



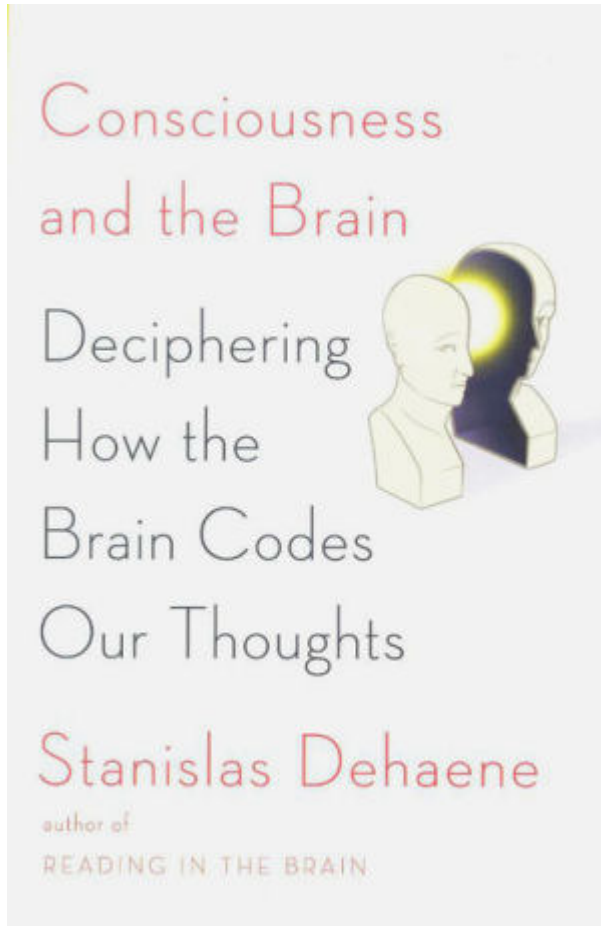
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DAILY NEWS

'Best modern treatment of consciousness'

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"Consciousness and the Brain: Deciphering How the Brain Codes Our Thoughts," by Stanislas Dehaene. New York, N.Y.: Viking (The Penguin Group), 2014. 336 pages, \$27.95.



"Consciousness is the only real thing in the world and the greatest mystery of all." — Vladimir Nabokov.

So begins "Consciousness and the Brain: Deciphering How the Brain Codes Our Thoughts," the latest book by Stanislas Dehaene. When I first ran across this title at our local Barnes & Noble Booksellers, I was initially skeptical that this kind of tome would appeal to a wide audience. At first blush, it seemed rather abstract and divorced from everyday reality. Before giving up on it entirely, however, I decided to take it to the sitting area near the café and read through a few pages to see if my initial assessment was indeed valid.

The problem was the more I read, the more I found myself being drawn into the author's mesmerizing discussion of what it really means when I utter that ubiquitous phrase, "I'll think about it." What exactly is going on when we are thinking?

Honestly, who among us has not wondered, at one time or another, how our thoughts are able to manifest themselves through conscious awareness? We seem aware of the world around us pretty much from birth – yet we are still woefully ignorant as to what it

actually means to be conscious of our own existence. Does everyone experience the world in the same way? Is consciousness limited to human beings, or do other animals have a sense of self-awareness in the same way we do? Can machines think?

In addition to addressing these fundamental questions, the author often ventures into areas not immediately associated with consciousness, except on closer inspection. Take the concept of "free will" for instance: "Our belief in free will expresses the idea that, under the right circumstances, we have the ability to guide our decisions by our higher-level thoughts, beliefs, values, and past experiences, and to exert control over our undesired lower-level impulses. Most of the time our willful acts are anything but random: they consist in a careful review of our options, followed by the deliberate selection of the one we favor."

The author's motivation for writing his latest book is fairly straightforward, as noted in the introduction: "In the past twenty years, the fields of cognitive science, neurophysiology, and brain

imaging have mounted a solid empirical attack on consciousness. As a result, the problem has lost its speculative status and become an issue of experimental ingenuity. In this book, I will review in great detail the strategy that has turned a philosophical mystery into a laboratory phenomenon. Three fundamental ingredients have made this transformation possible: the articulation of a better definition of consciousness; the discovery that consciousness can be experimentally manipulated; and a new respect for subjective phenomena.”

Dehaene is director of the Cognitive Neuroimaging Unit in Saclay, France, as well as a professor of experimental cognitive psychology at the Collège de France. A member of the French Academy of Sciences and the Pontifical Academy of Sciences, his previous books include “Reading in the Brain” and “The Number Science.” As might be expected given the complex subject matter covered in this book, “Consciousness” is extensively researched, with 16 pages of source notes, a 31-page bibliography at the conclusion of the introduction and seven chapters that form the main narrative.

Although “Consciousness” is saturated with language unfamiliar to most readers – especially those without much of a scientific background – in the final analysis, the ideas Dehaene presents are not beyond the comprehension of an average person of reasonable intelligence. His careful descriptions and imaginative illustrations serve to assist in acquiring a working knowledge of the subject matter; one way he makes the material accessible to a general audience is through the liberal use of references that most readers will recognize and relate to on a more visceral level. Witness the following example from “The Signatures of a Conscious Thought,” the fourth chapter:

“In principle, we neuroscientists believe in the philosopher’s fantasy of a ‘brain in a vat,’ powerfully illustrated in the movie ‘The Matrix.’ By stimulating the appropriate neurons and silencing others, we should be able to re-create, at any given time, hallucinations of any of the myriad subjective states that people routinely entertain. Neural avalanches should cause mental symphonies. At present, technology remains far behind the Wachowski brothers’ fantasy. We cannot yet control the billions of neurons that would be needed to accurately paint, on the surface of the cortex, the neural equivalent of a busy Chicago street or a Bahamas sunset. But are such fantasies forever beyond our reach? I wouldn’t bet on it.”

If you have ever pondered the mysteries at the heart of the quest to understand consciousness, and if you seriously want to know where we are on the road to unraveling human awareness, then this is definitely the book for you. But be forewarned, “Consciousness” is not an easy read – at least it wasn’t for me. I was able to get through it, but it took considerably longer to navigate Dehaene’s prose than any book I can recall in recent memory. The good news is most readers can successfully master the core concepts presented; the bad news is it will take considerable dedication and patience to do so. So if you are prone to giving up if you don’t grasp the essence of what an author is saying on first pass, you might want to sit this one out.

Perhaps Eric Kandel, the Nobel Prize-winning author of “In Search of Memory,” says it best: “Human consciousness is generally considered the greatest challenge that confronts science today. It is for this reason that Stanislas Dehaene’s remarkable book is so welcomed. It is the best modern treatment of consciousness I have read to date.”

Think about it.

— *Reviewed by Aaron W. Hughey, Department of Counseling and Student Affairs, Western Kentucky University.*