

When your memories can no longer be trusted

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You went to a wedding yesterday. The service was beautiful, the food and drink flowed and there was dancing all night. But people tell you that you are in hospital, that you have been in hospital for weeks, and that you didn't go to a wedding yesterday at all.

The experience of false memories like this following neurological damage is known as confabulation. The reasons why patients experience false memories such as these has largely remained a mystery. Now a new study conducted by Dr Martha Turner and colleagues at University College London, published in the May 2008 issue of *Cortex* offers some clues as to what might be going on.

The authors studied 50 patients who had damage to different parts of the brain, and found that those who confabulated all shared damage to the inferior medial prefrontal cortex, a region in the centre of the front part of the brain just behind the eyes.

“The patients who confabulated had varying levels of memory ability, and varying levels of “executive functioning” (the set of cognitive abilities overseen by the prefrontal cortex that control and regulate other abilities and behaviours), so confabulation cannot be as simple as a combination of these deficits. Instead it must be due to a specific function controlled by the inferior medial prefrontal cortex. Damage to this region appears to lead to the convincing experience of false memories” says Martha Turner, corresponding author for this study.

This study has implications for our understanding of how the human brain controls memory, and how most of us are able to easily tell apart true memories from things we have imagined, dreamed or invented.

Source: Elsevier

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