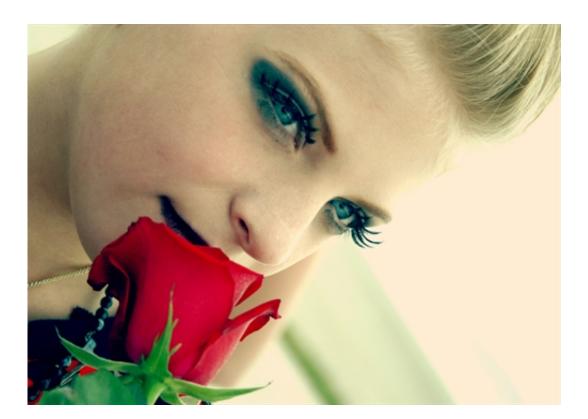# Researchers study the neurological links between smell sense and language

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It is widely believed that people are bad at naming odors. This has led researchers to suggest smell representations are simply not accessible to the language centers of the brain. But is this really so? Psychologist Asifa Majid from Radboud University Nijmegen and linguist Niclas Burenhult from Lund University Sweden find new evidence for smell

language in the Malay Peninsula. The research appeared online in *Cognition*.

English speakers struggle to name odors. While there are words such as blue or purple to describe colors, nothing comparable exists to name odors. Even with familiar everyday odors, such as coffee, banana, and [chocolate](), English speakers only correctly name the smells around 50% of the time. This has led to the conclusion that smells defy words. Majid and Burenhult present new evidence that this is not true in all languages.

Jahai

Majid and Burenhult conducted research with speakers of Jahai, a hunter-gatherer language spoken in the Malay Peninsula. In Jahai there are around a dozen different words to describe different qualities of smell. For example, ltpɨt is used to describe the smell of various flowers and ripe fruit, durian, perfume, soap, Aquillaria wood, bearcat, etc. Cŋɛs, another smell word, is used for the smell of petrol, smoke, bat droppings and bat caves, some species of millipede, root of wild ginger, etc. These terms refer to different [odor]() qualities and are abstract, in the same way that blue and purple are abstract.

Odors and colors

Are Jahai speakers better at naming odors? To test this Majid and Burenhult presented Jahai speakers, and a matched set of English speakers, with the same set of colors and odors to name. Each participant was simply asked to say "What color is this?" or "What odor is this?". Responses were then compared on a number of measures, including length of response, type of response and speaker agreement in names. Majid and Burenhult found that Jahai speakers could name odors with the same conciseness and level of agreement as colors, but English

speakers struggled to name odors. Jahai speakers overwhelmingly used abstract Jahai smell words to describe odors, whereas English speakers used mostly source-based descriptions (like a banana) or evaluative descriptions (that's disgusting).

Searching for words

English speakers grapple to describe smells. Their responses for odors were 5 times longer than their responses for colors. This is despite the fact that the smells used in the experiment were familiar to English speakers but not necessarily to the Jahai. For example, English speakers trying to name the smell of cinnamon said it was: spicy, sweet, bayberry, candy, Red Hot, smoky, edible, wine, potpourri, etc.

Studying other cultures

These results question the view that there is a biological limitation for our inability to name smells. Jahai speakers have an elaborate vocabulary for smells that they use with fluency. This means that the inability to name smells is a product of culture and not biology.

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