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## BOOK REVIEWS

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### **Core Memory for Clinicians**

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*The Essential Handbook of Memory Disorders for Clinicians*. Alan D. Baddeley, Michael D. Kopelman, and Barbara A. Wilson (Eds.). (2004). Chichester: John Wiley & Sons. 381 pp., \$45.00, £26.99/€40.50 (PB).

Reviewed by R.D. JONES, Ph.D., *Department of Neurology, University of Iowa, Iowa City, Iowa*.

In the preface to this book, the editors reflect that the original *Handbook of Memory Disorders* (Baddeley et al., 1995) was aimed at a clinically oriented readership. Following publication of the original text, it was noted that neuroscientists expressed enthusiasm for the work, thus the second edition of the handbook (Baddeley et al., 2002) expanded significantly on scientific issues that were perhaps of less immediate clinical relevance. The current text, which the editors have titled *The Essential Handbook of Memory Disorders for Clinicians* is composed of a series of chapters from the 2002 text. Similar to the 1995 first edition, the goal of this new book is to provide an accessible text aimed at clinicians. Core clinical issues of assessment, nomenclature, phenomenology, etiology, and management are examined as they relate to disorders of memory and associated underlying diseases.

The editors went about this task by selecting what they consider to be the more clinically relevant chapters from the second (2002) edition of *The Handbook of Memory Disorders*. The resulting text consists of a total of 15 chapters, authored for the most part by world-class clinicians and scientists. Although the book is not formally divided into sections, readers are likely to find themselves deriving four broad themes including contributions on the foundations of memory and amnesia, assessment, diseases underlying memory disorders, and rehabilitation and management. Although these broader themes are not covered in detail, the text does, in fact, generally address issues frequently confronted in practice. One could disagree with the inclusion or exclusion of selected chapters from the 2002 book to the current text, but in any case it is clear that the 15 chapters offered will be of value to clinicians.

Appropriately, the book begins with two chapters that lay the foundation for subsequent topics in the book. Studies of the psychology of memory are reviewed, including familiar topics such as types of memory (e.g., short-term memory, long-term memory), and stages of memory (encoding, stor-

age, retrieval). Neurologic conditions associated with amnesia (such as cerebral anoxia/ischemia, Wernicke-Korsakoff syndrome, cerebral vascular accidents, and others) and subtypes of amnesia and underlying neural circuitry are examined. In this context, the chapter by O'Connor and Verfaellie entitled "The amnesic syndrome: Overview and subtypes" should be considered mandatory reading for its elegant review of some of the principal neurologic conditions underlying amnesia.

A series of chapters dedicated to neurological conditions with associated memory disorders begins with an examination by Levin and Hanten of closed head injury as a cause for posttraumatic amnesia and residual memory deficits. The chapter is notable for its careful and commanding overview of the underlying empirical literature in this vast field. This is followed by well-informed chapters on psychogenic amnesia, acquired and congenital developmental amnesias, Alzheimer's disease, and memory dysfunction in an array of conditions associated with subcortical dementia (e.g., Huntington's disease, multiple sclerosis, Parkinson's disease).

A final series of chapters is aimed at clinically practical questions such as assessment of memory disorders, distinguishing disorders of memory from other cognitive impairments, and remediation and management of both children and adults with memory disorders. Noteworthy in this series are two chapters on assessment, one by Howison and Lezak and another by Wilson. In combination, these chapters address some of the most clinically relevant issues in assessment of memory, and will be appreciated by readers as authoritative references. The book closes with a welcome chapter on the emotional and social consequences of memory disorders.

The editors of this book aim squarely at the needs of practicing clinicians by addressing some of the core questions and conditions faced by neuropsychologists. Although the book would benefit from more explicit conceptual "grouping" of chapters into themes, in the big picture this is

a minor point. Also, as noted previously, some readers will wonder why certain chapters were omitted from the 2002 text. But in any case readers will be satisfied by a series of topics that are not only highly clinically relevant, but are presented by authors known for both clinical and scientific expertise. There is a pleasant blend of didactic clinical instruction and empirically derived data that leaves the reader knowing more than before reading this text. Perhaps most admirable in this volume is the authors' and editors' dedication to linking clinical phenomena with both psychological data and neural underpinnings. Simply put, clinicians should read what these authors write.

*The Essential Handbook of Memory Disorders for Clinicians* is highly recommended as a concise and clinically

relevant text to which practitioners can turn for authoritative views on aspects of amnesic syndromes, as well as common underlying disorders that drive those syndromes. Additionally, this text could readily serve as a reference in the teaching of memory disorders at the graduate or post-graduate level.

## REFERENCES

- Baddeley, A.D., Wilson, B.A., & Watts, F.N. (Eds.) (1995). *Handbook of memory disorders*. Chichester: Wiley.
- Baddeley, A.D., Kopelman, M.D., & Wilson, B.A. (Eds.) (2002). *Handbook of memory disorders* (2nd ed.). Chichester: Wiley.

## Not Just Another Pretty Picture

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*Neurology of Cognitive and Behavioral Disorders*. Orrin Devinsky and Mark D'Esposito. 2004. New York: Oxford University Press. 451 pp., \$99.95 (HB).

Reviewed by GLENN T. STEBBINS, Ph.D., *Department of Neurological Sciences, Rush University Medical Center, Chicago, Illinois*.

A problem with many behavioral neurology texts is the tendency to minimize the connection between behavior and integrated neuroscience theory. Often the illustrative neurological principles are not grounded in behavioral neuroscience, but, instead, present unusual conditions in a type of "Gee whiz" display. The relationship of these conditions to neuroscience is often lost. In *Neurology of Cognitive and Behavioral Disorders*, the relationship of neurologic condition to neuroscientific principles is clearly explicated. This is perhaps the greatest strength of this addition to the Oxford University Press Contemporary Neurology Series.

In the preface to this excellent text, the authors describe one of its distinguishing features as a strong reliance ". . . on images to convey our story . . ." (p. vii). This is not an overstatement. With more than 80 illustrations, the text is replete with relevant drawings and photographs that greatly augment the text. The illustrations are not just pretty pictures, but provide roadmaps for the often complex ideas presented in the text. Ranging from depictions of basic neuroanatomy, to displays of pathways, to examples of advanced neuroimaging techniques, these illustrations are valuable for clinicians and researchers alike.

The successful reliance on illustrations is nowhere more evident than in the first chapter: *Neuroanatomy and assessment of cognitive-behavioral function*. This chapter sets the tone for the remainder of the book with detailed presentations of basic neuroscience, neuroanatomy, clinical neurosciences, clinical neurology, and clinical neuropsychology. By coherently integrating information from these allied fields of study, the authors demonstrate their commitment to pro-

viding a comprehensive view of human behavior. This commitment is met throughout the remaining chapters.

An additional highlight is Chapter 2: *Functional neuroimaging of cognition*. Although limited to functional magnetic resonance imaging (fMRI) techniques, the overall presentation will be helpful to readers with a passing knowledge of functional imaging methods. Despite the relatively narrow presentation on this one functional neuroimaging modality, the authors correctly state that fMRI has become almost commonplace in research, with nascent clinical applications. Because of this expansion in the use of fMRI, there is a great need to educate clinical and research consumers in current theories and techniques. This chapter goes a long way towards providing that education, presenting fMRI theory, methodology, analytic techniques, and potential clinical applications.

Chapters 3–10 cover traditional behavioral neurology topics, including *The right hemisphere, interhemispheric communication, and consciousness; Attention and attentional disorders; Perception and perceptual disorders; Language, aphasia, and other speech disorders; Motor system and behavior; Memory and memory disorders; Executive function and the frontal lobes; and Emotion and the limbic system*. Each provides relevant information on neural substrates, cognitive neuroscience theory, and clinical manifestations for the respective topic. The overall theme of clinical/neuroscience integration is maintained in each chapter with impressive results.

Two of these chapters integrate clinical and neuroscience perspectives exceptionally well. The authors' expertise in

epilepsy and cognitive neuroscience is clearly apparent in Chapter 3: *The right hemisphere, interhemispheric communication, and consciousness*. The treatment of consciousness is particularly cogent, presenting scientifically grounded theories ranging from parallel distributed processing to modular integration. Chapter 9: *Executive function and the frontal lobes* reviews current knowledge and does an excellent job of integrating behavioral presentation, neuroanatomy, and cognitive neuroscience. Examples of aberrant behavior associated with frontal lobe damage are fully explicated in relation to the underlying neuroanatomic and neurophysiologic substrates.

The final Chapter 11: *Therapy for cognitive and neurobehavioral disorders* is also impressive. New pharmacologic and behavioral treatments emerge daily. Yet, the authors

present a comprehensive overview of behavioral disorders associated with neurologic disorders, behavioral interventions, pharmacological interventions, and homeopathic approaches. This chapter will assist physicians, nurse practitioners, and psychologists in understanding the mechanisms of, and options for, treatment.

This text provides the reader with an in-depth integration of behavioral neurology and cognitive neuroscience. Graduate, postgraduate students, and practitioners in neurology, neuroscience, and neuropsychology will particularly benefit from this book. Through the judicious use of clinical vignettes, neuroscientific principles, and relevant illustrations, the authors have created an excellent volume that will be appreciated by all who hold an interest in the field of neuroscience.

## Neuropsychology and Neuropsychological Assessment in Portugal Today

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*Avaliação Neuropsicológica, Psychologica, No. 34.* Faculdade de Psicologia e de Ciências da Educação de Coimbra. Coimbra: Gráfica de Coimbra Ltda., 300 pp., \$12.

Reviewed by LUCIA WILLADINO BRAGA, Ph.D., *Neuropsychologist, SARAH Network of Hospitals, Brazil.*

*Psychologica* journal is published every four months. Generally written in Portuguese, its contents are organized by the Departments of Psychology and Education at Coimbra University, Portugal. Its aim is to divulge scientific work in psychology and education, emphasizing the interaction between theory, research, and practice.

Neuropsychology is the main theme of issue No. 34, with special attention directed to neuropsychological evaluation. According to the Editors, Mário Simões and Alexandre Castro-Caldas, the field is still underdeveloped in Portugal, although there is growing interest on the part of various professionals. Their goal was to assemble an issue that describes the present state of neuropsychological evaluation in Portugal, with articles on theory, empiricism, and methodology. The issue includes writings by internationally renowned specialists such as Muriel D. Lezak, Barbara A. Wilson, Cathy Price, and Karl Friston. The issue includes 19 articles, 4 in English and 15 in Portuguese, with abstracts in French, English, and Portuguese.

The journal begins with an exceedingly rich article by Lezak about the principles, evolution, contribution, and objectives of neuropsychological evaluation. She examines the neuropsychological components of behavior, assessment of neuropsychological problems, and comments on issues relative to the interpretation of data from neuropsychological testing. Barbara Wilson contributes a very interesting article addressing the relationship between neuropsychological evaluation and cognitive rehabilitation, illustrating that, more than the actual neuropsychological tests, the establishment of goals is the main tool for structuring

and evaluating cognitive rehabilitation. She emphasizes the importance of rehabilitation centered on daily life problems that cannot always be gauged through neuropsychological tests. Dr. Wilson proposes the “goal planning” approach that permits patients, their families, and rehabilitation teams to negotiate meaningful objectives, define how to attain them, and subsequently evaluate the rehabilitation’s impact on daily life.

Price and Friston then analyze the concepts of cognitive degeneration and anatomy within the context of relationships between neuronal systems, lesional model, functional neuroimaging, and neuropsychological evaluation. They examine neuroimaging and neuropsychological data in normal participants and discuss degeneration in cognitive anatomy. Castro-Caldas elaborates on how to locate regions of interest for studying the brain of someone who is illiterate, and reviews articles that highlight differences in neuropsychological assessment of task performance and functional imaging between literate and illiterate individuals. This important article focuses on the possibility of identifying cognitive processes that are dependent on schooling and on the regions of the brain involved in this adaptive process. Castro-Caldas has extensive experience in this field, evident in his thorough analysis of the differences and similarities between behavioral processes and assessment patterns in functional neuroimaging exams, comparing schooled and unschooled groups.

Neurologist Isabel Pavão Martins describes the contribution of sodium amyral to identifying brain lateralization in cognitive functions, and Manuela Guerreiro discusses the

importance of age and schooling variables on psychometric test performance used in neuropsychology, emphasizing the need to standardize the tests in large populations to obtain adequate norms for every country. Isabel Santana then writes about Mild Cognitive Deficit as a transition between physiological cognitive aging and dementia. The role of neuropsychological examination in the assessment and treatment of epileptic individuals is addressed by Élia Baeta, who describes how epilepsy interferes with brain functioning, stressing the point that evaluation methods and instruments should be selected according to one's goals. She also asserts that the examiner should be aware of each patient's characteristic epilepsy profile and of the therapeutic regimen.

Gabriela Leal addresses aphasia and its assessment instruments and methodologies. A speech therapist, Leal, also discusses the importance of evaluation in diagnosis and prognosis, and in creating a therapeutic intervention program. She describes the Lisbon Aphasia Assessment Battery (BAAL). São Luís Castro, Susana Calo, and Inês Gomes present, in English, a judgment task of rhyming words and discuss its utility in neuropsychological evaluation. Cristina P. Albuquerque describes speech processing impairments in learning and reading disabilities, and analyzes available evaluation procedures. This article is followed by one, in English, in which Brenda Townes, Juanita Rosenbaum, Isabel Pavão Martins, and Castro-Caldas propose a battery of neurobehavioral tests for assessing children within different cultural contexts.

Isabel P. Martins and Tânia Fernandes present an empirical study about cognitive and neurological evaluation in recently schooled populations, and the psychologist Clara de Santos Loureiro writes about the manifestations of selective hemi-spatial inattention in children. Isabel Alberto dis-

cusses attention assessment based on an analysis of its dimensions and the tests available in Portugal, while Mario Simões, Ana Lopes, and Salomé Pinho present tests published in the last few years commonly used in neuropsychological evaluation of memory in children and adolescents. A complete guide to neuropsychological anamnesis (a semi-structured neuropsychological interview to collect the patient's complete history) is provided by Marta Gonçalves and Castro-Caldas. Tânia Fernandes analyzes the presuppositions, objectives, study methodologies, and contributions of cognitive neuropsychology. Finally, Mario R. Simões and Castro-Caldas debate some of the issues related to education and professionalization in neuropsychology.

This issue of *Psychologica* provides a broad, multidisciplinary overview of neuropsychology in Portugal today and contains truly important contributions, especially as regards neuropsychological evaluation. With 19 articles about different topics written by professionals from various fields, it can be quite useful not only in Portuguese universities but also hospitals and clinics where diagnosis, evaluation, prognosis, and rehabilitation play an important role. Most of the information in this issue can be used in other Portuguese-speaking nations, although the evaluation instruments, as they stand, cannot be applied in other countries due to phonetic and semantic word differences and because the norms must be standardized for each population. Although a short abstract in English/French accompanies each article, these are too condensed to permit a nonfluent professional to make full use of the articles' contents. All of these pieces are interesting, albeit lacking in homogeneity. This issue is an important milestone in Portuguese neuropsychology insofar as it brings together a richness of knowledge and information presently being generated in that country.

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## RECENT AND RELEVANT

*Redox-Active Metals in Neurological Disorders.* Steven M. Levine, James R. Connor and Hyman M. Schipper (Eds.) 2004. Annals of the New York Academy of Sciences, Vol. 1012, 358 pp., \$120.00 (PB).

This paperback contains 27 papers discussing the role of redox-active metals in the pathophysiology of central nervous system disorders. Topics include Alzheimer's disease, parkinsonism and Parkinson's disease, the role of manganese and cadmium and iron neurotoxicity, and metal chelation therapy. A case is made for recognition of Redox Neurology as an emerging subspecialty within medical neurology.

*Introduction to Psychoneuroimmunology.* Jorge H. Daruna. 2004. Burlington, MA: Elsevier Academic Press, 280 pp., \$69.95 (HB).

The author's successful intent is to provide an introductory text for those interested in the scientific basis for an integrative approach to healthcare. The clearly written and illustrated 12 chapters detail the relationships between behavior, psychosocial factors, the nervous, endocrine, and immune systems, and disease. The volume begins with an interesting summary of historical ideas about health and disease and proceeds to clarify immunology basics leading to discussion of endocrine-immune and neuro-

immune modulation, the influence of stress, and the interaction of psychosocial stress with infection, allergy, cancer, and autoimmunity. Immune activity and psychopathology and methods enlisted to enhance immune function are covered.

*Multiple Sclerosis: Etiology, Diagnosis, and New Treatment Strategies.* Michael J. Olek (Ed.). 2004. Burlington, MA: The Humana Press, 245 pp., \$99.50 (HB).

The authors of this volume's 12 chapters provide updated and current knowledge about the pathology, pathophysiology, and classification of Multiple Sclerosis along with coverage of newer diagnostic techniques, treatment options, and discussions of associated cognitive dysfunction and pregnancy-related issues. The final chapter is a forward-looking perspective on future therapies and treatment strategies.

*Clinical Handbook of Psychotropic Drugs for Children and Adolescents.* Kalnya Z. Bezchlibnyk-Butler and Adil S. Virani (Eds.). 2004. Cambridge: Hogrefe and Huber. 306 pp., \$49.95 (PB).

This useful spiral-bound handbook provides summary information in a user-friendly format for many classes of medications, including approved and non-approved drug indications. Data from open and double-blind studies are included. Bulleted information conveys much needed detail, e.g., about indications, general comments, doses, pharmacokinetics, adverse effects, precautions and contraindications. Drug interaction charts provide easy access to complex information and 22 copy-ready patient information sheets on drugs and classes of drugs are provided to aid patient education and counseling and encourage compliance. A great deal of valuable information has been compressed into an easily readable and well-organized graphic format.