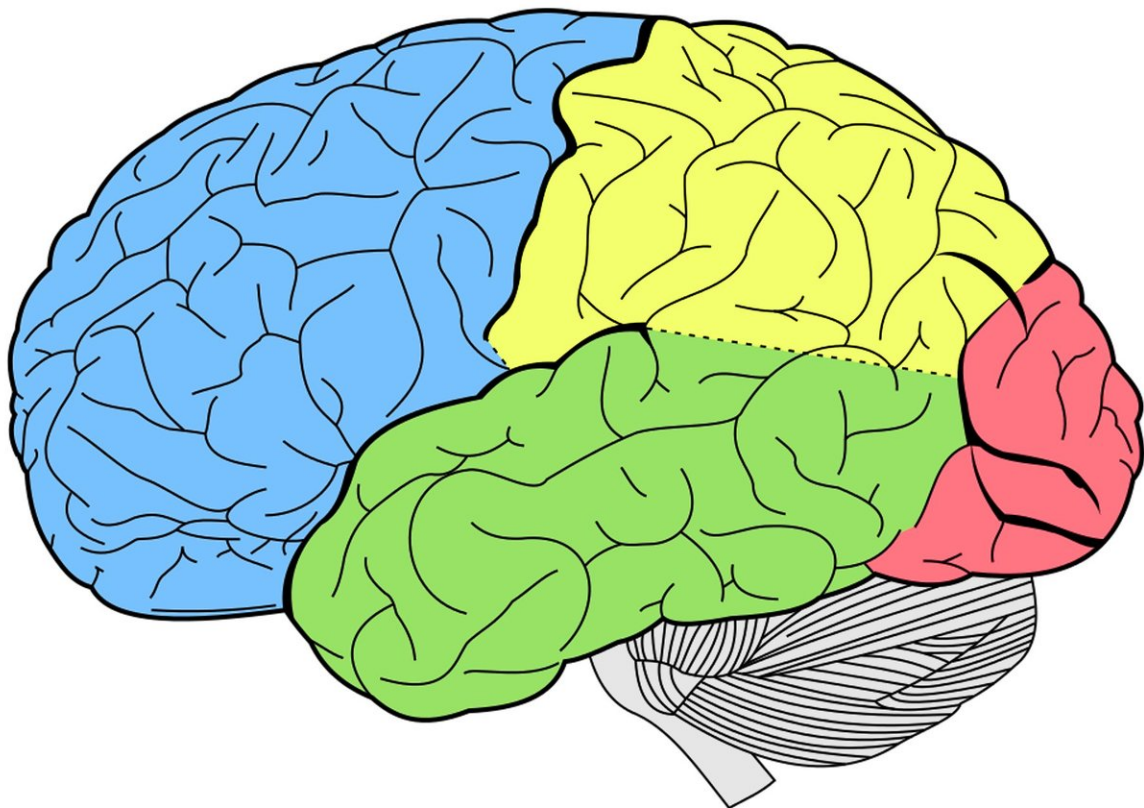


Can't remember a name? Blame the left side of your brain

January 24 2018



Credit: CC0 Public Domain

Scientists have discovered that the left side of the brain controls the verbal expression of our long-term 'semantic' memory which contains

facts, meanings, concepts and knowledge.

The study – led by University of Manchester psychologists – is the first of its kind to assess the similarities and differences in how the left and right sides of the [brain](#) process semantic memory.

The research, led by Dr. Grace Rice and Professor Matthew Lambon Ralph from The University of Manchester, was funded by the Engineering and Physical Sciences Research Council and the Medical Research Council.

The team – working with neuropsychologists at Salford Royal and The Walton Centre for neurology in Liverpool – worked with 41 patients who had part of their brains removed to treat their long-standing epilepsy.

The patients – who now experience fewer seizures and are able to go back to work and learn to drive as a result of the [surgery](#)—had their verbal and visual semantic memory tested.

The surgery removes part of the brain that causes the seizures, but also removes tissue which researchers believe is involved in storing semantic memories. Twenty of the patients had surgery to remove part of the brain, called the anterior temporal lobe, on the right side, and 21 had surgery to remove the left anterior temporal lobe.

To test their verbal semantic memory, the team's assessments included testing patients' ability to name pictures and celebrities (including Brad Pitt, Princess Di and the Queen), and their ability to match words in terms of their meaning.

And to test their visual memory, the patients were asked to identify emotions of people in photographs and say if a face was familiar to

them.

The test results were compared with 20 more people who did not have any neurological problems.

Dr. Grace Rice, from The University of Manchester said: "Popularly, there is a lot of interest in whether there are similarities or differences between the left and right sides of the brain.

"Our research for the first time shows that—at least for semantic memory—both sides of the brain play an important role in visual and verbal semantic memory.

"But there is a significance difference when it comes to verbal expression of this knowledge, which was effected more by surgery to the left side of the brain.

"Our research provides an important insight both into what effects this particular kind of epilepsy surgery has on behaviour, but also helps us to understand where in the brain [memory](#) is stored."

More information: Grace E Rice et al. The Roles of Left Versus Right Anterior Temporal Lobes in Semantic Memory: A Neuropsychological Comparison of Postsurgical Temporal Lobe Epilepsy Patients, *Cerebral Cortex* (2018). [DOI: 10.1093/cercor/bhx362](https://doi.org/10.1093/cercor/bhx362)

Provided by University of Manchester

Citation: Can't remember a name? Blame the left side of your brain (2018, January 24) retrieved 24 April 2024 from <https://medicalxpress.com/news/2018-01-blame-left-side-brain.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.