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Traumatic Dissociation: Neurobiology and Treatment, edited by Eric Vermetten, M.D., Ph.D., Martin J. Dorahy, Ph.D., and David Spiegel, M.D. Arlington, Va., American Psychiatric Publishing, 2007, 398 pp., \$62.00.

The term “dissociation” refers to the splitting apart of streams of consciousness, psychological processes, or personality structures that would normally form a cohesive whole (1). Dissociative phenomena cut across multiple axis I and II DSM-IV-TR disorders. Several conditions explicitly include dissociative symptoms, notably dissociative amnesia, dissociative fugue, dissociative identity disorder, and borderline personality disorder. In others, a relationship with dissociation has been suggested by the literature but is not explicitly mentioned by DSM. For example, peritraumatic dissociation has been shown to predict the later development of posttraumatic stress disorder (PTSD) (2). Trichotillomania has been linked to childhood trauma, and repetitive hair pulling is often undertaken in a state of dissociation (3). Therefore, our understanding of the relationship between dissociation, trauma, and psychopathology is very important clinically (4–7). In their welcome book, Eric Vermetten and co-editors bring together contributions from a variety of experts in order to chart the ascent of traumatic dissociation, beginning with Piaget and Freud, moving on to DSM, and thence the neurosciences, translational medicine, contemporary controversy, and treatment.

The book comprises three overarching sections. The first probes conceptual and historical issues surrounding dissociation, such as a potential role for disorganized attachment during childhood (e.g., frightening and abusive behavior from parents) as a vulnerability factor for dissociative psychopathology in later life. Traditionally, dissociative identity disorder (a contentious entity at the best of times) has been conceptualized in terms of cognitive avoidance, or reduced processing of traumatic stimuli per se. Neurocognitive findings in patients with dissociative identity disorder, reviewed in this section, instead suggest *increased* processing of trauma-salient stimuli. Elsewhere, there is a critique of the complex relationship between dissociation and PTSD, which contrasts the heightened noradrenergic tone and hypermnnesia often characteristic of PTSD with “shut down” amnesic symptomatology typically occurring with dissociation. It is concluded that although PTSD and dissociation can both arise after trauma, they should nonetheless be regarded as distinct entities whose etiologies differ.

The second section of the book focuses on neurobiology and opens with a carefully crafted and thought-provoking translational framework for researchers. The authors outline laboratory-based induction of dissociative phenomena—for example, using ketamine. Physiological correlates of dissociation are explored, including pulse rate, the hypothalamo-pituitary-adrenal stress axis, and tonic immobility (which can be modeled in animals). This helps us to glean insights into

putative vulnerability and resilience factors. There is subsequent coverage of human studies in military personnel showing that the propensity to dissociate during stress was linked to low capacity for neuropeptide Y release and a low ratio of DHEA-S:cortisol. Recruits who showed baseline dissociative experiences were more likely to fail military training. The objective measurement of dissociation and its neurobiological correlates could contribute to the selection process for occupations often involving trauma in order to minimize the risk of subsequent psychopathology. As well as physiological correlates, some research has explored brain correlates of dissociation. In a chapter comprehensively covering symptom provocation in PTSD patients, it is noted that dissociative symptoms were associated with functional changes in the prefrontal, temporal, and parietal cortices, and the anterior cingulate gyrus and amygdala. Different findings were reported for arousal and flashback responses, which supports the need for further study and careful delineation of dissociation and its relationship with other symptomatology in DSM.

It is the last section of the book that covers clinical management issues. As it stands, the book (as with medical training) involves somewhat delayed gratification. There is a well-written précis covering psychiatric approaches to dissociation (history, biology, and clinical assessment). Greater emphasis on clinical features at the start of the book, rather than here toward the end, would have been less frustrating. A subsequent chapter covers the assessment of dissociation using semistructured interviews, questionnaires, and prospective tests. Problems facing practitioners when assessing dissociation are also addressed, such as the relative lack of normative data and the broad nature of the term “dissociation” itself. Finally, there is an overview of treatments for dissociation that are supported by the available literature.

In all, this book succeeds in drawing together different historical, research, and clinical strands into a largely cohesive text. It acknowledges the considerable controversy regarding dissociation in psychiatry and takes a realistic attitude toward limitations in the current body of knowledge. *Traumatic Dissociation: Neurobiology and Treatment* will be of interest to practitioners likely to encounter patients with a history of traumatic exposure and to researchers in the field of dissociation, since it offers insights from a multitude of perspectives.

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***The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being*, by Daniel J. Siegel. New York, W.W. Norton and Company, 2007, 280 pp., \$26.95.**

"Welcome to a journey into the heart of our lives." With these words, Daniel J. Siegel, scientist, psychiatrist, educator, and leader in the field of mental health, draws us into a rich and illuminating exploration of what it means to live in the here-and-now, to be fully present in the moment, to be "mindfully aware." Daniel J. Siegel, M.D., is a graduate of Harvard Medical School and Director of the Mindsight Institute, Co-Director of the UCLA Mindful Awareness Research Center, and author of the internationally acclaimed, best-selling text *The Developing Mind*.

Dr. Siegel offers a rare opportunity to explore the world of "mindfulness" through his personal experience but also through the eyes of a researcher in child development and one who understands the workings of brain circuitry, which makes the reading in-depth as well as life changing. I found it difficult to put the book down and at the same time, the book has a plethora of depth in ideas and references that one could read the book several times and still not fully grasp its content. Though many of the concepts in the book will be quite familiar to those who practice mindfulness or work in the neurosciences, the ability to interweave mindfulness, basic neuroscience, and child development reframes the individual's attention of all three areas in new and interesting ways.

The book is divided into four sections: Mind, Brain, and Awareness; Immersion in Direct Experience; Facets of the Mindful Brain; and Reflections on the Mindful Brain. Appendices include Reflection and Mindfulness Resources, Glossary and Terms, and Neural Notes on the Anatomy of the Brain.

In the first section, Chapter One, "A Mindful Awareness," Dr. Siegel gives us an overview of mindfulness and its applications as well as an outline of the history of mindfulness and its current uses in medicine. He argues that we spend much of our time on "autopilot" or "mindless," which leads to feelings of numbness and emptiness (p. 14). He further explains that this book is about how we pay attention in the present moment can directly improve the functioning of body and brain and subjective mental and interpersonal relationships (p. 3).

Chapter Two, "Brain Basics," explains about brain development and anatomical functions/circuitry. Particular attention is paid to the medial prefrontal areas responsible for body regulation, attuned communication, emotional balance, response flexibility, empathy, insight or self-knowing awareness, fear modulation, intuition, and morality (pp. 44, 45). Mindfulness is depicted as a function of the medial pre-

frontal cortex, while mindfulness practice can also improve the function of these same areas. Dr. Siegel introduces the concept of "The Brain in the Palm of Your Hand;" I have never had anyone explain brain anatomy in such an elegant yet easily understandable fashion.

Part II, Chapter 3, "A Week of Silence," and Chapter 4, "Suffering and the Streams of Awareness," explores Dr. Siegel's personal experience with mindfulness training. His development of acronyms, such as SOCK, YODA, and the HUB, for understanding and developing different practices of mindfulness were interesting, and I would imagine useful for someone learning to do mindfulness and for those more familiar to enrich their existing practices.

Part III, Chapters 5–12, explores the concepts of mindfulness presented in the introductory chapter. The facets of mindfulness are reiterated to include 1) nonreactivity to inner experience, 2) observing/noticing/attending to sensations/perceptions/thoughts/feelings, 3) acting with awareness/nonautomatic pilot/concentration/nondistraction, 4) describing/labeling with words, and 5) nonjudging of experience (p. 91). Dr. Siegel explains that mindfulness is learnable and introduces "ipseity" or the "bare essence" of the self as one of the key objectives of mindfulness practice. "To intentionally bring something into awareness means that rather than just registering input from sensory organs into the primary sensory cortical regions toward the back of the brain, we engage in an active search process, a purposeful seeking of perceptual data in the field of awareness; which is correlated with the side prefrontal region" (p. 108). The concept of the "wheel of awareness" is introduced; the fifth (outer world), sixth (body), seventh (mind), and eighth (relationships) senses are introduced to give a more "spacious quality of mindful awareness" (p. 121). The result is that self-observation, attunement to oneself and others, as well as empathy are now able to be more easily developed, whether one is learning this as a child or for the first time as an adult.

Dimensions of the "top-down" concept are explained as a way to get to nonjudgmentalness. "Direct experience gives rise to the sense that mindful awareness involves the dissolution of the influences of prior learning on present sensation. This is the way we diminish the effects of automatic top-down processes and it enables us to create that state of 'nonjudging' experience" (p. 134).

Internal attunement and attention to intention create an internal emotional closeness or "becoming our own best friend" and also allow us to attune to others' intentions (p. 172). "One example of intrapersonal attunement would be the practice of breath awareness" (p. 174), which is used very commonly in many mindfulness practices. "Repeated activation of such attuned states results in neuroplastic changes with the structural outcome of neural integration" (p. 189). If attunement produces integration in the brain, then interpersonal attunement in loving kindness directed toward others can occur. Ultimately, coherence, flexibility, affective regulation, and resiliency develop.

In the last section, Dr. Siegel explains how mindfulness practices can be applied to learning, the educational process for educators and students, as well as for those in mental health, both for the practitioner and the patient. Finally, the case examples in this section are both interesting and useful. In the end, I think the ideas in this book will both enrich