Multiple senses play a role in how food tastes

By Michael Moyer, Scientific American

Taste is not what you think. Every schoolchild learns that it is one of the five senses, a partner of smell and sight and touch, a consequence of food flitting over taste buds that send important signals — sweet or bitter, nutrient or poison? — to the brain. Were it so simple.

In the past decade our understanding of taste and flavor has exploded with revelations of the myriad and complex ways that food messes with our consciousness—and of all the ways that our biases filter the taste experience. Deliciousness is both ingrained and learned, both personal and universal. It is a product of all five senses (hearing included) interacting in unexpected ways, those sensory signals subject to gross revision by that clump of nerve tissue we call the brain.

Let’s start at the beginning: Food enters your mouth, meets your teeth and begins to be broken down by enzymes in your saliva. The morsel soon moves over your papillae, the few thousand bumps that line your tongue. Each papilla houses onion-like structures of 50 to 100 taste cells folded together like the petals of a young flower about to bloom—taste buds, we call them. These cells have chemical receptors attuned to the five basic tastes—bitter, sweet, sour, salt and umami, the last a word borrowed from Japanese that describes the savory flavors of roast meat or soy sauce.

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