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Bursting the Neuro-Utopian Bubble

By **Benjamin Y. Fong**

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The Stone is a forum for contemporary philosophers and other thinkers on issues both timely and timeless.

During my graduate studies in the Department of Religion at Columbia, I spent countless hours in the Burke Library of Union Theological Seminary, where I had a spectacular, cater-corner view of the construction and unveiling of the Northwest Corner Building, Columbia's new interdisciplinary science building. Although the 14-story steel and aluminum tower was designed to complement the brick and limestone gothic tower of Union, its dominating presence on the corner of Broadway and 120th serves as a heavy-handed reminder of where we are heading. Walking from Union toward Columbia's main campus through its doors, I often felt, passing through the overwhelmingly aseptic marble lobby, as if the building was meant to cleanse northwesterly intruders who have not been intimidated by the facade.

The ninth floor of this building houses a laboratory of Rafael Yuste, lead author of an ambitious brief that appeared in the prominent neuroscience journal Neuron in 2012. The paper proposed the need for the "Brain Activity Map Project, aimed at reconstructing the full record of neural activity across complete neural circuits." This April, the Obama administration endorsed the project, setting aside $100 million for it in 2014 alone, and renaming it the Brain Research Through Advancing Innovative Neurotechnologies Initiative, or the Brain Initiative for short.

The project has been compared by the administration to the Human Genome Project, which focused on a problem — the sequencing of the human genome — as daunting as the recording and mapping of brain circuits in action. The success of the Human Genome Project was both scientific and financial: the $3.8 billion invested in it by the federal government has reportedly returned $796 billion, a fact that advocates of the Brain Initiative have been quick to cite as justification for their own undertaking.

Critics of the Human Genome Project have voiced many concerns about

genomic sequencing, most of which can also be leveled at the Brain Initiative: What happens when health insurance companies get hold of this information? Could it lead to invasions of our privacy? And, perhaps most fundamentally, aren't these scientists once again trying to play God?

The rebuttal from the scientific community has generally gone something like this: The living organism is a complex machine. To understand it, one must take it apart and put it back together again, as one would the engine of a car. Opposing this research but encouraging medical advance is like asking your mechanic to fix your car without popping open the hood. We're not playing God. We simply want the allowance, both financial and legal, to advance down the road to a true knowledge, a true mastery, of life. As this mastery grows, both physiological and psychological diseases will slowly be rooted out, and the moral and political questions will become more tractable, where they do not disappear entirely.

What precisely is objectionable about this vision? Why should we be worried about the advances of neuroscience, and in particular those of the Brain Initiative? On one level, its proponents are simply naïve about the corporate wolves with whom they run. George Church, a genetics professor at Harvard and one of the faces of the initiative, describes his sponsors, including Chevron, Procter & Gamble and Merck, as institutions that are "very pragmatic and practical about helping our world get better." This willful ignorance regarding corporate influence is even more disturbing in the case of the Brain Initiative, which promises a very fine control over the seat of consciousness. With the help of this research, today's neuro-marketing – marketing researched not with focus groups but M.R.I.s – may soon look quite primitive.

It is not enough, however, to point to the indissoluble marriage of science and industry, to follow the money and lament corrupted applications of this research. It is necessary, rather, to confront the pristine fantasy that guides it, so that the troubles the embodied vision faces cannot be parried as mere problems of implementation.

So what, then, is worrying about this scientific plan for human betterment, sans corruption, about the technician's dream of total control over the human

body, and in particular the human brain? First off, I believe the time has passed for saving that ethereal entity called "mind" from its biological reduction. We should accept the real possibility that one day, having monitored the active brain from birth to adulthood and uncovered both the constitutional and environmental factors of various disorders, we will be able to tell the developmental story in which selves emerge in neurological terms.

The real trouble with the Brain Initiative is not philosophical but practical. In short, the instrumental approach to the treatment of physiological and psychological diseases tends to be at odds with the traditional ways in which human beings have addressed their problems: that is, by talking and working with one another to the end of greater personal self-realization and social harmony.

In "Biology as Ideology," Richard Lewontin points to the profound difference between the fact that one cannot get tuberculosis without a tubercle bacillus and the claim that the tubercle bacillus is the "cause" of tuberculosis. Registering that tuberculosis was a disease common in sweatshops in the 19th century, Lewontin contends: "We might be justified in claiming that the cause of tuberculosis is unregulated industrial capitalism, and if we did away with that system of social organization, we would not need to worry about the tubercle bacillus." Having narrowed their view of "cause" to the biological realm, neuroscientists today are effectively chasing tubercle bacilli, drawing our focus away from the social practices and institutions that contribute to problems of mental health.

We know, for instance, that low socioeconomic status at birth is associated with a greater risk of developing schizophrenia, but the lion's share of research into schizophrenia today is carried out by neurobiologists and geneticists, who are intent on uncovering the organic "cause" of the disease rather than looking into psychosocial factors. Though this research may very well bear fruit, its dominance over other forms of research, in the face of the known connection between poverty and schizophrenia, attests to a curious assumption that has settled into a comfortable obviousness: that socioeconomic status, unlike human biology, is something we cannot change "scientifically." That it is somehow more realistic, "scientifically," to find a way to change the human

being itself than it is to work together to change the kind of environment that lends itself to the emergence of a disorder like schizophrenia.

Psychology has traditionally concerned itself with the ways in which we engage with the world and grow into social beings with the hope of improving our personal relationships and communal well-being. Neuroscience could complement this project by offering better information about the material substrate of consciousness, but it is rather, and often self-consciously, a usurper, a harbinger of a new psychological paradigm that replaces the socially formed self with the active brain. It neglects the forms of private and public conversation that hold out the possibility of self-transformation for instrumental dissections of the brain that promise only self-manipulation. Its future is not one that is worked toward in concert with other human beings, but one that is physiologically shaped by a vanguard of synthetic biologists.

I do not doubt that my body will be the beneficiary of the many new technologies that the Human Genome Project, the Brain Initiative, and other such cutting-edge ventures produce. My point is simply that the attempt to gain control over life itself has severely detracted from the work of figuring out how we talk to and work with one another in order to better ourselves and our world. To be clear, I do not believe that this communicative project is easier or more efficient than the instrumental approach – how we go about changing socioeconomic conditions is a problem we have not even begun to solve – but only that it is an important part of what it means to be a human being. And no matter how precisely we can manipulate the brain with drugs, electrodes, and other such contrivances, the emerging insights of neuroscience will never provide sufficient help with this work.

This is not to question the intentions of neuroscientists. Doubtless they are driven, at least in part, by a desire to better human life. But as Freud argued back in 1930, the forces of civilization have a strange tendency to work at cross-purposes with themselves, imperiling the very projects they also make possible. By humbly claiming ignorance about the "causes" of mental problems, and thus the need for a project like the Brain Initiative, neuroscientists unconsciously repress all that we know about the alienating, unequal, and dissatisfying world in which we live and the harmful effects it has on the psyche, thus unwittingly

foreclosing the kind of communicative work that could alleviate mental disorder.

Like many others, I worry that the work of neuroscience will fall, almost of necessity, into the wrong hands – say, corporations interested in controlling consumers at a neurobiological level; but its development in the "right" hands is, perhaps, even more disconcerting.

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