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The Oxford Companion to Sugar and Sweets
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aroma

has long been used by chefs to determine “doneness,” to teach apprentices about the stages of cooking, and to beguile diners with rapturous smells. The aroma of baking bread triggers a visceral, and pleasurable, reaction in most people, and the sense of smell is crucial to the ability to taste. Our olfactory sense couples with our taste buds to communicate flavors to the brain. In an evolutionary sense, aroma developed as a litmus test for the environment. The ability to smell allows us to evaluate danger and distinguish predators from prey. In regard to the foods we eat, aroma is essential for seeking the nutritious while rejecting the toxic or spoiled. See OLFACTION; SWEETNESS PREFERENCE; and SWEETS IN HUMAN EVOLUTION.

Historically, Western tradition has maintained a hierarchy of the senses in which sight and hearing are considered the most refined. Because mind is privileged over body, the “chemical senses” of smell and taste have been relegated to the lowest categories. Japanese culture, however, recognizes the importance of the sense of smell. *Kōdō*, the appreciation of incense, is considered one of the three classical Japanese arts of refinement (the others being *kadō* or *ikebana* [flower arrangement] and *chado* [tea ceremony]).

The mind-body division means that taste and smell are often disparaged because they do not easily lend themselves to intellectual abstraction. How can the fragrance of vanilla be described accurately without mentioning the vanilla bean itself? Yet the ephemeral and complex properties of aromas found in food can be a means of communicating or an avenue of learning. The response to any given aroma may be subjective, but the power of smell is undeniable, as evidenced by the $30 billion perfume industry. Some chefs have marketed perfumes inspired by edibles—a logical step for Jordi Roca of El Celler de Can Roca in Girona, Spain, who has used natural essential-oil perfumes in his restaurant. He created the fragrance “Núvol di Llimona” (Lemon Cloud) based on one of his innovative desserts. The American celebrity chef Roblé Ali is launching a women’s perfume rumored to smell like his dessert French Toast Crunch.

The biologists Linda Buck and David Axel received the Nobel Prize in 2004 for discovering that the olfactory genes comprise 3 percent of the mammalian genome connected to the amygdala, the seat of memory in the brain. Yet almost a hundred years earlier, in *Remembrance of Things Past*, the French novelist Marcel Proust wrote, “When nothing else subsists from the past, after the people are dead, after the things are broken and scattered … the smell and taste of things remain poised a long time, like souls … bearing resiliently, on tiny and almost impalpable drops of their essence, the immense edifice of memory.”

Aroma triggered memories and emotions for Proust, and it is used by chefs today in the same fashion. Modern chefs, in particular, have diffused smoke, steam, and perfumes at the table to achieve these effects. Perhaps the best example of this kind of "edible perfume" is found once again in the desserts of Jordi Roca, who has riffed on such perfumes as Calvin Klein's "Eternity" and Dior's "Hypnotic Poison." His "Trésor of Lancôme," inspired by the perfume, consists of a warm peach cream, loquat syrup, vanilla, apricot sorbet, and honey caramel rose petals, served with a small swatch of the original fragrance so that the two may be compared.

The mysterious nature of aroma makes it a compelling subject of study for chefs and neuroscientists today. Indeed, the high-order cognitive implications of smell are just beginning to be understood by chefs and scientists alike, and chefs are increasingly focusing on specific olfactory events to enhance the diner's experience. To emphasize the interplay of scent and memory, Heston Blumenthal of The Fat Duck sent scented letters of confirmation to a series of guests and then released the same scent at the entrance to the restaurant upon their arrival. Daniel Patterson, an accomplished San Francisco chef, and Mandy Aftel, the foremost natural perfumer, collaborated on the book *Aroma*, in which they pursue the culinary benefits of using essential oils.

The smells of home cooking elicit some of our strongest involuntary memories. Thanksgiving dinner and Grandma's chocolate chip cookies are the subjects of serious study by the Monell Chemical Senses Center in Philadelphia, whose chemists, neuroscientists, and psychologists produce an astounding body of work on the connections among odors, memory, and emotion. Combined with taste these are the real ingredients of fine desserts.

See also SUGAR IN EXPERIMENTAL CUISINE.

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