From delicious to death: Understanding taste

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Despite the significance of taste to both human gratification and survival, a basic understanding of this primal sense is still unfolding.

Taste provides both pleasure and protection. Often taken for granted, the sense of taste evaluates everything humans put into their mouths. Taste mediates recognition of a substance and the final decision process before it is either swallowed and taken into the body, or rejected as inappropriate.

A new primer written by scientists at the Monell Center and Florida State University and published in the February 26 issue of *Current Biology*, provides a clear and accessible overview of recent advances in understanding human taste perception and its underlying biology.

Within the past few years, identification of receptors for sweet, bitter and umami (savory) taste has led to new insights regarding how taste functions, but many questions remain to be answered. The Current Biology primer reviews the current state of knowledge regarding how taste stimuli are detected and ultimately translated by the nervous system into the perceptual experiences of sweet, sour, salty, bitter, and umami.

Such perceptual evaluations are related to the function and ultimately, the consequences, of taste evaluation. These can range from pleasurable emotional reactions, for example the delight a child receives from a sweet candy, to the critical life-dependent response that causes a person to spit out a bitter potential toxin.

Author Paul A.S. Breslin, PhD, a sensory scientist at the Monell Center, observes, “For all mammals, the collective influence of taste over a lifetime has a huge impact on pleasure, health, well being, and disease. Taste’s importance to our daily lives is self-evident in its metaphors – for example: the ‘sweetness’ of welcoming a newborn child, the ‘bitterness’ of defeat, the ‘souring’ of a relationship, and describing a truly good human as the ‘salt’ of the earth.”

Source: Monell Chemical Senses Center