

Brain scans examine “speaking in tongues”

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Courtesy University of Pennsylvania School of Medicine and World Science staff

When members of certain religious sects “speak in tongues,” they mouth what seems to be an incomprehensible language, yet perceive it to have great personal meaning. Now, researchers have taken what they say are the first brain scans of people speaking in tongues.

The scientists, at the University of Pennsylvania School of Medicine, found decreased activity in the frontal lobes, a brain area associated with self-control.

It’s “fascinating because these subjects truly believe that the spirit of God is moving through them and controlling them to speak. Our brain imaging research shows us that these subjects are not in control of the usual language centers during this activity, which is consistent with their description of a lack of intentional control,” said the university’s Andrew Newberg, one of the researchers.



This study appears in the November issue of the research journal *Psychiatry Research: Neuroimaging*.

For comparison, the investigators compared the imaging to what happened to the brain while the subjects sang gospel music. “We noticed a number of changes that occurred functionally in the brain,” Newberg said, including in regions tied to emotions and the sense of self.

“These findings could be interpreted as the subject’s sense of self being taken over by something else. We, scientifically, assume it’s being taken over by another part of the brain. But we couldn’t see, in this imaging study, where this took place.”

Newberg concluded that the changes in the brain during speaking in tongues reflect a complex pattern of brain activity. Future studies will be needed to confirm these findings and demystify the phenomenon, he added.

Speaking in tongues, has existed for millennia and is mentioned in the Old and New Testament, is technically called glossolalia. In Christianity it is particularly associated with Pentecostal denominations.

The researchers used Single Photon Emission Computed Tomography, a type of scan in which a bit of a radioactive drug is injected into a vein. A scanner is then used to make detailed images of tissues where cells take up the drug. The process can give information about blood flow and metabolism.

Image; St. Paul, mentioned in the Bible as an advocate of speaking in tongues, in a stained glass window by Edward Burne-Jones (1833-1898).