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Out-of-body experiences traced to brain zaps

Scientists: Eerie feelings no mystery

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They are eerie sensations, more common than one might think: A man describes feeling a shadowy figure standing behind him, then turning around to find no one there. A woman feels herself leaving her body and floating in space, looking down on her corporeal self. Such experiences often are attributed by those who have them to paranormal forces. But according to recent work by neuroscientists, delivering mild electric current to specific spots in the brain can induce them.

In one woman, for example, a zap to a brain region called the angular gyrus resulted in a sensation that she was hanging from the ceiling, looking down at her body. In another woman, electrical current delivered to the angular gyrus produced an uncanny feeling that someone was behind her, intent on interfering with her actions.

The two women were being evaluated for epilepsy surgery at University Hospital of Geneva, where doctors implanted dozens of electrodes into their brains. As each electrode was activated, the patient was asked to say what she was experiencing.

Dr. Olaf Blanke, a neurologist at the Ecole Polytechnique Federale de Lausanne in Switzerland who carried out the procedures, said the women had normal psychiatric histories and that they were stunned by the bizarre nature of their experiences.

The Sept. 21 issue of Nature magazine includes an account by Blanke and his colleagues of the woman who sensed a shadow person behind her. They

described the out-of-body experiences in the February 2004 issue of the journal Brain.

There is nothing mystical about these ghostly experiences, said Peter Brugger, a neuroscientist at University Hospital in Zurich, who was not involved in the experiments.
"The research shows that the self can be detached from the body and can live phantom existence on its own, as in an out-of-body experience, or it can be felt outside of personal space, as in a sense of a presence," Brugger said.

Researchers have discovered that some areas of the brain combine information from several senses. A dog is visually recognized far more quickly if it is simultaneously accompanied by the sound of its bark. Real-time information from the body, the space around the body and the subjective feelings from the body also are represented in multisensory regions, Blanke said.

Blanke described a 22-year-old student who had electrodes implanted into the left side of her brain in 2004. "We were checking language areas," Blanke said, when the woman turned her head to the right. The woman said she had a weird sensation that another person was lying beneath her on the bed. The figure, she said, felt like a "shadow." When Blanke turned off the current, the woman said the strange presence had gone away. Each time he reapplied the current, she once again turned her head to try to see the figure.

http://articles.chicagotribune.com/2006-10-03/news/0610030144_1_dr-olaf-blanke-out-of-body-angular-gyrus