

Creationists declare war over the brain

22 October 2008

From New Scientist Print Edition.

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"YOU cannot overestimate," thundered psychiatrist Jeffrey Schwartz, "how threatened the scientific establishment is by the fact that it now looks like the materialist paradigm is genuinely breaking down. You're gonna hear a lot in the next calendar year about... how Darwin's explanation of how human intelligence arose is the only scientific way of doing it... I'm asking us as a world community to go out there and tell the scientific establishment, enough is enough! Materialism needs to start fading away and non-materialist causation needs to be understood as part of natural reality."

His enthusiasm was met with much applause from the audience gathered at the UN's east Manhattan conference hall on 11 September for an international symposium called Beyond the Mind-Body Problem: New Paradigms in the Science of Consciousness. Earlier Mario Beauregard, a researcher in neuroscience at the University of Montreal, Canada, and co-author of *The Spiritual Brain: A neuroscientist's case for the existence of the soul*, told the audience that the "battle" between "maverick" scientists like himself and those who "believe the mind is what the brain does" is a "cultural war".

Schwartz and Beauregard are part of a growing "non-material neuroscience" movement. They are attempting to resurrect Cartesian dualism - the idea that brain and mind are two fundamentally different kinds of things, material and immaterial - in the hope that it will make room in science both for supernatural forces and for a soul. The two have signed the "Scientific dissent from Darwinism" petition, spearheaded by the Seattle-based Discovery Institute, headquarters of the intelligent design movement. ID argues that biological life is too complex to have arisen through evolution.

In August, the Discovery Institute ran its 2008 Insider's Briefing on Intelligent Design, at which Schwartz and Michael Egnor, a neurosurgeon at Stony Brook University in New York, were invited to speak. When two of the five main speakers at an ID meeting are neuroscientists, something is up. Could the next battleground in the ID movement's war on science be the brain?

Well, the movement certainly seems to hope that the study of consciousness will turn out to be "Darwinism's grave", as Denyse O'Leary, co-author with Beauregard of *The Spiritual Brain*, put it. According to proponents of ID, the "hard problem" of consciousness - how our subjective experiences arise from the objective world of neurons - is the Achilles heel not just of Darwinism but of scientific materialism. This fits with the Discovery Institute's mission as outlined in its "wedge document",

which seeks "nothing less than the overthrow of materialism and its cultural legacies", to replace the scientific world view with a Christian one. Now the institute is funding research into "non-material neuroscience". One recipient of its cash is Angus Menuge, a philosophy professor at Concordia University, Wisconsin, a Christian college, who testified in favour of teaching ID in state-funded high-schools at the 2005 "evolution hearings" in Kansas. Using a Discovery Institute grant, Menuge wrote *Agents Under Fire*, in which he argued that human cognitive capacities "require some non-natural explanation".

In June, James Porter Moreland, a professor at the Talbot School of Theology near Los Angeles and a Discovery Institute fellow, fanned the flames with *Consciousness and the Existence of God*. "I've been doing a lot of thinking about consciousness," he writes, "and how it might contribute to evidence for the existence of God in light of metaphysical naturalism's failure to provide a helpful explanation." Non-materialist neuroscience provided him with this helpful explanation: since God "is" consciousness, "the theist has no need to explain how consciousness can come from materials bereft of it. Consciousness is there from the beginning."

To properly support dualism, however, non-materialist neuroscientists must show the mind is something other than just a material brain. To do so, they look to some of their favourite experiments, such as research by Schwartz in the 1990s on people suffering from obsessive-compulsive disorder. Schwartz used scanning technology to look at the neural patterns thought to be responsible for OCD. Then he had patients use "mindful attention" to actively change their thought processes, and this showed up in the brain scans: patients could alter their patterns of neural firing at will.

From such experiments, Schwartz and others argue that since the mind can change the brain, the mind must be something other than the brain, something non-material. In fact, these experiments are entirely consistent with mainstream neurology - the material brain is changing the material brain.

But William Dembski, one of ID's founding fathers and a senior fellow at the Discovery Institute, praised Schwartz's work as providing "theoretical support for the irreducibility of mind to brain". Dembski's website shows that he is currently co-editing *The End of Materialism* with Schwartz and Beauregard.

Meanwhile, Schwartz has been working with Henry Stapp, a physicist at the US Department of Energy's Lawrence Berkeley National Laboratory, who also spoke at the symposium. They have been developing non-standard interpretations of quantum mechanics to explain how the "non-material mind" affects the physical brain.

Clearly, while there is a genuine attempt to appropriate neuroscience, it will not influence US laws or education in the way that anti-evolution

campaigns can because neuroscience is not taught as part of the core curriculum in state-funded schools. But as Andy Clark, professor of logic and metaphysics at the University of Edinburgh, UK, emphasises: "This is real and dangerous and coming our way."

He and others worry because scientists have yet to crack the great mystery of how consciousness could emerge from firing neurons.

"Progress in science is slow on many fronts," says John Searle, a philosopher at the University of California, Berkeley. "We don't yet have a cure for cancer, but that doesn't mean cancer has spiritual causes."

And for Patricia Churchland, a philosopher of neuroscience at the University of California, San Diego, "it is an argument from ignorance. The fact something isn't currently explained doesn't mean it will never be explained or that we need to completely change not only our neuroscience but our physics."

The attack on materialism proposes to do just that, but it all turns on definitions. "At one time it looked like all physical causation was push/pull Newtonianism," says Owen Flanagan, professor of philosophy and neurobiology at Duke University, North Carolina. "Now we have a new understanding of physics. What counts as material has changed. Some respectable philosophers think that we might have to posit sentience as a fundamental force of nature or use quantum gravity to understand consciousness. These stretch beyond the bounds of what we today call 'material', and we haven't discovered everything about nature yet. But what we do discover will be natural, not supernatural."

And as Clark observes: "This is an especially nasty mind-virus because it piggybacks on some otherwise reasonable thoughts and worries.

Proponents make such potentially reasonable points as 'Oh look, we can change our brains just by changing our minds,' but then leap to the claim that mind must be distinct and not materially based. That doesn't follow at all. There's nothing odd about minds changing brains if mental states are brain states: that's just brains changing brains."

"This nasty mind-virus piggybacks on reasonable worries"

That is the voice of mainstream academia. Public perception, however, is a different story. If people can be swayed by ID, despite the vast amount of solid evidence for evolution, how hard will it be when the science appears fuzzier?

What can scientists do? They have been criticised for not doing enough to teach the public about evolution. Maybe now they need a big pre-emptive push to engage people with the science of the brain - and help the public appreciate that the brain is no place to invoke the "God of the gaps".

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From issue 2679 of New Scientist magazine, 22 October 2008, page
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