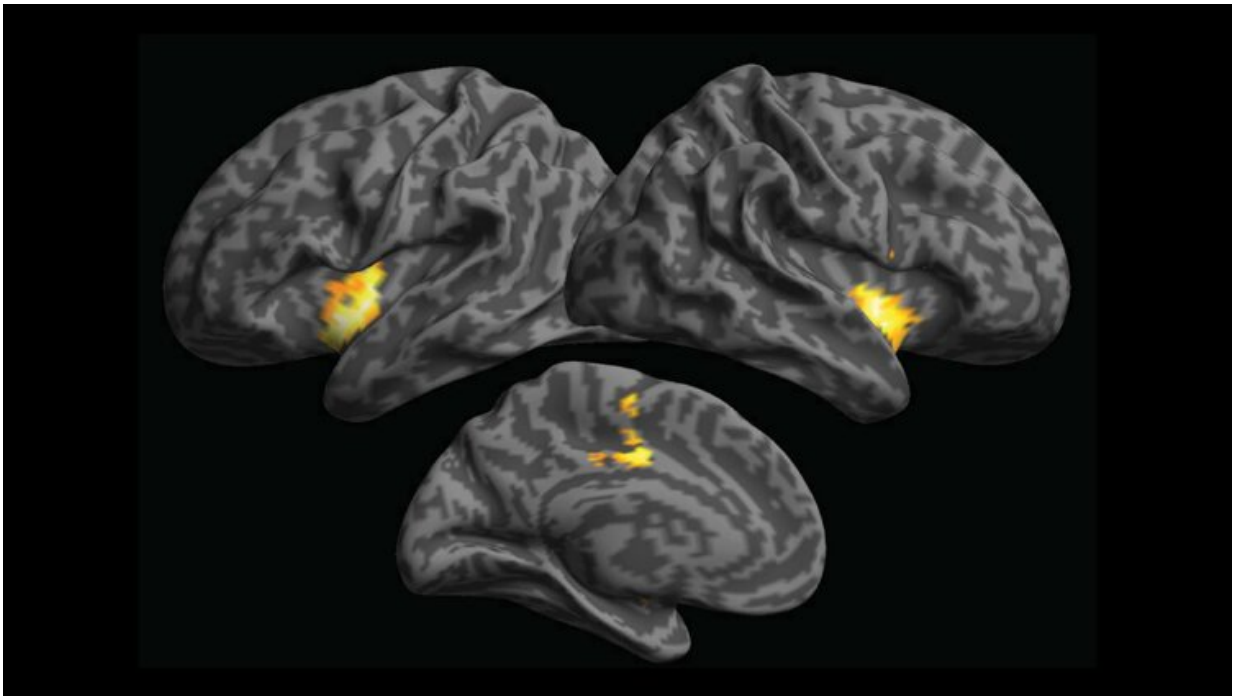


# Sensory information underpins abstract knowledge

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Food information activated when participants made taste judgments about famous Italian dishes. Credit: Fairhall, *JNeurosci* 2020

What we learn through our senses drives how knowledge is sorted in our brains, according to research recently published in *JNeurosci*.

When we take a bite of an apple, we learn that "apples taste sweet" the same way we learn much of the information we know—through a

sensory experience. The brain stores such information in groups of neurons according to broad categories, like food and places. But, how does the brain store abstract knowledge that spans multiple categories, like "Granny Smith apples come from Australia"?

Scott Fairhall employed [functional magnetic resonance](#) imaging to monitor the brain activity of healthy adults while they answered questions about words from one of three categories—food, famous people, and cities. When participants thought about the tastiness of food, a part of the brain called the insula became active. When they thought about the region the food came from, the insula plus areas involved in [spatial perception](#) activated.

The [brain](#) relies on regions involved in taste whenever we think about [food](#), even when taste is irrelevant information. Supplementing this knowledge with information from a group of neurons storing a different category of information allows complex knowledge that spans categories—such as the origin of Granny Smith apples.

**More information:** Cross Recruitment of Domain-Selective Cortical Representations Enables Flexible Semantic Knowledge, *JNeurosci* (2020). [DOI: 10.1523/JNEUROSCI.2224-19.2020](https://doi.org/10.1523/JNEUROSCI.2224-19.2020)

Provided by Society for Neuroscience

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