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A Review of: “Neuroanatomy for Students of Behavioral Disorders. Ronald L. Green, MD and Robyn L. Olander, MD.”

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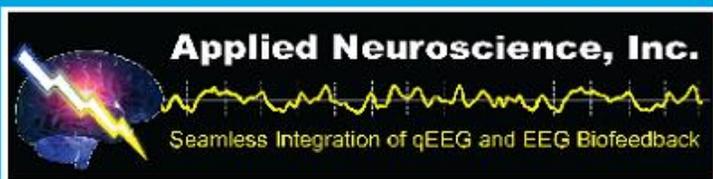
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BOOK REVIEW

NEUROANATOMY FOR STUDENTS OF BEHAVIORAL DISORDERS. Ronald L. Green, MD and Robyn L. Olander, MD. W. W. Norton, New York, New York, 2009, 288 pages, ISBN: 978-0-393-70398-6.

Drs. Green and Olander open their book *Neuroanatomy for Students of Behavioral Disorders* with a list of four reasons to provide this sort of text.

1. This subject is now important for everyone in the behavioral health field: clinicians (psychopharmacologists and psychotherapists alike), teachers, students, and neuroscience researchers, basic and clinical.
2. The ability to appreciate the vast emerging literature on the neural correlates of normal behavior, psychopathology, and its treatment depends upon a sophisticated understanding of central nervous system neuroanatomy.
3. Neuroanatomy may be the best starting point for learning the mind-brain basis of the major behavioral disorders.
4. Although there are numerous excellent neuroanatomy texts available, they cover a vast amount of material relatively extraneous to the neuroanatomy of behavioral disorders. (p. 1)

The text is organized from an explication of how information flows through the neural circuits in the brain and how those circuits are generally related to behavioral disorders. They then link the circuits function to that of the neurotransmitters most intimately related to behavioral state-control. All of this information is then linked to the central role of the thalamus and

(1) its nearly ubiquitous interconnections with cortical and subcortical sites; (2) its entirely parallel processing mode (i.e., the

absence of cross talk between the parallel lines); (3) the exclusive devotion of its cells to pass on, or not, to the cortex or other regions, information it receives from the same or other brain regions; and (4) the fact that these ‘decisions’ are, in the main, determined by extrathalamic modulatory forces and local GABAergic circuits. (p. 66)

The remainder of the book explicates the specific neuroanatomical features, neurochemical components and neural pathways involved in specific behavioral disorders. The disorders include, anxiety disorder prototypes, Obsessive-Compulsive Disorder, Schizophrenia, Attention-Deficit Disorder, Addiction Disorders, and Mood Disorders.

A central emphasis through each of these disorder-specific sections is on location. As in real estate, the one essential element to understanding and appreciation of (dys)function is location, location, location. Regardless of the extreme complexity of the networks and hubs of the modern understanding of neural function, it is all still uniquely tied to specific brain regions and structures. This text provides the best and clearest descriptions and explanations linking behavior and anatomy of any text I have read. As they so clearly state:

Or to state it another way, a grasp of neuroanatomy is a logical first step in approaching a subject as complex as the brain and behavior. All activities of all life forms, including human thinking, involve moving something or many things through time from one place to another. This fact applies as much in microscopic, molecular, and subatomic worlds (setting aside quantum mechanics’ ambiguities of being in two places at once) as it applies to complex social behaviors such as making love or war. For example, what is perceiving, thinking, or remembering if not moving information about in the brain, which is the case whether we

consider neural signals traveling millimeters or we analyze the cascade of extra- and intracellular molecular events which occurs when we think. The point is that *place* is fundamental, and learning the places of the brain and their interconnections provides a scaffold for organizing our thinking about any aspect of brain and behavior. (p. 3)

The knowledge included in this text is critical to neurofeedback clinicians but will also be

immensely helpful to psychotherapists, counselors, educators . . . in other words, anyone dealing with behavior and brains. This is one of the top five most helpful texts I have read, and I recommend it highly.

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