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## **Handbook of Psychiatric Genetics**

**Edited by Kenneth Blum  
 and Ernest Noble**

Boca Raton, FL, CRC Press, 1997,  
 498 pages, ISBN 0-8493-4486-7,  
 \$119.00

*Reviewed by*  
*Wilfrid Noël Raby, M.D., Ph.D.*

Commenting on the social construction of the brain for the *American Journal of Psychiatry*, Leo Eisenberg welcomed the return of the brain to psychiatry by exclaiming: "The brain is back in fashion and a welcome development that is!"<sup>1</sup> Reflections on the brain have never really left psychiatry. Rather, they were shelved with thought experiments, much as Freud had shelved his great manuscript of the "Project for a Scientific Psychology," so unsure was he of its postulates. With contemporary neuroscience, of course, all this has changed. From molecules to brain images to mind, we scrutinize the brain with multiple lenses, of which genetics is but one. That genes contribute to the expression of psychiatric disorders is beyond dispute. Despite many setbacks, the renewed vigor of genetic inquiry is seminal, for it poses a question crucial for the field: How much of "who we are" is "what we are"? The flurry of activity in psychiatric genetics has brought this discipline to a point where a retrospective look would be welcomed. Clinicians in practice, residents in

training, and graduate students beginning their research could use a skillfully assembled book surveying the field. The *Handbook* is a judicious attempt, but one marred in certain chapters by a proselytizing tone more suited for a pamphlet. Drs. Blum and Noble, both distinguished investigators in the field, have proposed the TAQ1 allele of the DRD2 receptor to be a major susceptibility marker for alcoholism. They have also proposed the existence of a "reward deficiency syndrome" in carriers of the TAQ1 allele. These hypotheses are discussed with zeal in many chapters throughout the book.

The book is organized in six sections, discussing 1) Analytic Approaches, 2) DNA Analysis, 3) Molecular Biology of Receptors and Associated Proteins, 4) Psychiatric Genetics, 5) Substance Use Disorders, and 6) Genetic Impact on Behavior. The usefulness of these chapters will depend on who among the designated readership actually reads this handbook. Clinicians who want to better understand the import of the many receptor types that pervade the psychopharmacology literature will find section III most helpful. It offers very good overviews of the different transmitter systems, particularly of the dopamine and serotonin systems. Graduate students dedicating themselves to psychiatric genetics will also find section 3 helpful, perhaps along with the more technical chapters in sections 1, 2, and 6. Geneticists themselves may find this broad outline of the field useful, though its value to them will be limited.

Like most handbooks in science, this one has certain characteristic drawbacks. Investigators will not

find discussed important recent reports like the one concerning clone 22 on chromosome 18p11.2 in bipolar disorder.<sup>2</sup> This is excusable, of course, reflecting only the built-in delays of publishing. The proselytizing tone mentioned earlier is less so. Close to 130 pages, or one-third of this 481-page book, is devoted to the editor's primary field of inquiry: association studies pertaining to the TAQ1 allele of the D2 receptor. Much statistical and dialectic effort is expended in answering the critics of this hypothesis. There is nothing inherently wrong with this. In scientific circles, handbooks do at times serve such purposes as answering critics, presenting supporting data that may not have been included in published papers, and allowing investigators to speak their minds without the prior censure of the editor's pen. In this instance, unfortunately, the same evidence about the TAQ1 allele is repeated in so many chapters that it is hard to avoid the impression that the editors could not edit themselves.

Nonetheless, the publication of this handbook emphasizes the current importance of genetics for psychiatry. Thus, careful discussion of the methodology used is timely and pertinent—and on no topic is it more so than association studies. Data from association studies abound in this handbook as well as in current journals. Such studies are favored by investigators for the ease with which they can be carried out and for their sensitivity to small genetic effects. However, the numerous contradictory reports they have produced have called into question their genuine utility. Recent editorials in *Molecular Psychiatry*<sup>3</sup> drew a consensus that, beyond

their limitations, association studies remain an important tool of psychiatric genetics. In spite of their many pitfalls, small association studies will likely continue to play a role to the extent that their phenotypes are narrowly defined and that they can provide data for larger meta-analysis. To render these studies more comparable with each other, several authors have proposed uniform methodological principles and standards.<sup>3</sup> These would be not unlike standards that are applied in chemistry for the nomenclature of chemical compounds or in molecular biology for the classification of serotonin receptors. A common way and a common language serve a common cause.

Psychiatric genetics is one of the frontiers of psychiatry that is redefining our concepts of psychiatric conditions and their treatment. Genetics as it applies to behavior has suffered from quackery and from malevolence. Our discipline continues to suffer from this ill legacy. Yet the future legitimacy of psychiatry lies in how we will approach, size up, criticize, and mold concepts like those brought forward by psychiatric genetics into a coherent theory of the mind. For pointing out the necessity, complexity, limitations, and promise of this endeavor, the authors of the *Handbook of Psychiatric Genetics* are to be congratulated.

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#### References

1. Eisenberg L: The social construction of the brain. *Am J Psychiatry* 1995; 152:1563-1576
2. Sanders AR, Yoshikawa T, Badner JA, et al: Linkage disequilibrium between bipolar disorder and markers on chromosome 18p11.2. Abstract #NR93, American Psychiatric Association annual meeting, San Diego, CA, May 17-22, 1997

3. Owen MJ, Holmans P, McGuffin P: Association studies in psychiatric genetics. *Molecular Psychiatry* 1997; 2:270-273

### **Neuropsychological Rehabilitation: Fundamentals, Innovations and Directions**

**Edited by José León-Carrión**

Delray Beach, FL, GR/Saint Lucie Press, 1997, 568 pages, ISBN 1-57444-039-X, \$89.95

*Reviewed by*

*George J. Carnevale, Ph.D.*

Patients with acquired brain injury have extended and comprehensive rehabilitative needs. As these are becoming recognized on an international scale, there is increased collaboration of American and European researchers on definitional and programmatic approaches to specialized rehabilitation programs for this population. *Neuropsychological Rehabilitation*, edited by José León-Carrión, a professor of neuropsychology at the University of Seville (Spain) and vice president of the International Brain Injury Association, is a comprehensive text that offers international perspectives on subjects ranging from acute medical management to long-term community reintegration.

As noted by George Zitnay, president of the National Brain Injury Association, who contributed the foreword, the strength of this text lies in its breadth of topics and in its integration of ideas from authors of different cultural backgrounds. The text is designed to be useful for all professionals and students concerned with rehabilitation following acute brain injury. Professor León-Carrión contributes several chapters on a wide array of topics, displaying both dedication and optimism

as to the ultimate efficacy of holistic, neuropsychologically informed rehabilitation techniques. He implores colleagues and practitioners to remain creative and set hopeful goals to help people with brain injury achieve a new constellation of adaptive capacity following injury.

The book is divided into five sections. Part I involves a review of fundamentals, including historical development, ideas, and methods in the field, as well as methodological issues of design and program evaluation. For physicians, a chapter is included on neuroimaging assessment and its relevance for acute and postacute treatment.

Part 2 concerns itself with treatment issues particularly relevant to acute recovery phases. There are interesting chapters reviewing assessment and treatment of the minimally responsive patient, as well as a chapter on neuropharmacological treatment by Perino and Rago from the Centro De Medicina Rehabilitativa in Torino, Italy. This chapter is notable for its honest evaluation of idiosyncratic factors in treatment with and evaluation of pharmacological modalities for brain injury, as well as a discussion of specific clinical issues and practical guidelines for therapeutic decision making. There are also thought-provoking chapters on emerging technologies such as gene therapy and neurotransplants, which may offer hope in the mitigation of long-term cognitive sequelae.

Part 3 concerns the specialized topic of cognitive rehabilitation and contains a wide sampling of therapeutic approaches. Mateer presents a clinical discussion of rehabilitation techniques helpful with patients with dysexecutive function attributable to frontal lobe impairment. Prigatano contributes a well-integrated chapter on anosognosia, explaining the interplay of psychological and organic variables as

they contribute to impaired self-awareness and rehabilitation outcome. Of particular interest is a group of chapters covering specialized topics such as aphasia rehabilitation, reading and writing impairments, and rehabilitation of acalculia.

Part 4 concerns itself with rehabilitation of personality and behavioral issues as they pertain to community stabilization. Dr. León-Carrión reviews the literature on affective disorders and suicidal behavior following traumatic brain injury, with particular focus on the potential role of impaired serotonergic systems. Practical guidelines for behavioral management of depressed and suicidal patients are offered. Unfortunately, this chapter

suffers from a limited review of the behavioral literature on this topic and does not mention the critical role of premorbid psychiatric factors in the prediction of suicidality following TBI. The following chapter on management of aggression provides an overview of pharmacologic and behavioral techniques and describes the author's integrated milieu approach. Other helpful chapters cover social skills training and vocational/avocational rehabilitation programs. The section concludes with an excellent chapter by Condeluci on community inclusion in a sociocultural context.

Part 5 covers special topics such as TBI in children and specific challenges for academic reentry. There is an important chapter on clinical

considerations in the rehabilitation of brain injury in Hispanic patients. The book concludes with a chapter on legal and economic issues.

At times, the text suffers from minor translation errors, and León-Carrión's chapters, in particular, seem to lack conceptual clarity. Despite these factors, the book is informative in many areas and reflects the continued propagation, and importance, of neurorehabilitation programs on an international level.

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