

***The spiritual brain: A neuroscientist's case for the existence of the soul***

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Mario Beauregard and Denyse O’Leary, *The spiritual brain: A neuroscientist’s case for the existence of the soul* (New York: HarperCollins, 2007), 358 pages + index, \$25.95, hardcover. ISBN 978-0-06-085883-4.

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Conventional wisdom advises trust in science because its methods are neutral. However, *The Spiritual Brain* argues that science has become increasingly biased by a *presumption of materialism*: materialism is not the inevitable conclusion of scientific evidence but the default assumption before investigation begins. This point is often raised in criticism of the “Darwin-only” model of science education. The current volume focuses on the impact of materialistic bias on neuroscience. Authors Mario Beauregard (a neuroscientist at the University of Montreal) and Denyse O’Leary (a Toronto-based journalist of science and religion issues) contend that materialism leads scientists to offer highly implausible explanations of the powers of the mind and especially of religious, spiritual, and/or mystical experiences (RSMEs). More than a critique, the book also explores what neuroscience looks like *without* a presumption of materialism.

In the opening chapter, Beauregard and O’Leary describe the widening chasm between our normal self-understanding and the views of most contemporary neuroscientists, whose materialism makes them cheerfully dismiss or trivialize the self, free will, and altruism, despite the evidence for their existence. Scientists have also exaggerated the similarities between humans and chimps (who are incapable of the abstract thought that undergirds culture) and between humans and computers (which still “don’t form or follow plans” or “have goals” (p. 22)). The failures of science in these and other areas are excused by what Karl Popper called “promissory materialism” (p. 24), which assumes that science will eventually provide satisfactory materialistic explanations for everything.

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Promissory materialism encourages scientists to presume at the outset that RSMEs are illusions and not deep insights into reality. In chapters two to four, Beauregard and O’Leary explore the proliferation of naturalistic attempts to explain away RSMEs. Matthew Alper proposed a “God” part of the brain and Jeff Saver and John Rabin argued that RSMEs are abnormalities associated with temporal lobe epilepsy. While such speculations are uncritically reported by a naive or biased media, they have been clearly refuted by modern brain scans (which show that many parts of the brain are involved in RSMEs) and by national surveys showing that RSMEs are experienced by 20–49% of individuals in the United States, Britain, and Australia (p. 71), and so should be assumed to be psychologically normal. This makes it all the more odd that there are so few studies of the psychology and neurology of atheists, who make up a much smaller proportion of the population. What, besides materialistic bias, makes scientists assume that atheists are psychologically normal, without any empirical investigation?

Again, Dean Hamer’s claim to have discovered the “God gene” dissolved under scrutiny. Hamer admitted that many genes are involved and that they account for only a tiny amount of variance in “self-transcendence,” which, as Carl Zimmer wryly noted, can mean anything from belonging to the Green Party to believing in extrasensory perception (p. 52). And Michael Persinger’s “God helmet” experiments, purporting to show that RSMEs can be generated by magnetic fields, were very likely influenced by suggestion and could not be replicated by Swedish researchers. According to Beauregard and O’Leary, the media are quick to trumpet such flimsy science because they are “skeptical of any idea that spirituality corresponds to anything outside ourselves, but surprisingly gullible about any reductionist explanation of it” (p. 91).

If materialistic “explanations” of RSMEs are this bad, it is worth reconsidering whether materialism is true. This is the focus of chapter five, which argues that the mind is not identical to the brain. Perhaps the biggest challenge to materialism is the so-called “hard problem of consciousness” — if the brain’s material properties are impersonal and objective, why does each individual have a unique, subjective point of view? Neuroscience has not made this philosophical conundrum any easier: “No single brain area is active when we are conscious and idle when we are not. Nor does

a specific level of activity in neurons signify that we are conscious. Nor is there a chemistry in neurons that always indicates consciousness” (p. 109). The hard problem is so hard that rather than abandon materialism, scientists have implausibly suggested that consciousness is an insignificant epiphenomenon (a byproduct of the brain with no influence on behavior) and even that it does not exist!

Beauregard and O’Leary argue persuasively that promissory materialism can function as a major impediment to scientific research because it prefers to deny or trivialize problematic phenomena rather than investigate them on their own terms. What is more, materialistic accounts of human cognition tend to undermine their own credentials. In his book *How the Mind Works*, Steven Pinker claimed that “Our brains were shaped for fitness, not for truth” (quoted on p. 122), but since false beliefs can be useful, there is no reason to suppose that scientists with such brains are equipped to discover the truth about anything, including brains.

But what is the alternative to materialism? What would it mean for science if the mind were taken seriously in its own right? These questions are the focus of chapter six. Beauregard and O’Leary provide several neuroscientific arguments to show that the mind is not impotent, but can exert a top-down influence on the brain. Jeff Schwartz’s work on obsessive compulsive disorder showed that patients can reprogram their brain by the mental action of consciously refocusing on alternative noncompulsive behaviors. Beauregard and Levesque showed that men are capable of regulating their response to erotic material and that people can learn to suppress reactions of sadness. Other studies focus on a mind-based therapy for arachnophobia, and the placebo effect, which “depends specifically on the patient’s *mental* belief and expectation that a specific remedy will work” (p. 141). To account for such phenomena, Beauregard suggests a nonmaterialistic theory, the “Psychoneural translation hypothesis,” according to which “conscious and unconscious mental processes are automatically translated into neural processes” (p. 151).

Materialists often claim that the mind must reduce to the brain because the mind cannot exist without the brain. Beauregard and O’Leary counter this by citing extensive scientific study of near death experiences (NDEs), recollections by patients of events that occurred when they were clinically dead. Some materi-

alists suggest that NDEs developed as useful survival mechanisms, but this *cannot* be true because NDEs have only been possible very recently due to “high-tech interventions” (p. 164). Later in the book, the authors also argue that an alternative to the materialist idea that the brain generates thoughts is to compare the brain to a receiver that “transmits and expresses mental processes/events” (p. 292). It is true that a damaged telephone receiver won’t emit a voice, but that does not show it generates the voice; likewise the fact that brain damage precludes expression of thoughts does not show that the brain generates them.

Chapters seven to nine provide an in-depth study of mysticism. The authors point out that materialists often do not bother to carefully define mystical experience, since they have already dismissed it as an illusion. As a corrective, chapter seven provides a helpful survey of serious investigation of mysticism, citing such scholars as W. T. Stace, William James, Evelyn Underhill, Alister Hardy, and R. M. Hood. It also shows the inadequacy of several major attempts to explain away RSMEs offered by evolutionary psychology.

The claim that RSMEs are in the interest of our “selfish genes” not only dodges the question of whether any RSMEs convey insights into reality, but is also completely untestable because we could only determine the differential fitness of RSMEs if, contrary to fact, our ancestors had never exercised reproductive self-control. Likewise, the claim that RSMEs result from “memes” (discrete memorable units) and so can be explained by “cultural evolution” cannot be used to discredit religion without also undermining scientific rationality itself. In chapter eight, the authors show that RSMEs, unlike hallucinations, often produce positive, lifelong transformative effects and are associated with good physical and mental health and socially constructive behaviors.

Chapter nine reports an in-depth study of the mystical experiences of Carmelite nuns. The study undercuts “God-spot” views with clear evidence that “RSMEs are neurally instantiated by different brain regions involved in a variety of functions” (p. 274).

This book is well documented, is up to date, and engages rival, materialistic views in convincing depth. Unlike many popular science books, it is also clearly written and refreshingly witty. Given the proliferation of books attempting to discredit religion and to reduce human beings to machines made of meat, this volume is a welcome salvo in the opposite direction. Those who

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think that science is too often hijacked by secularists will be cheered by this book's rousing critique of materialism and its defense of higher things.

Angus Menuge was born in England and is now a US citizen. He received his Ph.D. in philosophy from the University of Wisconsin-Madison, where his research focused on the philosophy of psychology. Dr. Menuge

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