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ART & SCIENCE II

Mind and Matter

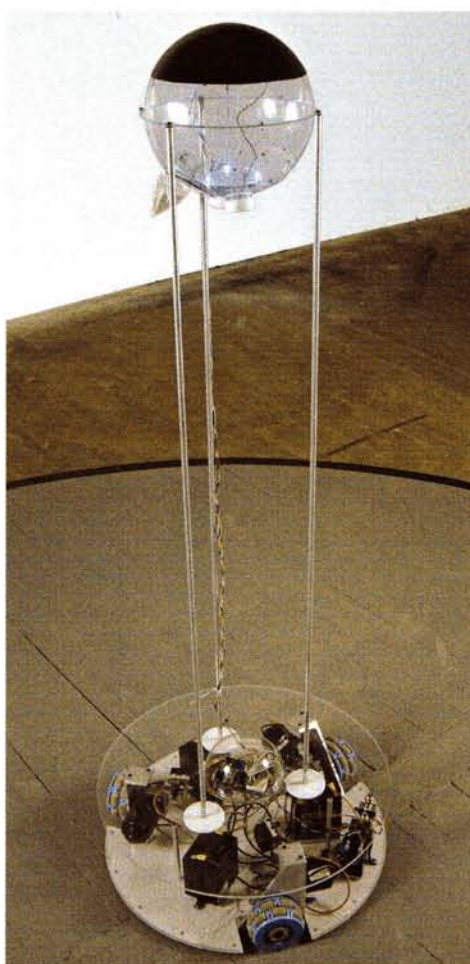
"Common Senses" brings together more than a dozen artists who have examined the mind-body problem using the insights—and imaging technology—of brain science.

BY ELEANOR HEARTNEY

Common Senses" is the second in a series of three exhibitions organized by Exit Art to explore connections between art and science. "Paradise Now: Picturing the Genetic Revolution," in 2000, examined genetic engineering, while the upcoming "Corpus Extremus (LiFE+)" will deal with biotechnology). "Common Senses" situates itself in the middle of contemporary debates over the relationship between brain and consciousness. This is, of course, long contested territory. Christianity finesses the so-called mind-body problem by holding that the soul is an intangible energy inserted by God into the physical vessel that comprises the body. In the 17th century, René Descartes attempted to resolve the issue by invoking the pineal gland as the place where mind meets body. The Victorian era saw efforts to measure the soul by weighing the body just before and after death and calculating the difference. In the 20th century, science became more confident of its ability to discover links between the physical organ of the brain and states of consciousness. Application of these discoveries sometimes had tragic results, as when crude models of brain activity led to practices like lobotomies. And the mind-body conundrum has inspired literature, art and science fiction from Mary Shelley's *Frankenstein* to Andy and Larry Wachowski's film trilogy *The Matrix*. Contemporary analogies between brain and computer compare the mind-body split to the distinction between software and hardware.

"Common Senses," curated by Exit Art directors Jeanette Ingberman and Papo Colo, poses the question: Can art, which deals in metaphor, help us understand the link between our inner and outer worlds? The show offers an intriguing collection of artworks that draw in differing degrees on current scientific thought and technology to offer visualizations of mental activity. Among the most interesting projects here are those that attempt to translate brain imaging technologies into art. Andrew Carnegie's *Magic Forest* (2002) is one of the most esthetically satisfying. Set in a large room in the center of the gallery, walled off by black curtains, it consists of slide images of neurons projected onto three parallel hanging scrims. Successive slides follow the increasing complexity of the brain's development as it grows. A light at the far side of the installation varies in intensity, so the images also shift in visibility. The primary metaphor here is that of a forest; scatterings of the neural images, which do in fact resemble trees with roots and branches, suggest a mysterious wood that grows thicker as the brain develops.

Daniel Margulies and Chris Sharp use a different technology to map changes in the brain during an aesthetic experience. Their untitled 2008 work uses fMRI (functional magnetic resonance imaging) to chart brain activity in a subject who, after meditating on a passage about knowledge and perception from Kant's *Critique of Judgment*, then listened



David Bowen: *Swarm*, 2008, houseflies, electronics, plastic, aluminum, 60 by 22 inches.

to Stravinsky's *Rite of Spring*. The work consists of a video that presents a cross-section of the brain (the Kant text hangs nearby); changing patterns of colors indicate the various areas of the brain that are activated by the experience. Viewers can put on earphones and listen along to the music, while watching imagery that represents activity also presumably occurring in their own brains.

While this project radiates the seriousness of a scientific experiment, other works take a more absurdist approach to the translation of scientific technology into art. David Bowen's *Swarm* (2008) confronts the viewer with a strange contraption consisting of a plastic globe propped up on long rods attached to a wheeled platform, which moves erratically within a black circle drawn on the floor. Its path, it turns out, is determined by the progress of a swarm of flies captured inside the globe. A sensor attached to a microcontroller at

the foot of this device translates the flies' aggregate movement into mechanical motion. It is a slightly demented visualization of how the brain converts electrical impulses transmitted by neurons into directions to the body.

Jamie O'Shea's *Alvin* (2005) has a similar mad-scientist quality. This complicated apparatus is composed of wires, exposed circuits and pulsing, sound-emitting cells topped with metal filings that respond to their vibration. Based on technologies used in voice recognition systems, *Alvin* invites the viewer to lay a hand on a hand-shaped sensor; the action results in loud noises and flashing lights. One suspects that actual industry uses of this technology are more subdued both visually and aurally.

Equally entertaining is Fernando Orellana and Brendan Burns's *Sleep Waking* (2008), which consists of a little robot whose actions are determined by a program based on Orellana's rapid eye movements (REMs) during sleep. Since REMs are associated with dreams, the robot's motions are meant to evoke various dream scenarios—flying, for instance, or retreating in fear. The little robot, which is altered from a Japanese model, offers a surprisingly emotive performance, another reminder of the ongoing quest to create a machine that approximates human consciousness.

Other works attempt to provide models for the ways the brain organizes sense data to create perceptions. Deborah Sperber's *After the Mona Lisa 4* (2006) is composed of a grid of spools of thread in various colors suspended from chains. At first glance, they appear to create an abstract pattern of earth tones. However, when one looks through a glass sphere positioned in front of the work, the image is condensed and inverted to create an approximation of the Mona Lisa. The work thus offers a graphic illustration of how the brain organizes sensory information to create recognizable images.

Naho Taruishi also deals with sight in *Close Your Eyes* (2007). In an exercise that borders on the obvious, viewers are asked to step up to a viewing box with their eyes shut. The point here is that the bright lights and colors flashing inside the box are visible even through closed eyelids.

Several works explore age-old questions about physical mechanisms underlying the "unreal" images found in imagination, memory and dreams. Lucretius, the first century B.C. Roman Epicurean, hypothesized that objects give off films of atoms that meld in the eye to create fantastic hybrids. Something similar seems to be going on in George Jenne's *Mechanism for Innocent Obscenities* (2008), in which a set of bright green, cast plastic objects attached to gears rotate at different speeds against a black backdrop. They are all hybrids and many are slightly obscene—a cast of eyes and mouth has a hot dog protruding, for instance, and a set of men's