IN THE NEWS: SIGNS OF ACTIVITY

A study published in *The New England Journal of Medicine* reports that several patients previously diagnosed as being in a vegetative state demonstrated wilful modulation of their brain activity, as detected on functional MRI (fMRI), during at least one mental-imagery task. Furthermore, one of these individuals correctly responded to five out of six questions posed by the researchers by thinking about hitting a tennis ball for "yes" or imagining wandering around his own home for "no"—motor and spatial imagery tasks, respectively, that activate different areas of the brain on fMRI. "Not only did these scans tell us that the patient was not in a vegetative state but, more importantly, for the first time in 5 years it provided the patient with a way of communicating his thoughts to the outside world," explains coprincipal investigator Adrian Owen, of the University of Cambridge (*Guardian*, 3 February 2010).

The study has generated a wave of opinion regarding the possible use of brain activity monitoring in disorders of consciousness, which are often misdiagnosed. "Obviously, more technical development is required, but we now have the distinct possibility that, in the future … we will be able to detect cases of other patients who are conscious," claims Chris Frith, of University College London (*The Times*, 4 February 2010). Furthermore, "patients who are aware, but cannot move or speak, could be asked if they are feeling any pain, allowing doctors to decide when painkillers should be administered," suggests the study's lead author Martin Monti, of the UK Medical Research Council's Cognition and Brain Sciences Unit (*The Times*, 4 February 2010). Nevertheless, some experts have highlighted serious ethical issues that will be harder to address by communicating in this fashion. "If you ask a patient whether he or she wants to live or die, and the answer is die, would you be convinced that that answer was sufficient?" asks Joseph Fins, of Weill Cornell Medical College (*New York Times*, 4 February 2010).

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