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## BOOK REVIEWS

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### At Last, Neuropsychology's Coming Of Age

*Clinical Neuropsychology: Theoretical Foundations for Practitioners*. Mark E. Maruish and James A. Moses, Jr. (Eds.) 1997. Mahwah, NJ: Lawrence Erlbaum Associates. 436 pp., \$79.95.

Reviewed by MARC S. WALTER, Ph.D., *Private Practice, 7220 North 16th Street, Suite G, Phoenix, AZ 85020.*

In his forward to *Clinical Neuropsychology* Arthur Benton comments, "More aptly than might have been anticipated, clinical neuropsychology is coming of age. I mean by this that it is evolving from what was largely a set of assessment procedures coupled with a diagnostic inference to be drawn from them into a true discipline, conscious of its conceptual bases and concerned with the cognitive and neuromechanisms that mediate the behavior of normal individuals and patients with brain disease." Dr. Benton's assessment catches the thrust of the book well. It concerns itself with the development and maturation of the field, its relationship to sister disciplines such as behavioral neurology and neuropsychiatry, focuses in on important practice and credentialing issues, and provides cogent reviews of progress in many important content areas.

This is a multi-authored text with thirteen chapters. The chapters are routinely better than average in style and content and, at times, superior. It is not an introductory text. Rather it is geared more towards upper level graduate students with a strong background in neuropsychology or to the practicing neuropsychologist. It has sufficient emphasis on research to make it relevant for both the academic and clinical researcher. Finally, it is sufficiently multidisciplinary in nature to interest our colleagues in behavioral neurology and neuropsychiatry.

In the first chapter, Manfred Meier delineates the history of neuropsychology in a brief but informative discussion. He goes on to tell us what makes neuropsychology a distinct subspecialty and provides a detailed run down on neuropsychology's movement to becoming a recognized specialty by the APA.

In chapter 2, Jeffrey Shuen discusses the dovetailing of neuropsychological assessment with the procedures used in behavioral neurology. He focuses on the use of the qualitative assessment, the lesion method, and the symptom-complex method in behavioral neurology.

In chapter 3, Frances Friedrich and Stephen Rader bring to bear the component process analysis approach to memory, spatial attention, and mental imagery. Their approach is important in that it emphasizes how much information can be lost if one simply looks at the numbers in the neuropsychological evaluation and does not pay attention to what the patient was doing and how the patient did it.

In chapter 4, David Pritchard gives us an overview of forensic neuropsychology and how it frequently diverges from the traditional clinical neuropsychological focus due to the constraints of the legal system. There is a strong emphasis on ethics, that is, limitations of competence in practice, which is especially important given that attorneys and judges play by a different set of rules than neuropsychologists. The problems arise when the neuropsychologist attempts to become a neurolawyer.

In chapter 5, Lloyd Cripe goes into the issues surrounding personality assessment of the brain injured patient. Dr. Cripe notes the inadequacy of psychological tests as stand-alone measures of personality functioning. To give an example, he states, "The popular habit of tacking an MMPI onto a neuropsychological battery with the hope of unmasking personality factors in neurologic patients has been driven by a number of deeply rooted beliefs that the test measures emotions and personality. The MMPI measures emotions and personality and the other neuropsychological tests measure brain functioning. The MMPI can discriminate the psychiatric from neurologic patients. Elevations on the scales remain the same for all groups. All of these beliefs are misconceptions based on scant or nonexistent evidence."

In chapter 6, Gary Kay and Victoria Starvick discuss computerized neuropsychological assessment. What I found most helpful was their analysis of several computerized batteries such as MicroCog.

In chapter 7, Erin Bigler et al. discuss neuroimaging techniques (for example, CT, fMRI, MRI, PET, SPECT) and

their correlations with neuropsychological assessment. This chapter, includes a 19-page table summarizing recent neuroimaging studies of various syndromes.

Chapters 8 and 9 deal with treatment issues. In chapter 8, Pamela Klonoff et al. detail cognitive retraining of brain injury in an outpatient milieu program. This chapter takes more of a general principles approach than giving specific remediation techniques. Also included is an outcome study which found the strongest correlations of successful outcome with lack of education and age (negative), and positive correlations between portions of the Stroop (difference score) and the WAIS-R Digit Symbol and Performance IQ. Several positive behavioral correlations were also noted. As regards the age and education correlates with outcome, the authors note that “younger and less educated patients are assured . . . better outcome that may reflect superior ability to physically recover from injury.”

In chapter 9, Bruce Schefft et al. present a well-designed model for psychotherapy of the brain injured patient which they call self-regulation therapy. Their model fits more or less within the cognitive-behavioral realm. They also provide valuable insights into therapy with even severely impaired patients (for example, the “six Think Rules”).

In chapter 10, Gerald Goldstein discusses how biological psychiatry and neuropsychology have mutually informed each other in a variety of disorders including ADHD, autism, OCD, schizophrenia, and depression, among others. In chapter 11, John Sernasky et al. “provide an overview of the use of the . . . [DSM-IV] . . . as [it relates] to the diagnosis and understanding of mental disorders whose hallmarks include significant cognitive deficits.” This chapter includes a detailed summary of diagnostic and research issues surrounding the dementias.

Finally, chapters 12 and 13 look at specific methodological issues in test development and research. In chapter 12, Cecil Reynolds and Elizabeth James have written a helpful chapter on the best way to devise neuropsychological tests that are valid, reliable, and meaningful. In chapter 13, Kevin Krull and Russell Adams delve into a variety of methodological problems that can undermine a study’s conclusions or limit their generalizability.

All in all, *Clinical Neuropsychology* is a well thought-out and timely text. There are very few neuropsychologists who would not find something of value among its chapters. The only real gap in its coverage is in the area of conducting cross-cultural evaluations and research.

## Short-Cuts to Current Thinking in Cognitive Neuroscience

*Findings and Current Opinion in Cognitive Neuroscience*. Larry R. Squire and Stephen M. Kosslyn (Eds.). 1998. Cambridge, MA: The MIT Press. 381 pp., \$35.00

Reviewed by JANET LEATHEM, Ph.D., *School of Psychology, Massey University, P.O. Box 11-222, Palmerston North, New Zealand.*

From the outset, it should be made clear that this book is not a new text on cognitive neuroscience. It does not pretend to cover the whole area comprehensively and is unsuitable for those wanting a thorough introduction or overview of cognitive neuroscience with colored illustrations. Instead, this volume could be considered a companion to such a text. *Findings and Current Opinion in Cognitive Neuroscience*, contains a set of 46 articles carefully selected from *Current Opinion in Neurobiology*, which is part of an even wider series offering current opinions on a wide range of scientific-medical topics (e.g., *Current Opinion in Neurology and Neurosurgery*). Those who browse in medical or academic libraries will be familiar with the series, which is unique. Instead of the traditional journal format, a collection of short review articles are presented, each written by an expert in the particular field. Each article summarizes current thinking in the area or field, and concludes with an annotated bibliography. Six issues of each set of current opinions are published annually. Each issue is dedicated to a particular aspect of an area.

The *Current Opinion* series provides an excellent means of keeping up with a burgeoning research literature, in a way that is not possible using other methods for searching the scientific journals. Here the scientific material has been already reviewed and evaluated by an expert in the field, who has also provided references for further reading. In publishing selected articles in a single volume, the editors have simplified the task of keeping up with the literature even further. The hard work has been done and further the single volume ensures that the material is available to those without access to (or time to peruse) the entire series.

According to the preface, the articles were selected from *Current Opinion in Neurobiology* on the basis that they had proven central and of great interest to cognitive neuroscience since 1994, and or were more recent articles covering ground breaking topics. On the whole, the articles would seem to be more for those with research interests, namely, the experimental neuroscientist or neuropsychologist who is conducting research in the brain function. The clinician will find theoretical background to help understand the def-

icits in cognitive function experienced by their patients, but little to help in a practical sense, for example, with assessment and intervention.

The articles are grouped into five major categories: perception and attention, memory, cognition, motor control, and the development of behavior. Nine articles purportedly on perception and attention, are in reality predominantly on the visual system. A recent article by Weiskrantz, updates the "blindsight" phenomenon. The section on memory also includes articles on neuronal plasticity and covers studies of human systems, as well as animals and lower organisms (primates to sea slugs). Articles cover the role of the hippocampus, medial temporal regions and amygdala, and priming is revisited in an article by Ochsner et al. More articles are included in the category of cognition than in any other category and several of these will be of interest to those who work with clinical populations. These include, reviews of the roles and influence on cognition of the frontal lobe (Petrides), of sex, sexual orientation, and sex hormones (Kimura), stress (McEwen & Sapolsky), and temperament

and personality (Cloninger). The nine articles in the section on motor organization focus on the organization, planning, and guiding of action, with an emphasis on the roles of specific areas of the brain. Finally, eight articles consider the general area of development from very early neocortical development, through infancy and childhood. There is a special emphasis on the development of speech and language.

This volume and presumably those that will follow from time to time would be useful additions to any library serving researchers in neuroscience. There they would also draw attention to the wider *Current Opinions* series, which many may not know exists. For those who are committed to research in the neurosciences, the book short-circuits the need to sift through and evaluate an ever-increasing mountain of research publications. One could, of course, wait until a book on a particular topic is published, but by then although comprehensive, the material would tend not to be as current. I look forward to future editions of articles selected from the *Current Opinion* series.

## Right Hemisphere Language Operations

*Right Hemisphere Language Comprehension. Perspectives from Cognitive Neuroscience.* M. Beeman and C. Chiarello (Eds.). 1998. Mahwah, NJ: Lawrence Erlbaum. 408 pp. \$89.95, HB, \$39.95, PB.

Reviewed by LEE X. BLONDER, Ph.D., *Department of Behavioral Science and the Sanders-Brown Center on Aging, University of Kentucky College of Medicine, 101 Sanders-Brown Building, Lexington, KY 40536-0230.*

This book contains an introduction by the editors and 15 chapters that are divided into three parts. Part I is entitled "Decoding Speech Sounds and Individual Words"; part II: "Lexical and Sentence-Level Semantics"; and Part III: "Discourse Processing and Problem Solving." Each part concludes with a commentary by the editors. As these section titles show, the book provides evidence that the right hemisphere is involved with functions more commonly ascribed to the left hemisphere, namely, phonology, morphology, and semantics. In addition, several chapters are devoted to aspects of communicative competence commonly associated with right hemisphere specialization, such as discourse comprehension and the appreciation of emotional verbal messages. Previous works, such as *Language, Aphasia, and the Right Hemisphere* by Chris Code (1987), provide a more basic introduction to what was then known of right hemisphere communicative competence. The Beeman and Chiarello volume is directed towards a more sophisticated target audience familiar with neurolinguistic models of hemispheric contributions to language comprehension.

A general theme of the book, and one that is consistent with research in other areas of cognitive neuroscience, is

that the two hemispheres process language in parallel, but the right hemisphere performs different operations than the left. For example, Ivry and Leiby (chapter 1) provide evidence supporting the notion that hemispheric asymmetries in spectral processing underlie speech perception. They review data showing that low frequency sounds, such as those used in voicing or to convey prosody, are processed by the right hemisphere while high-frequency sounds, such as most phonetic cues, are processed by the left hemisphere. Chapters 2 and 3 describe interhemispheric interactions in language processing. Chapter 2 (Clarke et al.) stresses the role of the corpus callosum, while chapter 3 (Banich and Nicholas) focuses on word recognition. Banich and Nicholas propose that interhemispheric integration in reading reflects parallel distributed processing of a relatively difficult task. Computationally easy tasks, by contrast, are best served by lateralized processing. Baynes and Eliason (chapter 4) discuss lexical access and organization by the right hemisphere in callosotomy and commissurotomy patients. In chapter 5, Coslett and Saffran provide a detailed review of right hemisphere reading capabilities in split brain patients, pure alexics, and deep dyslexics and conclude that the right

hemisphere has variable word recognition capacity and little syntactic capability or print-to-sound conversion.

Part II of the book is devoted to right hemisphere contributions to semantics. Again the authors of these chapters emphasize interhemispheric integration and division of labor during online processing of stimuli. Chiarello (chapter 6) describes hemispheric differences in the processing of verbal and pictorial codes and presents an interesting model to account for semantic access and retrieval differences between hemispheres. By applying psycholinguistic theory to the study of language comprehension by the right and left hemisphere, Faust (chapter 7) presents priming data to show that the left hemisphere processes between-word as well as message-level information. By contrast, the right hemisphere's capabilities are limited to processing the semantic relations between single words and a target word. Based on these studies, Faust proposes interesting interpretations of reported deficits in right-hemisphere-damaged patients' ability to comprehend humor and metaphor. Chapter 8 is devoted to event related potentials (ERP) and their use in delineating hemispheric asymmetries in language processing. King, Ganis, and Kutas present a useful ERP tutorial for those not familiar with this method or its theoretical underpinnings. Semantic modeling of cerebral asymmetries is the subject of chapter 9. The authors present HAL (Hyperspace Analogue to Language), a methodology for developing semantic representations. They then proceed to model the semantic priming effect.

The final section of this book is devoted to discourse processing and problem-solving. Beeman (chapter 10) presents a model of coarse semantic coding at the single word level to account for right hemisphere discourse comprehension. This coarse semantic coding ability of the right hemisphere refers to diffuse activation of semantic fields. Beeman contrasts coarse semantic coding with fine semantic coding by the left hemisphere. Again these represent two processes that

occur in concert and are both necessary for language comprehension. Borod, Bloom, and Haywood (chapter 11) give a comprehensive review of the literature on right hemisphere verbal emotional processing and link to Beeman's chapter in their discussion of macrostructural processing, analogous to coarse semantic coding. Chapter 12 (Brownell and Martino) discusses deficits in inference associated with right hemisphere damage and extends this to social reasoning capacities. In chapter 13, Stemmer and Joannette operationalize a model of discourse processing to characterize impairments in the construction and integration of discourse by RHD individuals. Like many of the chapters in this book, Stemmer and Joannette delve deeply into the underlying processing strategy or pattern of performance to seek a characterization that best explains a variety of data, some seemingly conflicting. Fiore and Schooler (chapter 14) present data on insight problem solving by the right hemisphere and integrate various findings on right-hemisphere creative capacities.

In sum, this volume integrates a vast amount of information on right hemisphere language comprehension. The information presented challenges accepted notions of hemispheric laterality of language and paints a more complex picture of the right hemisphere's contribution than is typically acknowledged. The chapters are uniformly excellent and the commentaries following each section summarize and provide additional food for thought. This is a text that would be appropriate for advanced graduate and post-graduate students as well as cognitive and affective neuroscientists willing to accept the challenges of an expanded view of right hemisphere language function.

## REFERENCE

- Code, C. (1987). *Language, aphasia, and the right hemisphere*. Chichester, U.K.: John Wiley & Sons.

## They Don't Go Away When You Grow Up

*A Comprehensive Guide to Attention Deficit Disorder in Adults*. Kathleen G. Nadeau (Ed.). 1995. New York: Bruner/Mazel.

*Adults With Learning Disabilities*. Noel Gregg, Cheri Hoy, and Alice F. Gay (Eds.). 1996. New York: Guilford.

Reviewed by ROBERT L. MAPOU, Ph.D., *Independent Practice, Silver Spring, MD and Department of Neurology (Psychology), Georgetown University School of Medicine, Washington, DC*.

Attention-deficit hyperactivity disorder (ADHD) and learning disabilities (LD) are most frequently associated with childhood. This, of course, is because a child's job is to sit in a classroom, pay attention, and learn, and these are disorders that interfere with completing that job. Because these

disorders are presumed due to brain dysfunction, it should be no surprise that both LD and ADHD continue to exert effects as children grow, go on to postsecondary education, and enter the job market. That is, developmental learning disorders, including LD and ADHD, do not "go away" when

one becomes an adult. Several research groups have followed children with LD or ADHD into adulthood and have shown the persistence of symptoms and cognitive deficits, along with the toll that these difficulties take on psychosocial functioning, later academic performance, and vocational advancement.

Among other provisions, the 1990 Americans with Disabilities Act (ADA) mandated reasonable accommodations for disabled individuals who are otherwise qualified, in educational and occupational settings. This, in turn, has led to an increase in referrals for evaluation of LD or ADHD in adults. Frequently, these evaluations are completed by psychologists and educational specialists. Yet neuropsychologists, with training in brain-behavior relationships and remediation of cognitive disorders, are in an ideal position to assess and treat adults with learning disorders.

Until recently, however, there was very little literature on adult LD and ADHD because most research has been focused on children. Therefore, unlike traumatic brain injury or Alzheimer's disease, for example, neuropsychologists have had little empirical data on which to base their evaluations. To my knowledge, *A Comprehensive Guide to Attention Deficit Disorder in Adults* and *Adults with Learning Disabilities* are the first two comprehensive textbooks written for professionals on these topics. Katherine G. Nadeau, a clinical psychologist, has years of experience working with late adolescents and adults with ADHD. She is well connected with those who conduct research on adult ADHD, and this is reflected by the many experts who have written chapters for her book. Noel Gregg, Cheri Hoy, and Alice F. Gay are experienced researchers and clinicians, having spent time conducting research on and serving college students with LD. Their research and that of others is summarized in their textbook.

These two books serve best as an introduction to the myriad of issues associated with adult learning disorders. Each provides an excellent overview that will be valuable to clinicians who work with adults with LD or ADHD. Nadeau's book is divided into sections that cover background information on ADHD, diagnosis, treatment, and other issues. I found chapters in section II, entitled "Differential Diagnosis and Co-Morbidity Issues in Adult ADD," especially helpful. The chapters illustrate the different ways in which ADHD is conceptualized and diagnosed. In chapter 3, Tzelepis et al. summarize their own research and that of others on differential diagnosis and psychiatric comorbidity. Their data show how careful one must be when confronted with a client who complains of attentional difficulties. In their work, Tzelepis and colleagues have applied DSM-IV criteria strictly, using structured interviews such as the SCID. In contrast, Brown, in chapter 6 on differential diagnosis of ADD *versus* ADHD, describes an expanded view of ADHD and one that is less strictly tied to DSM-IV criteria. From his perspective, ADHD includes difficulties with activation, organization, sustaining attention, sustaining energy and effort, mood, sensitivity to criticism, and memory. To diagnose the disorder, Brown uses a clinical interview, guided by the Brown Attention Def-

icit Disorder Scale and supplemented by testing and record review. With this broader perspective of ADHD, more individuals are likely to be diagnosed with ADHD, as compared with strict application of DSM-IV criteria. This can be viewed as "loose" diagnosis or, alternately, as suggesting that current nomenclature is insufficient to capture the spectrum of problems associated with ADHD. Regardless of one's opinion, these chapters illustrate the need for further research on reliable and valid diagnostic methods.

Some experts have argued that ADHD diagnosis does not require neuropsychological or psychological testing. If one accepts the premise that diagnosis is based only on meeting DSM-IV criteria, then this is true. On the other hand, if one must rule out or determine the comorbid presence of other conditions, such as neurological disorders, LD, or psychiatric disorders, then testing is essential. In chapter 5, on neurological comorbidity patterns and differential diagnosis, Lavenstein, a neurologist, makes a strong statement to that effect, writing, "Because of the complex nature of the differential diagnosis of ADD in adults, the utility of neuropsychological testing cannot be underestimated and should, in fact, be emphasized" (p. 85). Chapter 7, by Biggs, on neuropsychological and psychoeducational testing, covers most commonly used tests. Biggs also emphasizes the need for clinical and historical information, collected through interviews and checklists such as the Wender Utah Rating Scale.

Section III, entitled "Treatment Issues in Adult ADD," and section IV, entitled "Specific Treatment Issues for Adults With ADD," provide useful suggestions for those who are treating adults with ADHD. Both psychotherapeutic and psychopharmacologic approaches are covered. Because of the frequent difficulties in attention and executive functioning, structured and directive psychotherapy approaches are emphasized. In fact, Nadeau, in chapter 11 (on life management skills) and chapter 16 (on workplace issues) has drawn from the brain injury rehabilitation literature. Neuropsychologists will recognize here the types of compensatory strategies and structure commonly used when working with brain-injured individuals. Of course, like most work in this area, treatment approaches are clinically-based, and there is no empirical support for treatments other than pharmacotherapy.

The most valuable portion of section V, entitled "Other Issues and Future Directions" is chapter 17, by Latham and Latham, on legal issues. The material provided will be helpful when writing reports to obtain academic or workplace accommodations for adults with ADHD. The Lathams, who are lawyers with considerable experience in LD and ADHD legal issues, summarize relevant statutes and case law and discuss accommodations that are reasonable. Other chapters in this section cover support groups and future directions in ADHD research.

Interestingly, Gregg et al.'s book suggests that we know much more about what happens to children with LD as young adults in comparison with children with ADHD. Many of their chapters describe research on assessment and out-

come, although a neuropsychological perspective is lacking. Unlike Nadeau's book, this book is not divided into sections and could have benefitted from better organization. Chapter 3, by Hoy and colleagues, and chapter 4, by Brackett and McPherson, describe different methods to diagnose LD in adults and report results of research using these methods (e.g., discrepancy, regression, clinical). Their results show that the prevalence of LD, in an adult population previously diagnosed as children, can differ substantially, depending on the diagnostic method used. Because there is no generally accepted method for diagnosing LD in adults, the authors conclude that a clinical approach that incorporates test data, academic information, and other historical and clinical information about the person is the best approach. However, they emphasize the need for developing, through research, more effective and reliable diagnostic methods.

Despite these two empirically-based chapters, this book is weak on helping the clinician understand the best way to evaluate adults with LD. Assessment methods are described by Hawks, in chapter 7. However, she does not go into detail on specific tests nor is her approach neuropsychologically-based. Although Riccio and Hynd provide an excellent summary of neuropsychological research relevant to adults with LD, in chapter 6, they largely discuss the "brain" end of the research rather than the "behavior" end. Research on cognitive profiles in adult LD is summarized by Darden and Morgan, in chapter 9. Other than their summary of Rourke's nonverbal learning disability model, their chapter is not neuropsychologically oriented and focuses mainly on intelligence tests. From their review, the reader can see that much more needs to be known about how cognitive profiles, identified in learning-disabled children, apply to adults.

Late adolescent and adult outcomes for learning-disabled children are summarized in chapters 5, 8, and 10. The summary of these data is a strength of the book, because psychosocial factors and interventions that contribute to successful outcomes in this population are discussed. This knowledge can place the clinician in a better position to design an intervention program. Unlike Nadeau's book, how-

ever, there is far less information describing specific interventions, perhaps because this is covered elsewhere, in textbooks on educational intervention. Chapter 11, by Wiig, briefly describes language interventions. Chapter 13, by Minskoff, and chapter 14, by Gajar and Smith, describe programs and methods used to ease the transition from high school to work and independent living. These authors show how such transitions, often neglected by the educational system, must be carefully planned and included as part of a child's Individual Educational Plan. Their results show promising outcomes for comprehensive intervention programs. Unfortunately, the components of these programs are not described sufficiently as to permit application by the reader.

Chapter 15, by Gregg et al., on legal issues, accompanies and even goes beyond the parallel chapter in Nadeau's book. This chapter is another high point of the book. The authors provide detailed, but easy-to-read information on legal statutes relevant to LD (and equally applicable to ADHD), how to determine eligibility for service under these statutes, how to document evaluation findings, and what accommodations are reasonable.

From a neuropsychological perspective, these books have some additional weaknesses. Those seeking works based in neuropsychological research and clearly linking adult LD and ADHD to brain dysfunction will be disappointed. Most likely this reflects the dearth of literature on learning disorders in adults, although a recent perusal of neuropsychology journals and MEDLINE has shown some promising developments. Also notably absent are chapters by recognized leaders in the field, including Russell Barkley, Paul Wender, Byron Rourke, Kevin Murphy, and Sam Goldstein. Because these individuals have made substantive contributions to our understanding of these disorders in adults, their contributions would have been welcomed. Finally, as with most edited texts, it is a platitude to state that chapter writing is sometimes uneven. Nevertheless, I believe that these books have much useful information on adult ADHD and LD. For neuropsychologists who would like an introduction to these disorders that is largely empirically based, these textbooks will be valuable.

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## Other Books of Interest

Campbell, R., Dodd, B., & Burnham, D. (Eds.). (1998). *Hearing by eye (II): The psychology of speechreading and auditory-visual speech*. Philadelphia: Psychology Press. 336 pp., \$64.95.

Eisen, A. & Krieger, C. (1998). *Amyotrophic lateral sclerosis*. Cambridge, U.K.: Cambridge University Press. 303 pp., \$74.95.

Mather, G., Verstraten, F., & Anstis, S. (Eds.). (1998).

*The motion aftereffect*. Cambridge, MA: The MIT Press. 220 pp., \$27.50.

Sloman, S.A. & Rips, L.J. (Eds.). (1998). *Similarity and symbols in human thinking*. The MIT Press. 221 pp., \$25.00 (PB).

Solowij, N. (1998). *Cannabis and cognitive functioning*. Cambridge, U.K.: Cambridge University Press. 290 pp., \$80.00.