

## THE LAST WORD

## NEUROSCIENCE:

## MORE THAN JUST THE LATEST PARADIGM

**T**wo recent opinion pieces in the New York Times, “Art and the Limits of Neuroscience,” by Alva Noë, which appeared in The Stone section on Dec. 4, 2011, and “Neuroscience: Under Attack,” by Melissa Quart, which appeared in the Grey Matter section on Nov. 23, 2012, give a one-sided impression of the neuroscience revolution and how it being applied by researchers in other fields to expand our understanding of ourselves. My fear is that this will induce the Times’ readers to think, “OK, I don’t need to pay attention to all this brain talk—it’s just another passing fad.” This response addresses some of the arguments of these authors and makes some additional arguments for the point that the neuroscience revolution is real and important, and why it will have profound and largely positive effects on our understanding of our minds and their maladies.

The critics frequently charge that the neuroscience based approach is “reductionistic,” but there is precious little evidence that those interested in neuroscience intend anything like that. On the contrary, what they have in mind is more of an expansionism: retain the current ways of thinking about the mind, but augment them with the neuroscientific perspective. Of course the neuroscience revolution has been accompanied by overstatements, and ill-phrased or sketchy hypotheses in mock-neuroscientific terms. But this has resulted in a mass straw-man fallacy, where these rash, popular views are being used to condemn an important movement.

Neuroscience is not merely another paradigm, like Freudian psychoanalysis, behaviorism, or artificial intelligence (Quart also mentions Marxism and critical theory). It is an academic subdiscipline, a branch of biology. What had long been hoped for—a direct connection between our knowledge of the mind and our understanding of the brain’s biology—has at last arrived. Many philosophers, such as Noë, seem to prefer a return to behaviorism, so it is worth while stating why that would be a bad idea. Behaviorism ruled psychology and some branches of philosophy with an iron fist, successfully suppressing the discussion about the mind itself for several decades, until the explosion of literature on consciousness that began in the 1980s and 90s. Noë argues that the move to neuroscience has as yet produced no benefits. The situation is quite the contrary. We have our first well-developed scientific theories of consciousness, which are currently in the process of being tested along many fronts. One of the first breakthroughs was an understanding of what is wrong with the sociopathic brain—it has a specific deficit in empathy, which can be either genetic or caused by environmental factors such as damage to the ventromedial cortex—something that has vast implications for our knowledge of ethics and how to build a just society. I think we should view the assertions that members of any given discipline, such as philosophy, aesthetics, English, etc. do not need any help from any other discipline with suspicion. What exactly are they afraid of? Why, in an era of unprecedented interdisciplinary collaboration do they specifically not want to interact with another discipline?

The philosophical establishment has certainly been remarkably successful in keeping neuroscience-minded philosophers out of its higher reaches, but I fear that this only ensures that there will come a day, perhaps not far off, when the barrenness and homogeneity of their approaches will be apparent to all. I would also hope there is no disagreement about whether the great philosophers of mind throughout history—such as Rene Descartes, John Locke, George Berkeley, David Hume, and Immanuel Kant—would have been interested in learning about the brain. Unlike today's narrowly scholastic philosophers, these thinkers sought clues from any other discipline that had something to offer, and some of them, including Descartes, Locke, and Berkeley, explicitly studied the mind science of their day and integrated it into their work.

Perhaps the final roadblock to an understanding of our minds in scientific terms is the notion of a wall of privacy. You have access to your mind, to its thoughts, sensations, feelings, colors, sounds, smells, and touches, in a way that the scientist, working from the outside, can never attain, or so it is argued by a huge majority of philosophers and, surprisingly, scientists. Some philosophers, including Noë, have claimed that this block severely limits any relevance neuroscience might have to the classic philosophical questions about the nature of the mind, and its consciousness, its intentions, and its perceptions and emotions. In my recent book, *Mindmelding: Consciousness, Neuroscience, and the Mind's Privacy*, however, I argue that this notion is in fact false, and that scientists of the future will actually be able to experience our minds in the same ways that we do. This will greatly aid them in treating mental illnesses and in understanding the mind in general. Granted, it will mean that our final protection of our most secret inner selves will be breached, but medicine has always put diagnosis and cure above concerns of privacy, for obvious reasons. We will need new protections from non-medical abuses, such as governmental attempts to violate privacy.

Neuroscience is closely allied with medicine. Do we not want our medical professionals to know as much as possible about our brains, in order to better diagnose and treat their diseases? If we cannot relate the discoveries in neuroscience to our ordinary ways of thinking and talking about our minds, this process will be much more difficult to understand, teach, and explain. One fear among the critics is of course that the move to neuroscience will alter the ways we see ourselves into something they regard as unfavorable. But surely our conception of ourselves should be based on our best hypotheses and theories about what is actually the case. Isn't it better to make an honest inquiry into who and what we are, and adjust our self-conceptions if need be. It may be humbling to think that we are entirely physical, but perhaps some humbling will do us good. It may make us more realistic about how to live and structure our societies. We may be faced with the decision between sticking with a false and flattering self-conception and adapting our thinking to a true but initially frightening one. Is our current state so wonderful and perfect that it could not be improved with the addition of more knowledge?

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