorial introduction introduces the reader to each section topic area for which there are individually authored chapters by well-respected colleagues who were entrusted to bring some clarity to a discussion of ethics in neuropsychology. Section 2, *Ethical Challenges in Forensic Neuropsychology*, contains 5 chapters (by Denney, Grote, Honor, Roper and Sweet, respectively). Sections 3 to 13 each contain two chapters: Ethical Challenges in Neuropsychology in Medical Settings (Pinkston, Wilde), Ethical Challenges in Neuropsychology in Psychiatric Settings (Moberg, Yozawitz), Ethical Challenges in Neuropsychology in Rehabilitation Settings (DeLuca, Johnson-Greene), Ethical Challenges in the Neuropsychology of Pain (Martelli, Nicholson), Ethical Challenges in Pediatric Neuropsychology (Fennell, Goldberg), Ethical Challenges in Geriatric Neuropsychology (McSweeny, Morgan), Ethical Challenges with Ethnically and Culturally Diverse Populations (Dede, Martin), Ethical Challenges With the Use of Information Technology and Telecommunications in Neuropsychology (Browndyke, Schatz), Ethical Challenges in Neuropsychological Research (Thompson, van Gorp), Ethical Challenges in Neuropsychological Test Development (Golden, Sivan), and Ethical Challenges in the Determination of Response Validity in Neuropsychology (Cox, Crouch), respectively. Each chapter follows a consistent and succinct format. The chapter author discusses two distinct scenarios, describes the relevant ethical issues for each scenario, and provides case resolution along with a conclusion and recommendations. The descriptions of specific cases from each author's own experience spans an extensive range of circumstances. These cases offer the reader a valuable context for their own practice or research setting and provide a focused perspective on how a colleague might, and should, respond to resolve a similar dilemma.

No one book about ethical challenges can anticipate all scenarios or answer all of the reader's questions but this volume provides a substantial number of cogent examples of ethical dilemmas that are specific to neuropsychological populations along with guidelines for rational resolution across a wide range of settings, always guided by the 2002 APA Ethics Code. The volume's organization facilitates easy scanning by topic area. *A Casebook of Ethical Challenges in Neuropsychology* will be of particular value in graduate level courses but certainly is worthwhile reading regardless of whether the individual vignettes directly apply to one's own professional practice parameters and irrespective of the neuropsychologist's experience level. It further serves the intended mission that Appendices are included that reprint *Ethical Principles of Psychologists and Code of Conduct* (American Psychological Association, 2002), and *Specialty Guidelines for Forensic Psychologists* ("Committee on Ethical Guidelines for Forensic Psychologists", 1991), condensing a critical and fundamental knowledge base conveniently into one volume.

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RECENT AND RELEVANT

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Fiber Pathways of the Brain, by Jeremy D. Schmahmann and Deepak N. Pandya. 2006. New York, NY: Oxford University Press, 654 pp., $135.00 (HB).

This finely detailed and beautifully illustrated volume summarizes an impressive body of work, the authors' detailed study of corticocortical and corticosubcortical connections of the rhesus monkey cerebral cortex. An introductory historical account of white matter structure and organization is followed by a presentation of the authors' experimental approach that allowed them to chart fiber systems from all regions of the cerebral cortex. The constituents of the cerebral white matter and the organization of the fiber tracts are presented through cases presented on a single template brain, that facilitates comparison of locations for the different fiber pathways. The result is a comprehensive atlas of cerebral white matter. A section on clinical relevance is included with discussion of neurobehavioral effects in patients with white matter lesions. The volume concludes with a discussion of anatomy of the cerebral hemisphere fiber pathways and the "putative functional properties and their roles in a more general view of brain organization" (p. 6).

Pediatric Neurology: Principles and Practice (Fourth Edition). Kenneth F. Swaiman, Stephen Ashwal, and Donna M. Ferriero (Eds.). 2006. Philadelphia, PA: Mosby Elsevier, Volume 1: 1–1180 pp., Volume 2: 1181–2408 pp., $399.00 (HB).

This comprehensive two-volume revision of the 1999 third edition includes new and revised chapters making it a valuable desk reference about clinical child neurology. Updated topic areas include neurogenetics, neuropsychopharmacology, neurorehabilitation ethics, newly identified diseases, and the Internet and child neurology.

A Textbook of Neuroanatomy. by Maria A. Patestas and Leslie P. Gartner. 2006. Malden, MA: Blackwell Publishing, 454 pp., $84.95 (PB).

The authors employ a number of teaching techniques to motivate students about central nervous system anatomy and basic physiology. Clinical relevance is conveyed through case presentation. A website (www.blackwellpublishing.com/patestas) presents illustrations and animations of key processes.

Neurogenic Disorders of Language: Theory Driven Clinical Practice, by Laura L. Murray and Heather M. Clark. 2006. Clifton Park, NY: Thomson Delmar Learning, 518pp., $54.95 (PB).

This book is written for speech language pathologists and related health care professionals caring for and managing adults with brain damage due to illness, accident, or progressive disease.

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