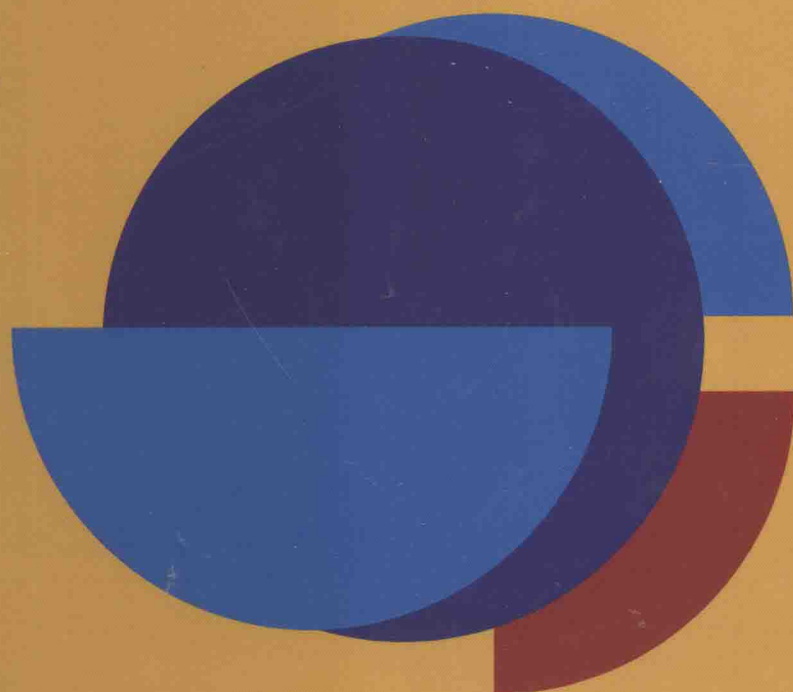


# Sensory Adjectives in the Discourse of Food

Catherine Diederich



CONVERGING EVIDENCE IN LANGUAGE AND COMMUNICATION RESEARCH

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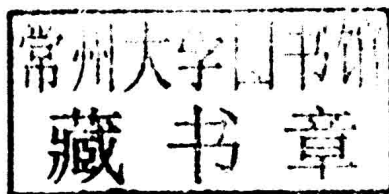
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# Sensory Adjectives in the Discourse of Food

A frame-semantic approach to language  
and perception

Catherine Diederich

University of Basel



John Benjamins Publishing Company

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## Sensory Adjectives in the Discourse of Food

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Over the past decades, linguists have taken a broader view of language and are borrowing methods and findings from other disciplines such as cognition and computer sciences, neurology, biology, sociology, psychology, and anthropology. This development has enriched our knowledge of language and communication, but at the same time it has made it difficult for researchers in a particular field of language studies to be aware of how their findings might relate to those in other (sub-)disciplines.

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## **Volume 16**

Sensory Adjectives in the Discourse of Food. A frame-semantic approach  
to language and perception  
by Catherine Diederich

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## CHAPTER 1

# Introduction

Eating is an important part of our everyday life, as are conversations about what we eat. Talking about food and taste goes hand in hand with actual food consumption. From the exchange of opinions at the dinner table to the public-health discourse in the media, the discourse on food is omnipresent and constantly evolving with changing nutritional and health trends. Linguistic approaches to the communication of food perception are interesting for many reasons: For one thing, we can assume that a close analysis of sensory language may shed light on the linguistic resources used to capture the dynamics and diversity of perceptual experience – a versatility that is subject to social, interactional, and cultural aspects/factors. In everyday conversation on food we seem to take for granted that we all perceive things the same way. While some of us may prefer sweet foods more than others, we often assume that we have similar perceptions, such as with regards to taste intensity (e.g., *the cereal is too sweet*). However, research has shown varying degrees of taste intensity and sensitivity from one individual to the next (cf. Miller & Reedy, 1990; Wooding et al., 2006), as well as with age (cf. Cowart, Yokomukai, & Beauchamp, 1994; Mojet, Christ-Hazelhof, & Heidema, 2005; Ng et al., 2004). Such developments are often physiological. For example, the fact that some people are more sensitive to sweetness than others is due to a larger density of taste receptors (taste buds) on the surface of the tongue (cf. Reed, Tanaka, & McDaniel, 2006).

Taste intensity and sensitivity interrelate with the liking and disliking of foods. Food preferences in turn are subject to, subjective, intersubjective and intercultural variation (cf. Drewnowski, 1997; Lanfer et al., 2013). A curry dish may taste mild to someone who is used to pungent meals, but unpleasantly spicy to someone else who is not acquainted with well-flavored food. Food evaluations are influenced by a number of individual, social, and cultural factors. For example, in their research on different textural preferences of carrots among young and elderly subjects, Roininen, Fillion, Kilcast, & Lähteenmäki (2003) observe a relationship between negative evaluations of raw, firm carrots and the subject's dental deterioration. In addition, perceptual experiences can vary in the same percipient subject from one situation to another. There are both psychological and physiological reasons for this. Everyone has experienced changes in taste perception as a result of a common cold. This phenomenon is due to our impaired sense of smell when we have

a stuffy nose. This nicely demonstrates multisensory perception and the interplay of sensory modalities. Moreover, psychological effects such as emotional stress can influence our liking of foods (cf. Kandiah, Yake, & Willett, 2008). These are just a few examples of the multifaceted nature of experiencing food.

Research in the field of food science<sup>1</sup> is primarily experimental (cf. Dijksterhuis & Piggott, 2001). This is not surprising if you consider that experimental methods provide a way to systematically investigate the influence of certain stimuli on participants' perception, including their hedonic evaluation. Furthermore, instrumental measurements help to simulate the dynamic processes that take place during food consumption. Despite a wide range of research, the question remains whether we can ever know how someone else experiences a specific food.

The present study is concerned with the investigation of sensory experience through language, proceeding from the assumption that language serves as a means to encode perceptual information. Specifically, this work deals with lexicalizations that describe food products. The study originated in the context of the interdisciplinary project *Sensory Language and the Semantics of Taste* (2008–2011, see <http://www.sensorysemantics.ch>). Food scientists and linguists collaborated in compiling a lexicon of German taste terms. In this context, the notion of “taste” serves as an umbrella term enclosing lexicalizations of various modalities involved in the perception of food, such as taste (*sauer* ‘sour’), odor (*blumig* ‘flowery’), and texture (*cremig* ‘creamy’). I will refer to this merging of multiple sense modalities as “food perception” (cf. Verhagen, 2007). The lexical database developed by the project members serves as a reference tool in establishing mutual understanding of speakers' distinct sensory descriptions of food. The meanings of the sensory terms are manifold, carrying both speaker- and context-specific information. Findings from the *Sensory Language and the Semantics of Taste* project show that meanings of perceptual descriptors are not rigid but are construed in the usage context – both linguistically and extralinguistically. Language serves as the main resource to express sensory perceptions. Especially in inter-disciplinary communication, specialists and laypeople aim to reach mutual understanding with the help of linguistic means. This work proposes a methodological framework to systematically analyze the semantics of sensory descriptors in English in a range of contexts. Of particular interest is the issue of what contextual and conceptual information is employed by the use of sensory descriptors in scientific and non-scientific discourse. The present study on the conceptual aspects captured by the

---

1. Throughout this work, I will use the notions “food science”/“sensory science” and “food scientists”/“sensory scientists” interchangeably to denote the domains and experts concerned with the assessment of food products.

use of particular terms aims to shed light on how perceptual space is reflected in language. This goal serves to fill two gaps: First, an understanding of sensory descriptions must take into account the multi-dimensional conceptualization of perceptual experience. Thus, a semantic analysis of sensory adjectives should account for the terms' versatile and multisensory properties. Secondly, improved knowledge of the expert and layperson discourse on food perception is a precondition to understanding the various conceptualizations that meet in interdisciplinary settings.

This work deals with everyday and expert discourse of food in turn. In Chapter 5, I present a frame semantic analysis of everyday food descriptions. Linguistic studies on the semantics of perceptual descriptions primarily represent sample analyses of particular terms or word fields (cf. Lehrer, 2009). Systematic corpus-based analyses are rarely conducted. This sub-analysis of everyday language use aims to fill this gap. For methodological reasons, this investigation needs to be treated independently from the scientific analysis. The two corpora cannot be compared one-to-one. The texts that represent expert and lay communication differ significantly with regard to content and structure of the text type. Hence, the lexemes occur in distinct linguistic environments. I elaborate on this in the discussion of the data in Sections 5.1 and 6.1. As a consequence of the wide range of linguistic embedding of the sensory descriptors, the frame analyses are conducted at various degrees of specificity regarding frame characterization. Nevertheless, a frame-based analysis of the two discourses, despite methodological distinctions, reveals some tendencies of differing conceptualizations that are evoked in the use of the sensory adjectives.

The corpus analysis of lay usages allows for a more fine-tuned investigation of the lexemes' syntactic embedding. In comparison, lexical items are often isolated in scientific texts in that they occur in reference lists. As the everyday texts cover a range of different genres (as opposed to the scientific corpus, which contains one type of text), the analysis is concerned with the sensory descriptors' syntactic distribution in different text types. Furthermore, the linguistic environment of the sensory adjectives allows for a systematic observation of co-occurring lexemes, for example the co-occurring noun denoting the modified food product. Another aspect that is characteristic of our everyday description and evaluation of food is the hedonic dimension. The systematic analysis of value judgments contributes to the underlying interest in language users' inter-subjective agreement with regards to sensory experience.

A frame-based analysis of sensory descriptors in the field of sensory science follows in Chapter 6. In line with Faber's frame-based terminology (2009, 2012), this analysis aims to work out the event frame that underlies the use of selected



terminological units in particular, and sensory scientific language in general. Chapter 6 aims to pinpoint the scientific knowledge representation that is implied in the use of sensory descriptors. A better understanding of the specialized sensory language serves both the fields of food science and linguistics, as well as the industry. A systematic description of sensory language is of great significance in the scientific context in order to facilitate communication between experts and consumers, e.g. in consumer product testing. Furthermore, a better understanding of the variation in the use of terminology among experts and laypeople is useful for the food industry when describing and marketing products. One main objective of this study is to investigate the linguistic challenges that arise in the use of sensory language for different purposes and thus bridge the communicative gap between experts and lay people.

A further aim of this work is to investigate the translational potential of detected frames. The investigation of everyday usages of sensory descriptors is twofold: In addition to the analysis of the English lexemes, I present a brief cross-linguistic comparison with German to show whether sensory terms in one language imply the same conceptual information as in another language. This is a modest contribution to the ongoing discussion of the universality of sensory perception and its linguistic realization.

The general aim of this work is to study the use of food descriptors in various contexts with the aim of capturing the conceptual space that is used in the service of language. Food perception is a multimodal and multisensory experience. Identification of the knowledge repositories triggered by the usage of sensory descriptors may help to characterize the semantic representation of sensory language thus gaining a better understanding of the cognition of perception.

### 1.1 The sensory adjectives

In this work, two lexical items – *crispy* and *crunchy* – serve as cornerstones in the semantic analysis of sensory language found in spoken and written food descriptions. The pervasiveness of food discourse is likely a consequence of the fact that nourishment is vital to human survival. In addition to our everyday personal interest in food, food consumption is a matter of public concern and the perception of food is the key issue in the specialized field of sensory science (see Section 3.2). The sensory adjectives chosen for the present analysis are common in all three domains. By “sensory adjectives” I am referring to adjectives that appeal to the human senses. These include descriptors of taste, such as the basic taste terms *sweet* or *bitter*, as well as adjectives that describe other sensory modalities like