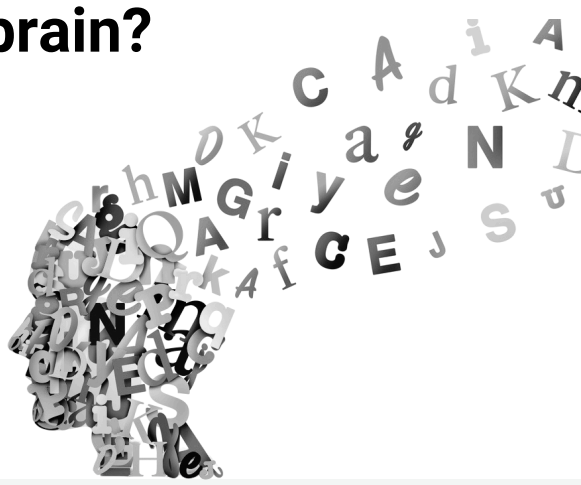
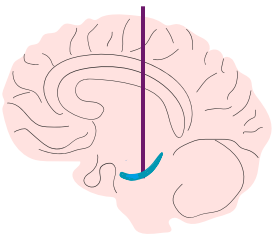
How are pronouns processed in the memory-region of our brain?

A new study shows how **individual brain cells** in the hippocampus respond to pronouns. This may help us unravel how we remember what we read.



Donald Trump and Kamala Harris walk into a bar, **she** sits down at a table. We all know that the pronoun "**she**" in this case refers to **Kamala Harris** and not Donald Trump. **But how does our brain process this?**

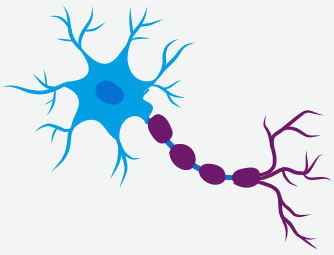


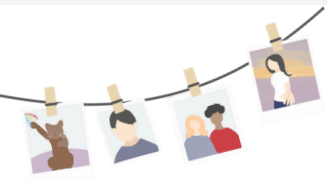
Hippocampus

Epilepsy patients

To answer this question, researchers looked into the brain activity of patients with epilepsy. As part of their treatment, these patients got **depth electrodes** implanted in their **hippocampus**, a brain area involved in learning and memory.

In the hippocampus, there are cells that respond to a specific person, so-called "**concept cells**." The team studied if if these cells also become active when you read the name or when you only see the pronoun, like '**he**' or '**she**'





The patients were shown many pictures until a cell was found that, for example, responds to '**Shrek**' but not to other pictures.

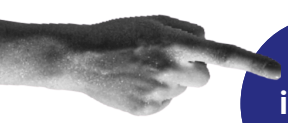
Then they read a text: 'Shrek and Fiona went to a bar, he ordered a beer.' It turned out that this '**Shrek concept cell**' indeed responds to the word **Shrek**, but also to the personal pronoun '**he**'.

Why is this important?

The hippocampus is very important for learning and memory, but it remains unclear how the hippocampus is involved in the interaction between memory and language.

When we add this finding to the bigger picture, we hope to learn more about how our memory is formed.

"We are glad that these patients are cooperating with our research. We almost never get this opportunity. When we get the chance, we try to get as much out of it as possible." -Doris Dijksterhuis-



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