NEUROFETISHISM AND MIND MARKETS

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Imagine a brain floating in a tank with millions and millions of electrodes attached to specific nerve centers. Now imagine these electrodes being selectively stimulated by a computer to cause the brain to believe that it was walking down Hollywood Boulevard chomping on a hamburger and checking out the chicks. Now, if there was a technological foul-up, or if the tapes got jumbled, the brain would suddenly see Jesus Christ pass by down Hollywood Boulevard on his way to Golgotha, pursued by a crowd of angry people, being whipped along by seven Roman Centurions. The brain would say, "Now hold on there!" And suddenly the entire image would go "pop" and disappear.

I've always had this funny feeling about reality. It just seems very feeble to me sometimes. It doesn't seem to have the substantiality that it's supposed to have.

- Philip K. Dick in discussion with Joe Vitale, *The Aquarian*, No. 11, October, 1978

Over thirty years ago, science fiction visionary Philip K. Dick illustrated the delusionary nature and ultimate reality conjured by the human brain. Vivid and arousing to our imagination, Dick's thought experiment now resonates along an entirely different landscape in which neuroscience has expanded into every aspect of our daily life. Consider the number of terms and concepts the prefix "neuro-" gets attached to. For the intellectually inclined, one can pick from neuromarketing, neuroeconomics, neurotheology, neurolaw, neuroethics, or neurosexism. But neuro-stuff is not just for the nerdy. It can be fun, too. A Japanese company produces neurowear and organizes a brain disco, where DJs get kicked off the stage if they fail to keep the audiences' brain waves above a certain threshold. If you don't want to get down, you can hang out at the bar where, if you hook up with someone nice, can order a neurogasm drink to make sure your performance doesn't flag. Neuro-neologisms have also been infiltrating colloquial language. Interestingly, many of these pair "neuro" with bodily functions or substances, as in neural pus ("A substance secreted by neurons when the brain is stressed, resulting in slowed or fuzzy thinking") or neuroflatulence ("A sudden (and often unexpected) demonstration of complete ineptitude by an athlete at a critical moment in a game").

Perhaps a little more disquieting is the appearance of management consulting services based on neuroscience. Management, and especially consulting, is notorious for its faddish culture. In Germany, an Institut für Neuromanagement offers an e-learning course on leadership, work-life balance, and similar topics based on the results of neuroscientific research for 2,500 euros.

An Institute of Neurocognitivism (servicing Belgium, Switzerland and Québec) purports to teach participants how to activate various cerebral modes to solve everyday work-related problems.

Images are an important component of the spread of neuroscience in popular culture. Functional magnetic resonance imaging (fMRI), a technique which relies on blood flow to map brain activity, produces images of parts of the brain that are active in a particular task, or that accompany a particular emotion or mental state. For example, a news report in Nature interviewing a team of University of Pennsylvania scientists suggested that fMRI-supported lie detection could detect potential terrorists, a claim based on an algorithm that analyzes which part of the brain lights up when people lie. The algorithm can distinguish lies from the truth with 99% accuracy. In another example of the persuasive power of brain images, people are more convinced by scientific research results when they are accompanied by brain images than when they are not (although there is some controversy about the "seductive allure" of such images). In any case, brain images are widespread in popular culture, in both gritty, high-resolution detail and iconic simplicity (the latter form suggesting that the brain has entered the pantheon of other instantly recognizable cultural artifacts like Christ, the Coke bottle, or *el Che*).

Notwithstanding the claims of some neurohucksters, much of the enthusiasm for neuroscience results is not really new. In the 1970s, the neuroscientist Roger Sperry and his colleagues conducted studies on so-called "split brain" patients. These were people suffering from severe forms of epilepsy, who had agreed to undergo brain surgery to alleviate their symptoms. The surgery consisted of severing their corpus callosum, a bundle of nerves connecting the two hemispheres of the brain. Sperry and colleagues studied the cognitive performance of these patients and discovered that the patients made specific errors, suggesting that the brain was lateralized in many of its functions following the operation. Notably, the left brain houses areas responsible for production and comprehension of language, while the right brain houses areas responsible for vision and spatial perception. While lateralization is a subtle and complex phenomenon, popular fascination with split-brain research led to an overly simplistic reconstruction of this distinction: a purportedly rational, logical, analytic and "male" left brain, and a purportedly emotional, intuitive, holistic and "female" right brain. Henry Mintzberg, a distinguished management scholar, even went so far as to suggest the idea of hiring managers and accountants based on differences in brain function: Managers are right-brainers, accountant are left-brainers (interestingly, almost forty years later, nothing has come of Mintzberg's suggestion).

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Another example of past fixations on brain research is the Mozart Effect fad from the 1990s. A series of studies purportedly showed that listening to the music of Mozart increases spatial intelligence by as much as 8 IQ points. These studies were popularized in a big way; a slew of pop psychology books, educational toys, brain-building CDs, and even legislation were produced based on the findings, which have since been debunked. Part of this fad can be attributed to magical thinking. Mozart is the poster boy of youthful genius; his music was composed in his extraordinary brain. Hearing that music, we imagine, might similarly modify the listener's brain. Media

coverage of the Mozart Effect at that time seems to reflect cultural anxieties about childhood education, offering guilt-ridden middle-class parents and educators a quick fix to the complex problem of how to nurture young children towards genius in a competitive, meritocratic society. For some, the Mozart Effect constituted a bourgeois strategy to acquire cultural capital (in the form of high culture) to gain an edge in the rat race of life.

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What are we to make of the omnipresence of neurostuff in popular culture? Some interpretations might involve the popularization and objectification of scientific research. Social psychologists Cliodhna O'Connor and Helen Joffe and neuroscientist Geraint Rees have charted the diffusion of neuroscience in the public sphere. Via such diffusion, neuroscience gets re-appropriated and transformed by a range of agendas, hence the emergence of the "brain-as-capital" theme in many of the examples above. Many cultural commentators might also relate such an account to Marxist-inspired explanations about commodification of the brain. But all of the examples we have examined suggest that neurostuff gets used to explain things or to make things seem plausible, concrete, attractive or easier to understand. Developmental psychologist Alison Gopnik has suggested that human beings are wired to like explanations. As she puts it (Gopnik, 2000, p. 300) "explanation is to theory-formation as orgasm is to reproduction." In other words, we experience orgasms because they are evolution's way of motivating us to have sex. Likewise we feel cognitive satisfaction when we can explain something because explanations are evolution's way of motivating us to seek causal understanding of the world around us.

If this is true, what does it mean for our tendency to like neurostuff and brain images? Pursuing Gopnik's sexual analogy, we might entertain the possibility that the brain has become a fetish in popular culture. There are sexual fetishes and religious fetishes. Sexual fetishes are objects that individuals rely on to experience arousal and orgasm. Well-known sexual fetishes include shoes, gloves or lipstick, or body parts like hair or feet. Religious fetishes, in anthropological parlance, are objects (e.g., voodoo dolls or the cross) to which particular magical powers are ascribed. Western culture may be subject to explanatory neurofetishism—in both a sexual and a religious sense (and an economic sense, if one follows the Marxist commodification thesis). This means that we tend to experience explanations featuring neurostuff (for example, brain images) as intellectually arousing or gratifying. Having a neurofetish means that explanatory orgasm is never far away when intellectually racy brain images are unveiled. Neurofetishism could also be understood in an anthropological sense. If some alien anthropologists were to travel to Earth to conduct field studies of postmodern Western society, they might come to notice how our culture is festooned with images and icons of this particular organ. They might be struck by our quaint tendency to explain a range of everyday phenomena by appealing to mysterious neurological processes, or scratch their leathery green foreheads when observing our conversations peppered with colloquialisms like neuroflatulence.

But then the brain disco would really blow their minds.