

Through the Lens #15 — Winter 2015

Roberta M. Gilbert, M.D.

Brain Science—What It Can and Cannot Deliver

Brainwashed, the Seductive Appeal of Mindless Neuroscience

Basic Books New York, NY 2013

By Sally Satel and Scott O. Lilienfeld

BOOK REVIEW BY ROBERTA GILBERT

Brainwashed, the Seductive Appeal of Mindless Neuroscience, has been named a finalist for the LA Times Book Prizes. And well it should. Here we have an understandable review of what brain science is and what it is capable of. As well, and refreshingly, we see many of its limitations, in a book that balances out much of the thoughtless enthusiasm for neuroscience and brain imaging dished out in press, literature, medical writing and even the courtroom. *Brainwashed* is written by Sally Satel, a psychiatrist who is a fellow at the American Enterprise Institute, a lecturer at Yale University and in private practice, and Scott O. Lilienfeld, a clinical psychologist and professor of psychology at Emory University.

Our recent cultural “obsession with neuroscience” has led us into what the authors point out are grave misuses of its advances. But Satel and Lilienfeld say it best. “You’ve seen the headlines: this is your brain on love. Or God. Or envy. Or happiness. And they’re reliably accompanied by articles boasting pictures of color-drenched brains—scans capturing Buddhist monks meditating, addicts craving cocaine, and college sophomores choosing Coke over Pepsi. The media—and even some neuroscientists, it seems—love to invoke the neural foundations of human behavior to explain everything from the Bernie Madoff fiasco to slavish devotion to our iPhones, the sexual indiscretions of politicians, conservatives’ dismissal of global warming, and even an obsession with self-tanning.

“Brains are big on campus, too. Take a map of any major university, and you can trace the march of neuroscience from research labs and medical centers into schools of law and business and departments of economics and philosophy. In recent years, neuroscience has merged with a host of other disciplines, spawning such new areas of study as neuroma, neuroeconomics, neurophilosophy, neuromarketing, and neurofinance. Add to this the birth of neuroaesthetics, neurohistory, neuroliterature, neuromusicology, neuropolitics, and neurotheology.

“Clearly brains are hot. . . the brain has now entered the popular mainstream. As a newly minted cultural artifact, the brain is portrayed in paintings, sculptures, and tapestries and put on display in museums and galleries. One science pundit noted, ‘If Warhol were around today, he’d have a series of silkscreens dedicated to the cortex; the amygdala would hang alongside Marilyn Monroe.’”

What with CT-scans, MRI’s and fMRI (functional magnetic resonance imaging) lighting up the popular press, classroom, and sci-fi dreamers’ imaginations, brain exploration and imaging seems to promise a great deal more than these authors believe it has delivered, can, or will deliver.

The book begins with an overview of fMRI, explaining how the brain works and is researched. This explanation gives us an appreciation for the awesome complexity of the brain and its functions. At the same time, we begin to see how thoughts, motivation, and emotional content can scarcely be inferred from imaging alone.

Neuromarketers believe they can discern more accurately than from verbal reports what people really think about products and advertisements. The authors cast a great deal of doubt on this activity.

The field of addiction has used neuroimaging to “prove” that addiction is really a “brain disease.” Satel and Lilienfeld, however, point out the many contributing factors to addictive behavior, and plead for a much broader understanding of it. They note that “if the brain were the core of the problem, it would need to be part of the solution.” However, clinically, the reality is just the opposite. Dr. Satel, with her many years in the field of addiction states firmly that the most effective interventions aim not at the brain but at the person with his or her story of how the addiction developed, how and why it continued as well as how they managed to stop the cycle of addiction. While it may deserve a hearing, the brain disease narrative sells short the fact that substances serve a purpose in lives and, further, that “neurobiological changes induced by alcohol and drugs can be overridden.” Actual neurological diseases rarely can be.

Again, neuroimaging processes, by companies such as No Lie MRI and Cephos, have been touted to reveal deception for the courtroom. However, it turns out that in fact, there is no single signature of guilt—or of lying—in the brain. So this would appear to be another misuse of the new science.

In the chapter “My Amygdala Made Me Do It” Drs. Satel and Lilienfeld give many examples of how the new science is being used to mitigate guilt in the courtroom. While they show how the science actually fails to reliably measure up for this purpose at the present time, they hope for continued development that will one day shed light on several difficult areas. Some of these are: profound derangements in rational capacity, self-control, or ability to distinguish false memories of sexual abuse from accurate ones, or the ability to tell who is faking mental illness to avoid trial. Even then, they note, jurors—rather than experts—will have to draw the line, telling who had self control, knew the difference between right and wrong, or was able to reason. Science alone will be unable to answer many of the questions asked by jurisprudence.

The book affords a fascinating discussion of many of the deeper dilemmas of human existence. Does neuroscience predetermine our behavior? Can it give light on designing social policy? Can the human be said to have free will? These and many other intriguing questions are considered in *Brainwashed*, but the authors predict that, in the end, “. . .no matter how dazzling the fruits of inquiry or how clever the means by which they are obtained, it is our values that will guide us in implementing them for good or for bad. The danger lies in muddling those values under the pretense of following where neuroscience supposedly leads us.”

“To some neuroscientists and philosophers you may be nothing more than your brain. . . But to you, you are a ‘self,’ and to others you are a person—a person whose brain affords, at once, the capacity for decisions, the ability to study how decisions happen, and the wisdom to weigh the responsibilities and freedoms that these decisions make possible.”

Murray Bowen, around a half century ago, laid out the map for the beginnings of a new science of the self, showing how the self was an integral part of a social system called the family, (and other systems as well). He postulated and demonstrated the powerful effects of our social systems on our behavior, thinking, emoting, and even our illnesses.

When systems thinkers make the degree of progress in research in their exciting area of science that brain imagers have made in their area, I believe that we will see how *even the fascinating pictures revealed by imaging of the brain, as well as its chemistry and neurocircuitry—that is, actual anatomical and physiological brain changes—can develop out of relationship systems*. This will be a wonderful new era, because not only will we have gone into some more basic questions and answers than have been posed generally to date, but we will have a degree of hope and optimism that we cannot possess at the present time. For then we will have a way of addressing some of the inscrutabilities of treatment, through the application of Bowen family systems concepts, in counseling and coaching. This useful application of systems thinking—in psychotherapy—is already taking place in consulting rooms and seminars across the country. Reports of lives changed for the better are accumulating into a literature that is hard to discount and stands as a kind of evidence worth taking notice of.

**If you have a question or comment you would like addressed in this column,
please email Dr. Gilbert at rgoffice136@gmail.com**