

of depression; molecular genetics of depression; genes and environment; the depression exophenotype and endophenotype; and development and genes. The author (Dr. van Os) concludes that, "family, twin and to a lesser extent adoption studies all point towards a genetic influence on depressive disorder. However, this influence appears to be rather moderate and to date no replicable molecular genetic findings have been produced" (p. 72). The following chapter, "Gene-environment correlation and interaction in depression," expands on the gene-environment interaction and correlation. Chapter 7, "Monoamines and depression," provides an extensive and exhaustive summary of the role of monoamines/monoaminergic systems—serotonergic, noradrenergic, and dopaminergic ones—in depression. The chapter closes with the discussion of the behavioral correlates of the monoaminergic disturbances in depression. The monoaminergic disturbances seem to be functionally specific (e.g., heightened anxiety or disturbed aggression regulation) rather than nosologically or syndromally specific. Chapter 8, "Stress hormones and depression," is an interesting discussion on the role of stress hormones (e.g., cortisol, CRH, ACTH) in depression. The authors suggest that "depression (at least some types of depression) is characterized by glucocorticoid feedback resistance and enhanced CRH/vasopressin drive" (p. 161). They also feel that hyperactivity of the CRH-ACTH-cortisol system in depression is more than just an epiphenomenon, and might be involved in the pathophysiology of (certain types of) depression" (p. 163). Another interesting issue discussed is the fact that stress and glucocorticoids suppress neurogenesis. The chapter also focuses on the role of early adversity again, the interaction of the HPA axis and various monoaminergic systems, and concludes with the statement that, "stress indeed may be a causative factor in depression" (p. 201). The final chapter, "Stress, the brain and depression," attempts to synthesize the discussion of the previous chapters. It discusses issues such as depression, anxiety and aggression; comorbidity of anxiety and depression; anxiety and aggression as pacemakers of depression; the diagnostic implications of anxiety/aggression-driven depression; and the consequences of diagnostic renewal for biological psychiatric and psychopharmacological research. The author (van Praag) suggests that biological psychiatry's main target should be the psychic dysfunction rather than the present-day disease categories (p. 249). He also suggests functionalization and verticalization (i.e., prioritizing psychopathological symptoms/psychic dysfunctions that together constitute a mental disorder) of psychiatric diagnosis as opposed to the current horizontal manner of psychiatric diagnosis. He believes that functionalization will ultimately lead to psychiatric physiology and possibly functional psychopharmacology. An interesting treatment strategy is presented—"a combination of drugs (a selective, full, postsynaptic 5-HT<sub>1A</sub> agonist, in combination with a cortisol or CRH antagonist) and psychological intervention aimed at augmenting ego strength are considered to be the treatment of choice in anxiety/aggression-driven depression" (p. 253).

The Epilogue summarizes again the major issues discussed in this book—stress-induced depression, vulnerabilities, recognizability, and diagnostic strategies.

The book reflects a lot the life-time work of Herman van Praag, who wrote most of this volume (Dr. van Os wrote chapters 5 and 6, and Dr. de Kloet co-authored chapter 8 with Dr. van Praag). His breadth of knowledge, memory and the fact that he has been studying depression for over four decades allows for the use of references from an era almost forgotten, which is, unfortunately, unusual in present-day publications. The book is thought provoking, well written and well organized. The initial clinically and diagnostically oriented chapters are definitely more entertaining and interesting than the rest of the book. The review of monoaminergic systems is a bit too exhaustive and exhausting. The rest of the "biological" part of the book is informative and comprehensive, although a bit lengthy at times. Nevertheless, the book addresses not just whether stress causes depression (it seems that it does, particularly chronic stress and particularly in certain people), but also, among others, the problems of our current diagnostic system. I would recommend this volume to all clinicians and researchers interested in depression and stress; not as required reading, but probably as solid bedtime, scientifically entertaining reading.

Richard Balon, M.D.  
Wayne State University  
Detroit, Michigan

***The Lost Self. Pathologies of the Brain and Identity.*** Edited by Todd E. Feinberg and Julian Paul Keenan; Oxford University Press, New York, New York; 2005; ISBN 13 978-0-19-517341-3; \$49.95 (hardcover); 275 pp.

It is only a matter of time before every psychological function or experience becomes a focus of neurobiological and neuroscience research and a subject of a quest to find its anatomical location. Interestingly, the latest object of this exploration is the self itself! I say interestingly, because the self is probably not only difficult to localize, but even a bit difficult to define. As Todd Feinberg and Julian Keenan, editors of "The lost self," discuss in their introduction to this volume, the "self" carries with it the notion of identity, of meaning the selfsame (p. 1). They also bring our attention to the fact that there are many different notions of the self, such as the cognitive self, the conceptual self, the core self and many others. They also come to the conclusion that the self is "both a subject and an object of itself." Drs. Feinberg and Keenan state that they consider both these aspects of the self in their book, but they "focus of special and particular aspects of the self, namely: What happens to the self in certain neuropathological conditions? And what can these conditions teach us about the neurobiology of the self?" They gathered a group of thirty interested neuroscientists, psychologists, philosophers and

psychiatrists from around the world to probe these and other aspects of the self.

The book consists of an Introduction and sixteen chapters covering topics from philosophy and neurobiology of the self to the self in dreams, psychoactive agents and the self and meditation and the self.

The three chapters following the Introduction cover more general topics regarding the philosophy and neuroscience of the self. Chapter 1 points out that, in philosophy, “the traditional problem of the self is the problem of personal identity” (p. 7). This issue arises, for instance, in questions such as “What fact about me, here and now, makes me the same person as the person who bore my name and lived in my house 20 years ago?” (p. 7). The following two chapters attempt to provide the reader with overviews on cognitive neuroscience of the self and some insights from functional neuroimaging of the normal brain; and neural hierarchies. The chapter on neural hierarchies actually provides a “tentative theoretical model of the self which takes into account functional, neuroanatomical, and behavioral features. The author (Todd Feinberg) suggests, that “the self is ultimately a nested hierarchy of meaning and purpose created by the brain” (p. 46).

As the editors point out, the next three chapters examine the self and self-related functions with reference to particular neuropsychological functions and neuroanatomical regions—issues such as the association between the frontal lobes and self-awareness; autobiographical disorders; and body image and the self. The discussion on body image and the self is quite interesting, reviewing, among others, the permanent structure of one’s body, the at times puzzling sensation of phantom limbs, and autoscopy and out-of-body experience. The authors of this chapter postulate that, “permanence and coherence of one’s own body image turns out to be a fragile outcome of fleeting integration of synchronous afferences from vision, proprioception, and motor commands” (p. 95).

The following six chapters focus on clinical disorders of the self, such as delusional misidentification and reduplication with relationship to the right-hemisphere pathology; the mirror sign delusional misidentification symptom; disorders of the self in dementia; autism (“Autos” – literally, a total focus on the self?), and Asperger syndrome; recognizing the sensory consequences of one’s own actions and delusion of control in schizophrenia; and the neuronal correlates of depersonalization. The chapter on right hemisphere pathology reviews various forms of Capgras (for persons, for environment, for arm) and Fregoli syndromes (for persons, for environment), and other delusional misidentifications and reduplications in relation to the self. These are interesting, solid and scholarly, yet mostly boring reviews. Surprisingly, the chapter on autism and Asperger syndrome is a little gem, dealing mostly with empathy and the question of why we empathize. The author’s theory and proposal is, “that what drives a nonautistic person to be interested in another self (not just his or her own) is empathy, and that what drives a person with autism (be it classic autism

or the milder Asperger syndrome) to be relatively disinterested in other selves and primarily focused on his or her own interests, knowledge, goals, and projects is an impairment in empathy” (p. 167). The author also discusses the two elements of empathy—cognitive and affective. The chapter provides some interesting information, for instance that some people notice only a small number of shades of hostility, while a good empathizer might recognize 50 different shades of hostility, or that women score higher on Empathy Quotient than men, but people with Asperger syndrome score even lower than men. This is an interesting chapter that seems to end too soon!

The last four chapters are probably the most lively and entertaining ones of the entire book. One of them deals with the self in dreams and also attempts to define the function of dreaming. In contrast to some cognitive neuroscientists who think that dreaming does not serve any function whatsoever, the author of this chapter believes that dreaming has several functions, and that, for instance, threat simulation during dreaming may have increased the survival fitness of our distant ancestors (p. 218). The next chapter is an interesting review of psychoactive agents and the self. It is divided into drugs that influence the composite self (e.g., cannabis, mescaline, ecstasy), and drugs that influence the core self (e.g., some mushrooms). The following chapter reviews meditation and the self. Last but not least, the final chapter is a personal story of a well-known sleep and dream researcher, J. Allan Hobson, and how he survived two unexpected and life threatening complications of lateral medullary infarct and atypical pneumonia, and how these conditions relate to the self, and to its fragility and durability. It is an interesting personal account with some astute observations. I liked a quote of the intensive care unit director, Dr. Lowenfeld, who stated to Dr. Hobson that, “In the intensive care unit sooner or later everyone becomes psychotic.”

While this book contains a lot of interesting information, I am not sure about its usefulness to busy clinicians. As I pointed out, some chapters are outright boring, at least to me. Interestingly, these are the most rigorous neuroscience and neurobiology focused ones. The ones that are more entertaining and thought-provoking deal with seemingly “scientifically softer” issues such as dreams, psychoactive substances, and meditation, not forgetting empathy, in relation to the self. Readers may need to be also warned that this book has nothing to do with self-psychology of Heinz Kohut and others of the self-psychology school.

Nevertheless, I think that this book will contribute to our understanding of what we think the self represents and the how a brain creates it. The self is certainly an “immensely complicated but endlessly fascinating topic” (p. 6), which deserves much more of our attention.

Richard Balon, M.D.  
Wayne State University  
Detroit, Michigan