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## BOOK REVIEWS

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### **From Reality to Illusion and Beyond**

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*Hallucinations: The Science of Idiosyncratic Perception*, by André Aleman and Frank Larøi.  
2008. Washington, D.C.: American Psychological Association. 317 pp., \$69.95 (HB)

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For most psychologists, the topic of hallucinations immediately brings to mind the association with psychiatric disorders such as schizophrenia and post-traumatic stress disorder. The comprehensive text by Drs. Aleman and Larøi presents a much broader view of this phenomenon, looking at the many manifestations of hallucinations as the basis for the construction of a cognitive model to account for this phenomenon.

Chapter 1 is devoted to the development of a working definition of hallucinations. The authors examine historic accounts of hallucinations and the explanations offered for these experiences. This information provides context for discussion of the current range of definitions. For the remainder of the text, hallucinations are defined as a sensory experience that is vivid enough to be perceived as real, yet occurs without external stimulation of the corresponding sensory organ. Hallucinations are differentiated from illusions which involve external stimulation that is misinterpreted, yet hallucinations are tied to a continuum of sensory experience.

In Chapter 2, the authors describe hallucination presentations by sensory modality and content. They examine cultural factors and emotional factors, demonstrating how each of these factors shape hallucination incidence and content, as well as define where the experience falls on a continuum from valued or appropriate to feared or deviant.

Chapter 3 provides a comprehensive review of the adult and pediatric literature regarding the incidence of hallucinations. In addition to their occurrence in psychiatric populations (e.g., psychosis, post-traumatic stress disorder, postpartum depression), the authors also explore incidence in neurological disorders and in the context of sensory loss/deprivation. In contrast to these clinical populations, hallucination incidence is also reported for what the authors define as “nonclinical populations”. As the reader discovers, “nonclinical” does not necessarily refer to individuals free of significant situational stresses (e.g., loss of a loved one, past sexual abuse), precipitating behaviors (e.g., use of drugs, marijuana), or emotional symptoms (e.g., anxiety/depression).

Some of the nonclinical populations might be better defined as individuals who have not sought mental health services. Based on data presented in Chapter 3, the authors propose that hallucinations are not a separate entity, different from normal experience, but rather are part of a continuum of experience. In Chapter 4, they present the initial framework of their theoretical model. They report literature involving language processing, attention modulation and perceptual expectations in individuals experiencing hallucinations and individuals not reporting hallucinations. The authors conclude that both sensory processing impairment (bottom-up factors) and perceptual expectation (top-down factors) contribute to the experience of hallucinations.

Chapter 5 further explores the top-down component by focusing on metacognition. Metacognitive models of hallucinations are explored through research on misattribution of speech, reality testing, reality monitoring, and inhibition in clinical and nonclinical populations. Some of the studies presented in this chapter involved multiple groups and/or multiple conditions. The addition of summary tables or graphics would have been helpful. This was also true of some studies presented in Chapter 3. In Chapter 6, research directly focused on brain activity is explored. The authors review the potential role of specific neurotransmitters in increasing or decreasing the probability of hallucination generation. Early brain stimulation studies, as well as recent functional neuroimaging studies are also reviewed.

Information presented to this point is integrated in a schematic model for the production of hallucinations and other sensory processing errors in Chapter 7. Targeted brain regions for mediation of components are identified. The resulting model provides multiple routes to the processing error(s) that culminate in hallucination production and hallucination content. This interesting model is offered as a framework for continued research. Chapter 8 is of primary interest to treating clinicians. The authors review available research into treatment approaches for individuals whose hallucinations are affecting quality of life. While medication and

transcranial stimulation are briefly reviewed, the emphasis of the chapter is on cognitive-behavior approaches.

In the introduction to *Hallucinations: The Science of Idiosyncratic Perception*, the authors define a diverse target audience ranging from neurologist to psychotherapist, from students to clinicians and researchers. To some extent, the authors achieve their goal. They balance extensive details within chapters with “Chapter Highlights” that provide a brief concise summary of the key “take home points” from the material presented. While students may get lost in the details, the “take-home-points” will come to their rescue.

## A Glimpse into the Mind of Experts

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*Neuropsychology in the Courtroom: Expert Analysis of Reports and Testimony*. Robert L. Heilbroner (Ed.). 2008. New York: Guilford Press. 273 pp., \$55.00 (HB)

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The Editor notes in the preface of *Neuropsychology in the Courtroom* that this volume is a “useful companion” to the previously edited 2005 text entitled *Forensic Neuropsychology Casebook*. That said, either book can be read independently and does not require familiarity with the other. Whereas the earlier book recounts a case from an evaluator’s perspective, *Neuropsychology in the Courtroom* details each neuropsychologist’s approach when reviewing opposing experts’ evaluations, depositions, and opinions.

The book is comprised of 15 chapters, organized into three sections: I. Case Analysis (7 chapters), II. Forensic Case Analysis from Opposing Perspectives (3 chapters), and, III. Special Topics (5 chapters). Each “Case Analysis” chapter is organized similarly, with an explanation of the author’s professional approach, case description, analysis and critique of an opposing expert’s evaluation, interpretation and/or deposition, and commentary about lessons learned.

Section I begins with a chapter by Jacobus Donders that highlights a common type of case referral for neuropsychologists who do legal work: the claim of neurobehavioral impairment following mild traumatic brain injury (TBI). A particular strength of this chapter is the emphasis on the importance of objectivity, neutrality, professionalism, strong knowledge of the literature, and ultimately, the ability to present your findings in a clear and accessible manner. Issues related to claims of multiple chemical sensitivity (MCS) are discussed in Chapters 2 and 3. Michael McCrea reviews the controversy surrounding this syndrome in Chapter 2, citing literature to illustrate the medical, psychiatric, and cognitive evidence (or lack thereof). The author then describes a case and provides an interesting section that includes his responses to specific questions asked by the

The authors provide an appendix containing a description of many of the measures used in the research cited, some of which are also appropriate to clinical practice. Chapters 6 and 7 would be a difficult read for those unfamiliar with functional neuroanatomy. While the book has something of value to all included in the identified target audience, it will be of particular interest to treating clinicians, those interested in pursuing research in this area, and neuropsychologists dealing with neurological disorders, such as Parkinson’s or dementia, which are associated with an increased risk for hallucinations.

referring attorney. Howard Oaks delineates additional MCS issues in Chapter 3 through the perspective of a consultant to a disability company. The author gives a point-by-point description of an evaluation he was asked to review, and then specific questions raised by the findings and conclusions of the evaluator.

In Chapter 4, Joel Morgan addresses issues related to evaluator “competence,” with emphasis on how best to handle situations when one reviews evaluations or testimony containing gross errors or clear misinterpretations of data or literature. Through two case examples, he highlights the need to stay objective and neutral (e.g., not being swayed by which “side” asks for your services). In pediatric forensic work, the issues of development, particularly regarding executive functioning and the potential of “growing into deficits,” are paramount in decisions about timing of litigation. In Chapter 5, Ida Sue Baron cogently illustrates the complexities of these factors through a case of a child involved in a motor vehicle collision at 18 months of age.

While the case described in Chapter 6 involves an electrical injury, the real substance of Shane Bush’s contribution is the pertinent delineation of key considerations when reviewing the work of other evaluators. As the case evolves into an exchange of written opinions between two experts, the author uses scientific evidence and a straightforward approach to support his conclusions. In the final case analysis, Chapter 7, Kevin Greve offers another case of mild TBI, but describes the case from a legal consultant perspective. Following a description of the evaluation he reviewed, the author provides analysis related to issues surrounding mild TBI, malingering, and chronic pain.

Section II presents a single case, then provides expert analysis from two viewpoints: that of the defense expert