

## Book Reviews Recensions

**The Neuropathology of Schizophrenia: Progress and Interpretation.** Harrison PJ, Roberts GW, editors. Oxford: Oxford University Press; 2000. 374 pp with index. ISBN 0-19-262907-7 (cloth). CDN\$112.

From its earliest conceptualization at the end of the 19th century, schizophrenia was considered to be a disease of the brain. Unfortunately, by the 1970s, schizophrenia had also earned the reputation as being the "graveyard of neuropathologists." The study of the neuropathology of schizophrenia had ground to a halt after close to a century of inconsistent findings. The introduction of computed tomography (CT) and the subsequent advent of magnetic resonance imaging (MRI) breathed new life into the search for the neuropathologic basis of schizophrenia. This excellent edited volume is devoted to critically reviewing the substantial knowledge that has developed in this field in the last 2 decades and sets the stage for the major advances that are anticipated for the future. The contributors include leading scientists in the field who bring an authoritative tone to this fine book.

Neuroimaging studies form the foundation for recent developments in the neuropathology of schizophrenia. They have been important not only in highlighting the presence of structural brain abnormalities in schizophrenia but also in identifying brain regions and tissues that may be of greatest relevance. In the first chapter, CT and MRI studies are reviewed in a comprehensive and critical man-

ner. The important questions addressed in the literature are laid out and addressed in a logical way: Are there brain abnormalities? What structures and tissues are involved? Are findings regional or global? When are they first apparent? Are they progressive? How specific are the findings to schizophrenia? This chapter is particularly valuable in setting the context for the remainder of the book, which is devoted to describing the neuropathologic approaches that have been used to more fully characterize the brain abnormalities associated with schizophrenia.

It is clear from the past generation of CT and MRI studies that there are differences in brain structure that can be consistently identified in groups of patients (but not all individuals) with schizophrenia. These include enlarged lateral ventricles, as well as smaller cortical grey matter volumes and hippocampal volumes. To go beyond this gross level of observation, we must rely on studies using neuropathologic techniques. We need to know if there are consistent differences in the cellular composition and organization of the brain, whether the number and size of neurons is reduced, or whether it is the packing of the cells in the cortex or their degree of connectivity that is disturbed. Recent neuropathologic studies that address these questions are reviewed in a series of comprehensive chapters devoted to hippocampal pathology, cortical pathology and synaptic pathology.

Advances in our understanding of the neuropathology of schizo-

phrenia will not occur simply as a result of studying more post-mortem specimens. The ability to interpret these studies is very much dependent on new insights made possible by recent advances in understanding brain development. Chapters on cortical development and the organization of cortical circuitry provide this background and underscore the vast array of mechanisms that could result in an illness such as schizophrenia. In this regard, it may be particularly helpful to compare the neuropathologic findings in schizophrenia with those of other brain diseases known to be neurodevelopmental, degenerative or associated with schizophrenia-like symptoms. An excellent chapter is devoted to this topic. Recent efforts to develop animal models of the neurodevelopmental mechanisms underlying schizophrenia are also summarized.

This book excels at bringing a balanced and scholarly perspective to a very new and complex field. The 3 final chapters, "A Skeptical View of the Neuropathology of Schizophrenia," "Methodological Issues" and "Neuropathologic Consequences of Schizophrenia Treatments," emphasize the importance of proceeding cautiously in this field, both in carrying out and interpreting neuropathologic research in schizophrenia.

After reading this book, one cannot help but be struck by the remarkable body of research that has developed in recent years. At the same time, it is clear that unraveling the neuropathology of schizophrenia remains a challenge of the highest order. This excellent vol-

ume brings the reader up to date in this rapidly developing field and provides the foundation for interpreting future work in this area. It should be of great interest to specialists in the area, schizophrenia researchers and their students.

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**Affective Minds.** Hatano G, Okada N, Tanabe H, editors. Amsterdam: Elsevier Science; 2000. 283 pp with index. ISBN 0-444-50418-4 (cloth). US\$136.

*Affective Minds* is a collection of papers based on presentations given at the 13th Toyota Conference, Shizuoka, Japan, from Nov. 29 to Dec. 2, 1999. The Toyota Conference aims to contribute "to the growth and advancement of emerging fundamental science and technology" (p. xiii) by bringing together leading researchers for "intensive discussions [and] for an exchange of ideas" (p. xiii). Previous Toyota Conferences have focused on topics such as materials science, chaos theory, global environmental planning, and "Brain and Mind" (the 9th Toyota Conference, held in 1995).

This collection of papers will be of value to anyone interested in human emotions. Because the conference planners selected speakers from a diverse range of scientific fields, it is highly probable that every reader will find something new. The broad range of approaches will also stimulate readers to broaden their own perspectives and, as such, may foster improvement in research related to emotions. Such research, it is hoped, will ultimately lead to bet-

ter clinical care and also to improvements in a number of other fields (e.g., artificial intelligence). Nonresearchers should also find the book of interest. For example, clinicians may be interested in the diversity of approaches influencing clinical care. Such influences might include impacts on psychotherapeutic interventions, based on findings related to the self from a neurocognitive perspective (D.T. Stuss and M.P. Alexander, chapter 2) or cultural influences on affective communication (K. Ishii and S. Kitayama, chapter 25).

The diversity of approaches is also evident in the 3 keynote papers, which focus on emotion and social interactions, the anatomical basis of emotion and self-awareness, and attachment and goals. The remaining papers are organized into sections focusing on emotion and computation, brain damage and emotional problems, development and emotion, applications to artificial systems and emotion in society.

Although this diversity is one of the book's strengths, it also poses a challenge to the reader, as some of the papers are difficult to fully understand without at least some prior knowledge of the topic. Furthermore, the separation of the topics into individual papers and sections highlights another limitation of the book (and hence, perhaps, the conference it reports on). One of the goals of the conference organizing committee was to "unite seemingly very different disciplines" (p. v), but this goal is not fully realized by isolating topics as the book has done. A better unification of ideas would allow research in one discipline to better

enhance research in other disciplines. That this has not been occurring is evident, for example, in chapter 18 (A. Sloman and B. Logan). While discussing "virtual machine information processing architectures" (p. 170) the authors state their belief that "researchers and therapists who refer to 'executive function' in humans are often unaware that they are discussing mechanisms which (incorrectly) combine deliberative and meta-management approaches" (p. 173). This separation of the "self" from lower executive functions is in fact not unknown, but rather was proposed by Stuss (the coauthor of chapter 2) many years ago. Had Sloman and Logan been aware of Stuss's conceptual model, their research might well have been facilitated. Conversely, Sloman and Logan's findings are supportive of Stuss's model. Clearly, better integration of knowledge about emotions from diverse fields is crucial. Although this book represents one step toward this goal, it also remains evident that further efforts are required and that they are likely to be fruitful.

There is one other limitation of this book of which potential readers should be aware: many of the reported studies have significant methodologic limitations that tend not to be acknowledged in the papers.

#### Synopsis of chapters

Chapter 1 (M. Toda) proposes an evolutionary development of emotional systems and their role in human social behaviour. It suggests that emotions appropriate for wilderness survival still persist but are perhaps inappropriate for today's "extremely low status-