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Book Review for MPA Newsletter

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Satel, Sally; Lilienfeld, Scott. *Brainwashed. The Seductive Appeal of Mindless Neuroscience.* New York: Basic Books, 2013.

 “Fifty Shades of Gray Matter,” was the first title Sally Satel wanted but she had to go with “Brainwashed. The Seductive Appeal of Mindless Neuroscience.”

The book has six chapters and an epilogue:

1. This Is Your Brain on Ahmadinejad: Or What is Brain Imaging?
2. The Buyologist Is In: The Rise of Neuromarketing
3. Addiction and the Brain-Disease Fallacy
4. The Telltale Brain: Neuroscience and Deception
5. My Amygdala Made Me Do It: The Trials of Neurolaw
6. The Future of Blame: Neuroscience and Moral Responsibility

Epilogue: Mind over Gray Matter

Satel and her co-author Scott O. Lilienfeld discuss the stunning progress in neuroscience and its implications for society, especially through the development of functional magnetic resonance imaging (fMRI) that takes pictures of the brain in action.

The authors do not aim to critique science and the technology of brain scans. Rather Satel and Lilienfeld sound a warning bell that we are witnessing premature applications of these seductive, techno-color images of the brain that promise to help diagnose drug addicts, understand the influence of neurological damage on criminal responsibility, and predict consumers’ buying habits, to name only a few topics discussed in this concise, elegantly written book.

Psychologists, psychiatrists, and neuroscientists are alert to this warning and know we are in danger of losing the mind to this age of neurocentrism.

For example, in his new book, *The Spark: The Science of Human Development*. Jerome Kagan (1) reviews in detail the many problems using blood flow measures in the brain to understand emotions:

*…many events evoke a brief feeling that lasts about a second and then disappears. But there is little change in blood flow to a brain site during the initial second. The peak in the blood flow signal occurs about sic second after the event occurred and therefore, five seconds after the feeling may have vanished. The blood flow measure reflects a cascade of phenomena that include association to the event, a possible feeling, and perhaps a private query as to why the scientist presented that particular stimulus.*

The rigor of psychological studies of the mind cited in Kagan’s book often take a back seat to the fMRI scans which measure brain activity by noting associated changes in blood flow. Since cerebral blood flow and neuron activity are correlated, when an area of the brain is in use, blood flows to the region also increases. We are flooded with observations of brain parts lighting up. There are no shortages of interpretations when certain regions of the brain glow --- even though we know that brain regions have millions of interconnections, we sometimes confuse the meaning of excitatory and inhibitory functions on brain sites, and that the better people become at a skill, the less hard the brain appears to work.

Yet this neuromania pervades the culture, supplying consumers craving certainty the illusion of simple black-and-white answers to their many shades of gray psychic distress.

For example, the other day I watched the Dr. Oz Show, a daily television program focusing on medical issues and personal health launched by Oprah Winfrey’s Harpo Productions and Sony Pictures. Dr. Mehmet Oz is a cardiac surgeon, and Professor of Surgery at Columbia University. I watched Dr. Oz interview child and adult psychiatrist Dr. Daniel Amen on the topic: “Your Brain: Up Close and Personal.” Dr. Amen runs the many national outlets called Amen Clinics (sounds religious) in Newport Beach, California; San Francisco, California; Bellevue, Washington; Reston, Virginia; Atlanta, Georgia; and New York, NY.

According to Satel and Lilienfeld:

*…Daniel Amen, oversees an empire that includes book publishing, television shows, and a line of nutritional supplements. Single photon emission computer tomography, SPECT, a nuclear-imaging technique that measure blood flow, is the type of scan favored by Amen. His clinics charge over three thousand dollars for an assessment…he grossed over 20 million in 2011…****There is near universal agreement among psychologists and psychiatrists that Amen’s scans cannot diagnose mental illness.***

In another chapter, Satel and Lilienfeld focus on neuromarketing --- a field with a long history. Using consumer motivational research, depth psychology and subliminal tactics to manipulate expectations and induce desire for products was the theme of Vance Packard’s (I read it in high school) classic book on advertising, “The Hidden Persuaders,” published in 1957. Now, enter the fMRI and marketing. Some neuromarketers sell the idea that focus groups are not a reliable means to find out what consumers like or what they are going to buy. Instead of asking people about their buying preferences, neuromarketers bypass the conscious mind and go straight to analyzing fMRI’s of consumers to determine both their unconscious desires and decision making processes.

Satel’s specialty is treating drug addicts. She is frustrated with the accepted definition of addiction as a chronic and relapsing brain disease. To treat drug addicts, Satel reminds us, we must help them change their behavior and cravings for drugs. To do this, we appeal to their desire and motivation for change. To call something a disease implies there is a medication to stop the disease process. There is no such medication for drug addicts --- and for many other mental maladies. Drug addicts sometimes respond to incentives to change. People with disease are not able to reverse their disease voluntarily. To treat drug addicts, we have to understand minds.

In their last chapter, Satel and Lilienfeld turn their attention to neuroscience and moral responsibility. They wonder if advances in neuroscience bring us closer to solving the age-old dilemma of how much of our behavior is determined and how much is the result of our free will. As Satel and Lilienfeld note, the proper use of reason is to recognize reason’s limitations. Neuroscience does not bring us closer to understanding this predicament.

We do have a choice about learning from neuroscience and accepting the limits of our new technology, without throwing out our minds with the brain water. We remain mystified about how the water of the brain becomes the wine of self-consciousness. Our limits spring from the mystery of the generation of consciousness, the basic experience of humans on which our social and personal relationships rest. We do not understand how consciousness is produced, nor do we understand its full potential.

 I believe I made a free choice to read Satel and Lilienfield’s superb book, but maybe the writer Issac Bashevis Singer is on to something when he says:

*We have to believe in free will. We’ve got no choice.*

Notes:

1. Kagan, Jerome. *The Human Spark. The Science of Human Development.* New York: Basic Books, 2013.