The Vocabulary of Flavor

Today, the vocabulary of food aromas and flavors seems overwhelming. It would help if we could classify all smells and flavors as arising from the mixing of a few "primary" smells, in analogy with how colors arise from just three primary colors, but smell and flavor are too complex. There are in fact several vocabularies. Organic chemists have produced thousands of terms for the smells and flavors of the molecules they synthesize. Psychophysicists have their vocabulary for the flavor components isolated by mass spectrometry, as described in chapter 4. And food scientists have their terms for characterizing the flavors of foods, as do wine tasters for their wines.

An example may be found on the Flavornet Web site, maintained by the leading psychophysicist Terry Acree and his colleagues at Cornell University: a compilation of more than 700 odorous food components, with data on their chemistry and sensory properties, organized into 25 classes, such as fruity, cooked meat, dairy, fishy, spicy, and so on.

This list provides dramatic evidence that the large universe of smell molecules produces a corresponding large universe of smell perceptions and the vocabulary to give them identities. This is amplified by the associations each of the food smells has with the flavor of which it is a part.

The intriguing idea is that all this vocabulary plus the syntax and grammar to communicate it reflect the attempt on the part of humans to describe their world of smell and flavor. Some claim that humans can discriminate among 10,000 odors. However many it is, there must be a corresponding number of words to describe them. Moreover, we have seen that the sense of smell involves not only the perception of a scent, but also the associated memories that are evoked and the emotions that are attached to it. These amplify the vocabulary, so that as we saw with the incident of Marcel Proust and the madeleine, a perception can bring back the whole scene of a bygone time and the emotions connected with it, all requiring the use of language in order to identify the memory, describe the emotion, and communicate it to others.

A major hypothesis of this book is that the reason it is so difficult to describe these smell and flavor perceptions in words may be that *they are represented in the brain as arbitrary irregular patterns of activity, what we have called "smell images."* As we argued in chapter 8, it is difficult to describe in words a nongeometrical visual image such as a face, even though we can identify it unerringly. In like manner, it may be postulated that it is difficult to describe in words a smell image, even though we can identify it unerringly as well.

Thus, connecting smells and flavor with language may be difficult, but it is a uniquely human endeavor. That we require effort to do it, using all the linguistic tricks at our disposal (analogies, metaphors, similes, metonyms, and figures of speech) qualified by the entire vocabulary of emotion (joy, despair, hate, revulsion, craving, and love) should not come, therefore, as a surprise. Gérard Depardieu was only doing what came naturally.

Among the best challenges to the use of language to evaluate flavors is wine-tasting by experts. In chapter 15, we saw the importance of language in assessing the flavors of red and white wines when complicated by the factor of color. Here are two further examples of using language to characterize wine flavors.

Ann Noble and the Wine Aroma Wheel

Ann Noble is such an expert, having devoted her life to the scientific analysis of wine tasting in her laboratory at the University of California, Davis. I visited Noble in her home in Davis several years ago, and also her laboratory for wine tasting. For this work she has developed "The Wine Aroma Wheel," with terms to describe wines organized in three concentric circles, starting at the center with the most general terms (*fruity*, *earthy*, and so on), to more specific (*berry*, *citrus*, and the like), to the most specific in the outer circle (*blueberry*, other specific fruits, and flavors). She proposes that this provides a logical system for using language tags to work one's way through a hierarchy of classification of percepts. It enables even the beginner to recognize varietals (based on the type of grape) and the "notes" of different wines.