

Odors sensed differently from mouth, nose

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Scientists say the human brain perceives the same odor differently if it arrives through the nose rather than the mouth.

In research led by Dana Small of Yale University's John Pierce Laboratory and Thomas Hummel of the University of Dresden Medical School, scientists presented the first clear evidence that sensing an odor "orthonasally" through the nose triggers the perception that it's coming from the outside world, while sensing it through the mouth -- or "retronasally" -- causes the perception it arises from the mouth.

"The illusion that retronasally perceived odors are localized to the mouth is so powerful people routinely mistake retronasal olfaction for 'taste,'" they wrote. "For example, we may say we like the 'taste' of a wine, because of its fruity or spicy notes. However, gustation refers only to the sensations of sweet, sour, salty, savory, and bitter, and thus the pleasant 'taste' to which we refer is actually a pleasant odor sensed retronasally.

"The role of olfaction in taste is powerful," they said. For example, they note pinching one's nose while eating or drinking ... blocks flavor perception. Releasing the nose restores the sense of flavor in the mouth.

The study appears in the journal *Neuron*.

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