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“A crisp slice of Japanese apple or a brittle Swedish cookie”

- Some culinary, sensory and semantic-based learning activities
in the SFL classroom

サクサクした日本のリンゴ一切れまたはパリパリした
スウェーデンのクッキー一つ

教室における料理, 味覚, 意味に基づいた語学学習活動

LARSSON, Ulf Lennart

Abstract

In this brief educational report, I discuss how one can use methods from two different fields, namely sensory science and lexical semantics (frame semantics) to enhance the students' vocabulary when learning Swedish as a foreign language (SFL). After an outline of sensory analysis and frame semantics, several examples of sensory semantic frames are shown in order to illuminate how the sensory lexical patterns could expand by using frames, especially when it comes to semantic domains and specification. It is also shown how one could arrange the sensory and semantic classroom activities in order to optimize the learning process and outcome. Since semantic frames mirror the extralinguistic world, they are most useful in contextualization of the lexical items. To be more concrete, the combination of sensory analysis and semantic frames can learn the students not only about the Swedish culinary lexicon, but also about Swedish culture in general, with a culinary departing point which can easily expand to socio-cultural and historical perspectives.

Keywords: culinary language, frame semantics

1. Introduction

Food and drink could without much doubt be said to form a central part of any culture. Different meal activities such as cooking, eating and drinking are not only characteristics of everyday life, but are also often components and symbols of a national culinary heritage, such as the Swedish traditional *smorgasbord* or the Japanese New Year's dinner *osechi*. Though not set in stone, the architecture and components of these and similar meals are rather restricted. This corresponds to the fact that most people would consider *pizza*, *osso bucco* and *tiramisu* as typical Italian dishes and not Japanese, and *sashimi*, *tonkatsu* and *udon* as typical Japanese dishes and not Swedish or Brazilian culinary manifestations. Thus, what is being served and how it is prepared

can be said to express a set of identity components such as national, regional, family and the more (Gerhardt 2013, cf. Metzger 2005).

Since all language teaching requires something to talk, read, or write about, it might be inspiring to give the teaching activities a culinary frame, at least to some extent. Reasonably, a Swedish student of Japanese would learn more about Japanese culture from reading and interpreting Japanese recipes rather than, for example, Japanese newspaper texts about Donald Trump. Most students that I have met in Japan are highly aware of traditional Japanese cooking, as well as of regional and family interpretations of different food items and dishes, suggesting that a culinary approach to the classroom activities could be fruitful. In this brief study, I will report on how food and culinary language can be used in teaching Swedish as a Foreign Language (SFL) in a Japanese university classroom.

The study is arranged as follows: first, a short theoretical background will be described regarding 1) sensory analysis, and 2) semantic frame theory and analysis. Thereafter, the classroom activities in question will be outlined, before moving to a concluding discussion.

2. Theoretical background

2.1 Sensory analysis

As a scientific discipline, sensory analysis belongs mainly to the natural sciences, having strong elements of for example chemistry, but also of business and marketing (see for example Lawless & Heymann 1999, Meilgaard et al. 2006, Swahn 2011). Sensory science has been defined as a scientific method used to “evoke, measure, analyse, and interpret those responses to products as perceived through senses of sight, smell, touch, taste and hearing” (Stone & Sidel 2004: 13). In sensory science, both untrained consumers and trained panels are used as instruments when evaluating food products objectively by the senses (Lawless & Heymann 1999). The discipline is oriented towards experimental-statistical methods, with the major purpose being to obtain fairly objective descriptions of food products, where perhaps the most common method would be a questionnaire-based description of different sensory domains of a certain food product, such as aroma, taste, texture aspects and so on. This could be done in various manners, ending up with a sensory profile for this or that product.

From a linguistic point of view, sensory studies seem to include many aspects highly relevant to different linguistic areas, especially lexical semantics. But in spite of the central role of the lexicon

in describing sensory qualities of food, surprisingly little attention has been paid to linguistic aspects of sensory language within sensory science. This may be due to the aforementioned fact that sensory studies and linguistics belong to different academic disciplines, often giving study traces such as fuzzy semantic categories, unclear semantic relationships, taxonomic level confusion and the more (cf. Noble et al. 1987). However, there are a large number of studies within sensory science where sensory vocabularies are discussed and developed (see for example Duffrin & Pomper 2006, Carunchia Whetstine et al. 2007, Hongsoongnorn & Chambers 2008 and Civile et al. 2010 regarding pawpaw fruit puree, Cheddar cheese, tomatoes and almonds respectively; or for a more linguistic anchored approach to food lexicon development, cf. Gustafsson et al. 2010 and Larsson & Swahn 2011 where semantic frames are used to establish sensory vocabularies for red apples and baby leaf salad respectively). But there seems to be an increasing interest for more linguistically oriented studies of culinary language, with echoes from fields such as ethnology, discourse analysis and history (see Gerhardt 2013; an example of a strictly linguistic study of sensory language would be Diederich 2015, where the author investigates the semantics of sensory adjectives from a cognitive frame perspective, including giving an informative outline of sensory linguistics). To sum up, one could say that the material of sensory analysis could be a gold mine for linguistics, particularly lexical semantics, and that this disciplinary meeting now seems to be expanding, including also other linguistic branches such as conversation analysis (CA) and discourse analysis.

2.2 Semantic frame theory and analysis

A semantic frame is a description and representation of how the mental lexicon is structured and organised in long-term memory and working memory. The central idea of semantic frame theory is that words and concepts are represented in the mental lexicon as a kind of network consisting of a root or trigger concept that is linked to other concepts (for more on semantic frame theory, see Fillmore & Atkins 1992, Fillmore et al. 2019, Barsalou 1992, Barsalou et al. 1993, Larsson 2004 and Diederich 2015). Thus, a certain concept – evoked in the mind by a word, a scent, a picture or something else – always seems to comprise and evoke other concepts. Some of these other concepts are necessary in order to understand the first concept, such as *hand* for *finger* or *dead* for *murder* (Cruse 1986: 157ff.).

In the standard semantic frame model based on Barsalou (1992) that I used in the teaching activities, a word/concept cobweb is described in terms of attributes and their values. A certain concept has a number of attributes, which in this sense is to be understood as a kind of empty slot

assuming different values for different examples of the category. These values relate to a scale going from canonical via prototypical to facultative and, finally, impossible or at least very idiosyncratic. For example, physical objects have sense-related attributes such as FORM, COLOUR, SMELL, WEIGHT and the like. Almost all physical objects seem to have the attributes PART and TYPE, such as *window* for *house* and *pear* for *fruit*. At the same time, people who are highly educated or skilled in a certain area are more likely to formulate relevant attributes and values for a certain category belonging to that area than people who are not. Semantic frames are highly recursive; every attributive value within a frame can be given its own attributes, in a theoretically endless chain.

2.2.1 Semantic frames and sensory analysis

To put the semantic frame theory into a culinary context, let us take the salad word *babyleaf* as a point of departure. In order to understand the meaning of the word, one has to process the word in the mental lexicon, by activating different relevant attributes and plausible attributive values. Since *babyleaf* refers to a food item, some of the attributes most people would get actualised would probably be perceptual attributes corresponding to the five senses, i.e. vision, touch, olfaction, taste and hearing (Meilgaard et al. 2006). Figure 1 shows a (partial) semantic frame for *babyleaf*, built upon the results from a trained sensory panel (Larsson & Swahn 2011):

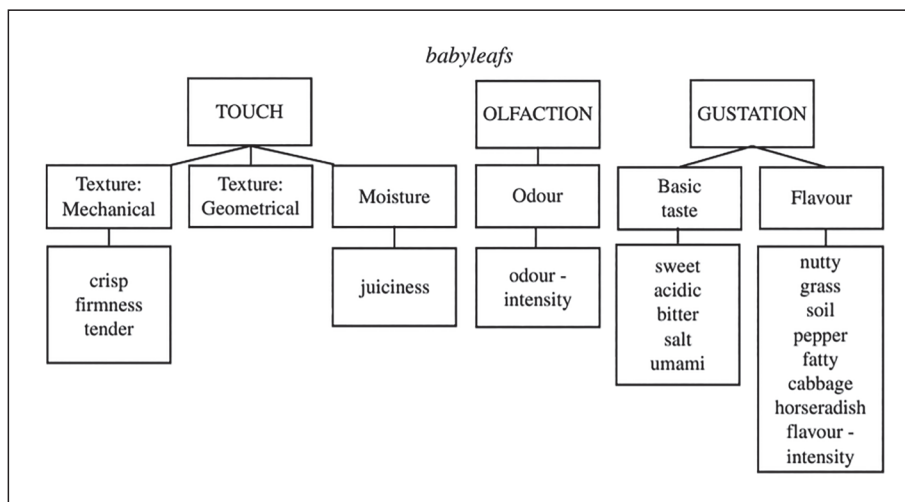


Figure 1: Partial sensory semantic frame for *babyleafs* based on a trained panel's vocabulary (from Larsson & Swahn 2011)

In this frame, the attributes VISION and HEARING are not present, which was the case in a later version of the frame (different types of babyleaf salad have their own unique sound during chewing, like many other food items). Nor is the sub-attribute TEXTURE: GEOMETRICAL lexically expressed, which probably has to do with the fact that babyleaf salad is such a thin food item that it is hard to notice any geometrical texture such as fibrous, spongy, airy and the like, in contrast to foods such as cheese, fish and meat.

Figure 2 shows an expanded semantic frame for the sub-attribute FLAVOUR, based on a consumers' vocabulary. This frame is arranged according to the different semantic domains housing the attributive values, the values being expressed by *fennel*, *chives*, *dandelion leaf* and the more.

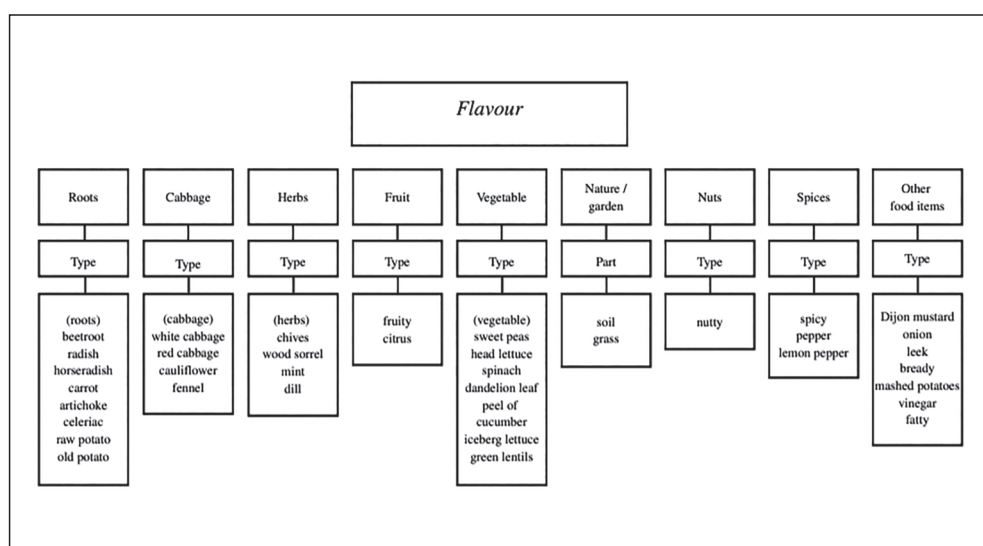


Figure 2: Sensory semantic frame (flavour) for *babyleafs* based on consumers' vocabulary

The aforementioned recursivity of semantic frames enhances the development of an increasingly specific vocabulary within the different semantic domains, which is illustrated in Figure 3. This frame is departing from *nuts*, which can be found as one of the attributive values in Figure 2, and shows values for the attributes VISION and TYPE. Figure 4 shows a semantic frame departing from *almond*, which is found as an attributive value in Figure 3. The frame in Figure 4 shows some of the concepts that are or might be evoked by the word *almond*. Thus, the lexical journey enabled by semantic frames leads us into increasingly specific and suggestive semantic landscapes - and to the insight that the lexicon never ends, nor does the world beyond the lexicon.

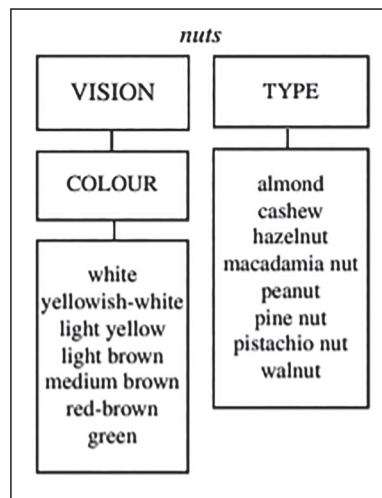


Figure 3: Partial semantic frame for *nuts*

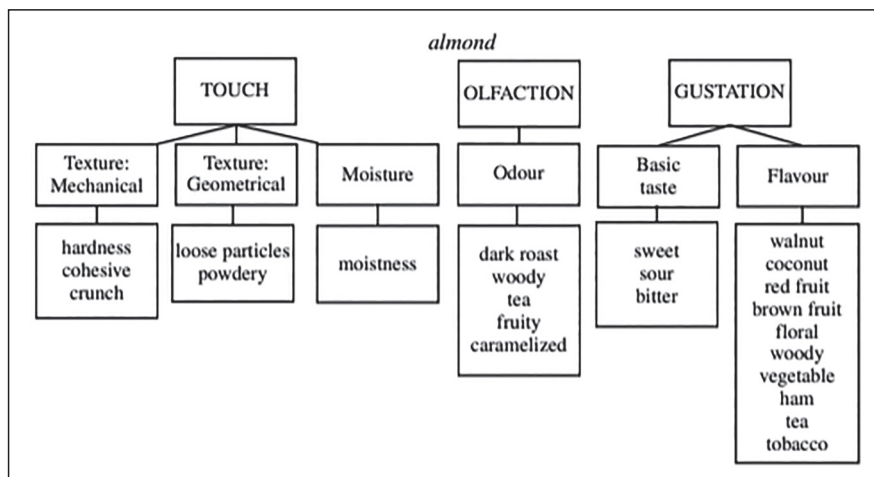


Figure 4: Semantic frame for *almond*

3. The classroom activities

How can one make use of sensory analysis combined with semantic frames in order to develop the students' vocabulary? In my Japanese classroom, these learning activities are usually arranged as follows:

- A brief presentation of sensory science and analysis plus the five perceptual senses and their subcategories such as VISION: COLOUR/FORM/SIZE, TOUCH: TEXTURE: MECHANICAL/GEOMETRICAL and so on

- In pairs of students, sensory analysis and basic lexical description of two or three food items (for example Swedish chocolate, Japanese chocolate, Japanese sencha tea and American orange juice)
- Presentation and discussion of the sensory characteristics of the food items

Up to this point, the didactic process is reminiscent of the methods used in SAPERE, a pedagogic approach to lexical development within the culinary perceptual field.¹⁾ After this basic sensory practice, the focus is moved to semantic frame theory and analysis:

- Explanation of the architecture of a semantic frame, especially a sensory semantic frame
- A semantic frame approach to the results from the recent sensory practice
- Formulating attributes and expressing attributive values in a semantic frame for a food item that is well-known to the Japanese students, for example kaki fruit, salmon sashimi, ponkan fruit or chicken karaage

The next step would then be to present some typical Swedish food items, and to construct sensory semantic frames for these items. During this process, different social, cultural and historical aspects of the food items being analysed can also be discussed. An example of this could be Swedish gingerbreads, prototypically a dark brown, thin and brittle biscuit mostly eaten in December around Lucia and Christmas. However, during the last 10-15 years, a trend has developed for gingerbreads to be served with French Roquefort cheese, or Italian Gorgonzola (or some other blue cheese) in a 3-4 mm thick layer upon the biscuit. Here it is interesting to discuss different contextual dimensions such as social and geographical aspects of this new culinary habit, the blue cheese history in Sweden and the more.

4. Discussion and concluding remarks

A modest hypothesis could be that the students' ability to express different sensory aspects is strongly enhanced after they have encountered sensory semantic frames, provided that the idea behind the semantic frames is explained carefully. In some brief pilot studies conducted at Osaka University during 2016, 2017 and 2019, this was clearly shown to be the case. In the future, a more accurate analysis of this culinary lexical enhancement would of course be of the utmost importance,

as well as studies of the expanded use of semantic frames in language education in general. However, for now, it is obvious that the sensory semantic frame approach is a fruitful one. Provided that one is able to offer the students not only tools for lexical development but also the material food items in question during the lesson, this could be a most exciting and multi-sensory meeting with Swedish culture - and of course with any other language and culture.

Finally, some important questions might be answered thanks to this sensory semantic business, namely: When will people stop eating and talking (and writing) about food? When will words stop being able to describe every imaginable aspect of food?

The tentative answer to all these questions is simple: They will never stop.

Notes:

This method was established in 1972 by the French chemist Jacques Puisais; see for example Puisais & Pierre 1987.

References:

- Barsalou, L.W.
1992 "Frames, concepts and conceptual fields", in Lehrer & Kittay (eds.), 21-74.
- Barsalou, L.W., Yeh, W., Luka, B.J., Olseth, K.L., Mix, K.S. & Wu, L.
1993 "Concepts and meaning", in Beals et al. (eds.), 23-61.
- Beals, K., Cooke, G., Kathman, D., McCullough, K.E., Kita, S. & Testen, D. (eds.).
1993 *Chicago Linguistics Society 29, Papers from the parasession on conceptual representations*, University of Chicago, Chicago.
- Carunchia Whetstone, M.E., Luck, P.J., Drake, M.A., Foegeding, E.A., Gerard, P.D. & Barbano, D.M.
2007 "Characterization of flavor and texture development within large (291 kg) blocks of Cheddar cheese", *Journal of Dairy Science*, 90, 3091-3109.
- Civille, G.V., Lapsley, K., Huang, G., Yada, S. & Seltsam, J.
2010 "Development of an almond lexicon to assess the sensory properties", *Journal of Sensory Studies*, 1, 146-162.
- Cruse, D. A.
1986 *Lexical semantics*, Cambridge University Press, Cambridge.
- Diederich, C.
2015 *Sensory Adjectives in the Discourse of Food. A frame-semantic approach to language and perception*, John Benjamins, Amsterdam.
- Duffrin, M.W. & Pomper, K.W.
2006 "Development of flavor descriptors for pawpaw fruit puree: A step toward the establishment of a native tree fruit industry", *Family and Consumer Sciences Research Journal*, 35, 1-13.

Fillmore, C. & Atkins, B.

- 1992 "Toward a frame-based lexicon: The semantics of RISK and its neighbours", Lehrer & Kittay (eds.), 75-102.

Fillmore, C. et al.

- 2019 FrameNet. <https://framenet.icsi.berkeley.edu/fndrupal/>. Online version available 2019-11-12.

Gerhardt, C., Frobenius, M. & Ley, S. (eds.).

- 2013 *Culinary linguistics - The chef's special*, John Benjamins, Amsterdam.

Gustafsson, I-B., Larsson, U., Swahn, J. & Östom, Å.

- 2010 "Development of vocabulary for apples: Sensory and semantic analysis", *Journal of Sensory Studies*, 25, 591-615.

Hongsoongnern, P. & Chambers, E.

- 2008 "A lexicon for texture and flavor characteristics of fresh and processed tomatoes", *Journal of Sensory Studies*, 23 (5), 583-599.

Larsson, U.

- 2004 *De fyra elementen. En semantisk motivstudie i Gunnar Ekelöfs En Mölna-Elegi*, Almqvist & Wiksell International, Stockholm.

Larsson, U. & Swahn, J

- 2011 "Green Frames. A Semantic Study in the Lexicon of Babyleaf Salad", *Studia Neophilologica*, 83, 2011:2, 149-168.

Lawless, H.T. & Heymann, H.

- 1999 *Sensory evaluation of food: Principles and practices*, Springer Science Business Media, LCC, New York.

Lehrer, A. & Kittay, E. F. (eds.).

- 1992 *Frames, fields and contrasts. New essays in semantic and lexical organization*. Hillsdale, Lawrence Erlbaum, New Jersey.

Meilgaard, M., Civille, G.V. & Carr, B.T.

- 2006 *Sensory evaluation techniques*, CRC Press Taylor and Francis Group LLC, New York.

Metzger, J.

- 2005 *I köttbullslandet. Konstruktionen av svenskt och utländskt på det kulinariska fältet*, Almqvist & Wiksell International, Stockholm.

Noble, A.C., Arnold, R.A., Buechsenstein, J., Leach, E.J., Schmidt, J.O. & Stern, P.M.

- 1987 "Modification of a standardized system of wine aroma terminology", *American Journal of Enology and Viticulture*, 38 (2), 143-146.

Puisais, J. & Pierre, C.

- 1987 *Le Goût et l'Enfant*, Flammarion, Paris.

Stone, S. & Sidel, J.L.

- 2004 *Sensory evaluation practices*, (3rd ed.), Academic Press, London.

Swahn, J.

- 2011 *If I can taste it, I want it...: sensory marketing in grocery retail stores*, Restaurang- och Hotellhögskolan, Grythytt Akademi, Örebro.