



## CONSCIOUSNESS: STILL A MYSTERY

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**T**HE HUMAN BRAIN, WITH ITS ESTIMATED HUNDRED BILLION NERVE CELLS, is the most complex object in the universe known to us. During the last fifty or so years, the study of the brain has proliferated into a range of neurosciences—neurobiology now embraces neurophysiology, neuroendocrinology, neuropharmacology, psychometrics, producing neurotechnologies and connecting with the growing neurogenetic industry, leading to neuroeconomics and neuroethics.

Research has made tremendous advances in mapping the functions of different areas of the brain. This has been made possible by the electroencephalogram (EEG) and more recently by positron-emission tomography (PET), single photon emission computer tomography (SPECT), and yet other methods of scan. All this, and other procedures, has revealed a great deal—though what is unknown remains vastly greater than what is thus far known. The agreed large-scale finding is that of the four lobes of the cerebrum: the occipital lobe is concerned with visual processing; the parietal lobe with movement, orientation, calculation, and certain kinds of recognition; the temporal lobe with sound, speech, comprehension, and some aspects of memory; and the frontal lobes with thinking, conceptualizing, and planning.

Given the accepted principle that every moment of consciousness has its neural correlates, the crucial question arises, Which produces which? Most neurophysiologists work on some highly specialised area of brain research

and are not particularly interested in the philosophical issue, as they see it, of the relationship between brain and consciousness. For it does not make any practical difference to them whether consciousness is identical with, or caused by, or only correlated with brain activity. But those who do concern themselves with this fundamental question distinguish between the easy problem and the hard problem. The easy problem—easy in principle—is to trace precisely what is going on in the brain when someone is consciously perceiving, thinking, willing, experiencing some emotion, creating a work of art, etc. The hard problem is to find out what consciousness actually is and how it is caused—assuming, as they mostly do, that it is somehow caused—by cerebral activity. This, says Steven Rose [Director of the Brain and Behavior Research Group at the Open University, UK], is “science’s last frontier” (*From Brains to Consciousness*; Penguin, 1999).

### MIND-BRAIN IDENTITY

Mind-brain identity is the theory that consciousness simply is neural activity. A particular episode of conscious thinking, and the particular electrochemical processes taking place in the brain at the same time are not two distinct processes, one physical and the other nonphysical, but are one and the same physical event. This is the materialist account of our mental life as a transient series of electrical discharges and chemical changes in the grey matter inside our heads. ☺

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*BrainPaint software takes information communicated directly from the brain via EEG biofeedback technology and creates visible real-time fractal images that correspond to different states of being. Studies are underway at UCLA to determine the effect of this enhanced feedback loop on the brain's capacity to self-organize. For more information visit [www.brainpaint.com](http://www.brainpaint.com) or [www.consciouscreativity.org](http://www.consciouscreativity.org).*

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