Food terminology as a system of cultural communication

Pamela Faber and M. Carmen África Vidal Claramonte
University of Granada / University of Salamanca

In this study on food terminology and culture, Frame-based Terminology Theory (FBT) (Faber 2012, 2015) was combined with corpus analysis to explore the use of culture-specific terms in the food categories of bread and rice. For the sake of comparison, semplates (Levinson and Burenhult 2009; Burenhult 2008) were formulated for food, bread, and rice, as a kind of cultural frame to highlight the relatedness of these categories, based on the actions that were most frequently linked to them in our corpus. For this purpose, an FBT semantic analysis of these terms in a general language corpus was combined with an analysis of their cultural contexts in the literary work of authors such as Sandra Cisneros, Najat El Hachmi, Chimamanda Adichie, and others. The situations portrayed in their novels reflect the cultural embeddedness of food and its communicative value.

Keywords: food culture, semplate, cultural frame, frame-based terminology

1. Introduction

According to Temmerman and Van Campenhoudt (2014, 2), terminology research has become hybrid and diverse, combining insights from other disciplines, such as cognitive linguistics, corpus linguistics, sociolinguistics, semiotics, pragmatics, intercultural communication, and even ethnography. In this regard, food is a rich cultural domain, as reflected in the terms that designate types of food and in the contexts in which food plays an important role.

As observed by Chiaro and Rossato (2015), food is intimately and irrevocably linked to culture. From a conventional perspective, culture has been defined as the beliefs, values, and attitudes practiced and accepted by members of a group or community (Almerico 2014, 5). However, culture is not static, but is infinitely complex and changing since it is co-created and negotiated between individuals. This means that culture often escapes objective study and is difficult to predict and represent.
According to Counihan and Van Esterik (2013), food is an interdisciplinary field, embracing history and geography. In fact, food is directly connected to a wide range of different topics, such as race, class, gender, and queer studies (Counihan and Van Esterik 2013, 107–244). Food has also been related to the expansion of social movements, diaspora and immigration, food and globalization (Counihan and Van Esterik 2013, 355–484) as well as social justice and human rights, race-ethnic identity, and food safety and contamination (Kaplan 2012).

Given that food constitutes such a rich and complex cultural system, it is hardly surprising that its terminology is also imbued with cultural meaning. This is reflected in a wide range of linguistic and extralinguistic contexts, many of which are directly related to food gastronomy or the way that food is served in different dishes. One way to study the cultural value of food from a linguistic perspective is to place food terms in an expanded semantic context and to view these terms as components of larger configurations such as cultural frames or semplates (Burenhult and Levinson 2008). This provides the groundwork for relating cultural frames that involve food preparation, serving, ingestion, etc. to those in other language cultures.

The study presented in this paper could contribute to a deeper understanding of culture-specific objects, and lead to a more systematic description of cultural differences and similarities. It could also facilitate the inclusion and explicitation of cultural information in language resources, and lay the groundwork for contrastive studies of food terms in different languages.

In this research, we combined Frame-based Terminology Theory (FBT) (Faber 2012, 2015; Faber and León-Araúz 2014) with corpus analysis to explore the use of culture-specific terms in the food categories of bread and rice. Bread and rice, though general language words, are regarded here as terms since they are the hypernyms of the other more specific food terms in their respective category. Although the language used was English, this is a first step towards comparing and contrasting food terms in other languages. An analysis of bread and rice terms in a general language corpus was combined with their analysis in the novels of Sandra Cisneros, Najat El Hachmi, Chimamanda Adichie, and others.

The extraction of extralinguistic information from literature was regarded as a way of obtaining access to complex cultural contexts in which food plays an important role. To use the term coined by Anzaldúa (1987, 15), these authors can be regarded as atravesados [misfits] because they (and their characters) are suspended between two worlds without really fitting into either. This is reflected in their work, which is culture-bound and hybrid (see Vidal Claramonte 2014).
situations portrayed in these novels reflect the cultural embeddedness of food as well as the problems of its cultural transfer.

The rest of this paper is structured as follows. Section 1 gives an overview of the theoretical framework upon which this research is based. Section 2 explains the materials and methods used in the study. Section 3 presents the results obtained from the corpus analysis as well as a discussion of their meaning; and Section 4 lists the conclusions derived from this research.

2. Theoretical framework

2.1 Food, culture, and language

The dominant values of the food system in human experience are now regarded as the representation of cultural processes. In this sense, food is culture both when it is prepared and when it is eaten. As observed by Montanari (2006, 4), man chooses his own food based on economic and nutritional criteria as well as on symbolic values. This makes food a crucial aspect of human identity and one of the most effective means of expressing and communicating this identity. In fact, according to Kaplan (2012, 1–23), the serving of one piece of food instead of another is never casual. Each culture decides what is permissible to eat, as determined by religious beliefs, class identification, ethnicity, and gender roles. The cultural component of food is reflected in menus, meal schedules, eating habits, celebrations, and rituals. As such, food is an integral part of everyday life, and has an important role in the holidays and events in which it is prepared, served, and eaten.

As observed by Barthes (1961/2013), food is a semiotic and linguistic system where products and foods are not a simple compilation but are “assembled as a structure, inside of which each component defines its meaning” (Montanari 2006, 99). In this sense, food is not only a collection of products used for nutritional purposes but also constitutes a system of communication. According to Barthes (in Counihan and Van Esterik 2013, 24–25), the communicative value of food lies in its appearance, preparation methods, eating habits, sensory perceptions, and eating contexts, which are all part of a system of differences in signification.

However, until now, no attempt has been made to actually represent this cultural system or provide a foundation for its specification. The proposal of a frame-based semaplate for the preparation, consumption, and emotional perception of food (e.g. bread and rice dishes) opens the door to a more systematic representation of food culture through terminological and linguistic analysis. The fact that this corpus-based research was restricted to English means that it will be necessary
to compare our results with those obtained in other languages in order to ascertain whether these semplates are applicable to other language cultures.

2.2 Frame-based terminology

Frame-Based Terminology (FBT) is an approach to terminology, stemming from the cognitive shift in linguistics (Evans and Green 2006) and terminology theory (Faber 2009), which directly links specialized knowledge representation to cognitive linguistics and cognitive semantics. Along with Sociocognitive Terminology (Temmerman 1997, 2000), it is cognitive-based. Like the Communicative Theory of Terminology (Cabré 1999, 2003), it focuses on terms in texts and discourse. However, it also combines premises from psychological and linguistic models and theories such as the Lexical Grammar Model (Faber and Mairal 1999), Frame Semantics (Fillmore 1985), and Situated Cognition (Barsalou 2003, 2008).²

More specifically, the FBT approach applies the notion of frame as “a schematization of experience, which is represented at the conceptual level and held in long-term memory and which relates elements and entities associated with a particular culturally embedded scene or situation” (Fillmore 1985, 2006).

A semplate (a blend of semantic and template) is a cultural frame or linguistic pattern imposed on the environment to create, coordinate, subcategorize, or contrast natural categories. It is a kind of semantic pattern that facilitates concept clustering in a frame-like representation. According to Levinson and Burenhult (2009, 154), a semplate is a configuration consisting of sets of lexemes drawn from different semantic subdomains mapped onto the same abstract semantic template. The work of these authors on exotic languages in New Guinea highlighted the existence of complex cultural models for the categories of landscape, watercourses, and foraging. For example, the foraging semplate is a layered configuration that includes the activity of foraging, the instrument used, the location of the activity, as well as eating verbs that map onto what is eaten (i.e. vegetable-eats, starch-eats, fruit-eats, and animal-eats).

Our study specified semplates for food, bread, and rice in English. Bread and rice are staples in many cultures as reflected in their gastronomy. The meaning of bread and rice dishes thus goes beyond their composition (ingredients) and includes factors such as location, time, preparation, eating event, historical and geographical context, etc. A semplate can lead to a deeper understanding of culture-specific objects and their relatedness. It can also facilitate the comparison and systematic inclusion of cultural information in language resources. However, since

². For a more in-depth description of the relation to Frame-based Terminology with other theoretical frameworks, see Faber (2012).
this study is restricted to English, further research will be necessary to discover whether the semplates proposed in this study are also valid for other languages.

According to Levinson (2008), categories are culturally, bodily, and perceptually based. He posits the following hypotheses of category formation: (i) categories are driven by perceptual or cognitive salience; (ii) categories are driven by the affordances they offer or the constraints they impose on human activities; (iii) categories are driven by conceptual templates and cultural beliefs. As shall be seen, the set of food terms in this paper respond to the three hypotheses, as reflected in the analysis of general language and literary contexts.

Frame-based Terminology is based on the following set of micro-theories: (1) a semantic micro-theory; (2) a syntactic micro-theory; and (3) a pragmatic micro-theory. Each micro-theory is related to the information encoded in term entries, the relations between specialized knowledge units, and the concepts that they designate. More concretely, the pragmatic micro-theory deals with the situations or contexts in which specialized communication occurs, and to the ways that the text sender and receiver deal with them (Faber 2015).

The pragmatic micro-theory in FBT is thus a theory of contexts, which can be linguistic, cultural, or even graphical. These contexts codify the pragmatic information that should be included in term entries and are the frame in which the concept is embedded. In reference to specialized knowledge units, the primary division of context is based on scope, since contexts can be either local or global. According to Faber and León-Araúz (2016), context may be a few words on either side of a term (He et al. 2010), the sentence or paragraph in which it is appears (Soricut and Marcu 2003), a set of documents containing it (Cilibrasi and Vitanyi 2007), a communicative act, or even a whole culture. In this paper, the contextual information in the two corpora acts as a pointer to the global context, which is extralinguistic cultural reality.

3. Materials and methods

3.1 Corpus

The food terms in this paper were extracted from a general language English corpus and a literary corpus. The literary corpus was composed of novels that provided the source of contextual situations and culture-specific food terms, reflecting a high degree of cultural embeddedness.

The first novel was *La filla estrangera* [The Foreign Daughter] (El Hachmi 2015). El Hachmi was born in Morocco but has lived most of her life in Barcelona. Despite feeling Catalan, she has also experienced rejection from society, which
makes her feel foreign in both cultures. Her work is a reflection on language, the role of translation, gender issues, and religion in the source and target cultures. In her novel, food reflects the clash between two cultures and is a metaphor for irreconcilable differences. These include the way food is served, the people who serve it, and the words used for culinary referents. El Hachmi invites the reader to listen not to a melody, but rather to a harmony of chords that often do not seem quite in tune. Because of this music, we are able to understand that culture is composed of a centrifugal as well as centripetal discourse, which, thanks to their intersection, opens a window to a world with wider horizons.3

The second literary text is “Bien Pretty”, a short story in *Women Hollering Creek* (Cisneros 1991). The author’s syntax, like that of many other Latin-American writers, such as Julia Alvarez, imitates Spanish syntactic structures. This is evident in “Late or early” in “Los Acknowledgements” of *Women Hollering Creek*, or in phrases such as “at the next full moon, I gave light” (Cisneros 1991, 93), “that Yo has always loved poetry” (Alvarez 1991, 47), and “Bad men is what they’ve had!” (Alvarez 1991, 52). In *Women Hollering Creek*, although emotions are conveyed in English, the underlying structure echoes Spanish, the language of the heart: “My sky, my life, my eyes”, “my heaven” and “my soul” (Cisneros 1991, 113, 136, 154). This is also true of food, which in the story is closely linked to emotions. For example, bread is a celebration of love in the following passage:

> The whole car smelled of bread. Big sourdough loaves, shaped like a fat ass. Fat-ass bread, I said in Spanish, *Nalgona* bread [...] And that’s how we drove. With all his new city memories and all my old. Him kissing me between big bites of bread. (Cisneros 1991, 84–85)

Her stories are also pervaded by untranslated food terms such as *chilaquiles* [crisp corn tortilla triangles in sauce] and *sopa tarasca* [tortilla soup], to mention only a few, as a way of reinforcing the emotions of an exoticized Other and to convey a bicultural national identity.

The third text is titled *Americanah* (Adichie 2013), a story of race and identity. It is about Ifemelu and Obinze, who are young and in love when they depart from military-ruled Nigeria for the West. Beautiful, self-assured Ifemelu heads for America, where despite her academic success, she is forced to grapple with what it means to be black for the first time in her life. Quiet, thoughtful Obinze had hoped to join her, but with post-9/11 America closed to him, he instead plunges into an

3. *Centrifugal* and *centripetal* are terms that were coined in Bakhtin (1981) to describe the two forces at work in all languages, or in any utterance. Bakhtin argues that centripetal forces operate by pulling all aspects of language towards a central point in order to produce one standard language. By contrast, centrifugal forces push the elements of language away from the center and produce multiplicity. They are thus decentralizing, stratifying and anti-canonical.
undocumented and uncertain life in London. Fifteen years later, they reunite in a newly democratic Nigeria, and their passion for each other and for their homeland is reignited. Food is an important component in this novel because returning to Nigeria causes Ifemelu to remember and explore all of the contexts in her memory activated by certain foods. Here, food is also closely linked to personal identity as well as emotions.

In the literary corpus, the information was extracted manually. A total of 194 food terms were extracted. All of the contexts in the novels were directly related to food and the role of specific food dishes as a trigger for memory, emotion, and cultural identity. The literary corpus illustrates the individual use of food terms in specific culture-bound situations whereas the semplates were extracted from the general language corpus.

The general language corpus used for the extraction of linguistic information was the English TenTen corpus (EnTenTen) of Internet texts, compiled by Lexical Computing. This English corpus, tagged with TreeTagger using the UTF-8 parameter file, was composed of 22,728,686,012 tokens, 19,685,733,337 words, and 37,061,719 documents. The linguistic information was extracted automatically with the Sketch Engine application (www.sketchengine.co.uk). Wikipedia was the source for examples of types of bread (en.wikipedia.org/wiki/List_of_breads) as well as for examples of different rice dishes (en.wikipedia.org/wiki/List_of_rice_dishes).

3.2 Sketch engine

Sketch Engine is a corpus query system that allows users to view concordance lines, word sketches, meaning-related words, frequencies, as well as a wide range of contextually related information. One of its most useful functionalities is the word sketch, which is an automatic corpus-derived summary of a word’s grammatical and collocational behavior. Word sketches have the advantage of being fully integrated with the concordancing. More specifically, by clicking on a collocate of interest in the word sketch, the user is taken to a concordance of the corpus evidence, giving rise to that collocate in that grammatical relation (Kilgarriff et al. 2014).

The data in the word sketches are indexed in terms of their frequency in the corpus with the most frequent collocates for the grammatical relation appearing at the head of the list. Depending on the meaning of the lexemes involved, a grammatical relation may indicate a certain type of semantic relatedness. However, grammatical information must be interpreted with a certain precaution since a grammatical relation does not always have the same semantic role.

The word sketch corpus data used to formulate the semplates were mainly the following: (i) modifiers of food/bread/rice; (ii) verbs with food/bread/rice as direct
object; (iii) adjective predicates of food/bread/rice; (iv) verbs with food/bread/rice as subject; (v) food/bread/rice is a…; (vi) food’s/bread’s/rice’s…. These data were combined with an analysis of the predicate-argument structure of the verbs and their definition components, which place these verbs in the set of lexical domains in Faber and Mairal (1999). These lexical domains label general activities and events that are lexicalized in many languages.

4. Results and discussion

As part of our research, we first extracted the basic semplate parameters of the general category of food. This semplate was used as a basis of comparison for the more specific semplates of bread and rice. Information regarding the cultural characterization of bread and rice dishes was extracted from the linguistic corpus (for meaning differentiation parameters) and from the literary corpus (for contextual parameters).

4.1 Food semplate parameters

The set of basic semplate parameters of the general category of food was derived from the verbs that most frequently co-occur with food. These verbs were analyzed in terms of their membership in specific semantic classes (Faber and Mairal 1999) as well as the semantic role of food in their argument structure. As acknowledged in many linguistic theories, each predicate has an argument structure or valence (Tesnière 1959), which specifies the number and type of arguments that it can take. Generally speaking, valence is regarded as the ability of certain lexical units (e.g., verbs and adjectives) to open slots that are filled by other lexical units. A predicate’s valence depends on its meaning since its arguments are essentially the participants which are minimally required for the activity or state described.

Word sketch data from the EnTenTen corpus showed that when food had the grammatical role of direct object and the semantic role of goal (defined as the thing towards which the action is directed), it most frequently combined with verbs from the following lexical domains.

The verbs in Table 1 indicate the types of event (and their sequence) in which food prototypically has a salient role. The first event is the creation of food, initially by growing or producing it and then by preparing or cooking it. This is followed by a possession event, which involves acquiring (buying/choosing) and giving (providing/serving/feeding) the food. The third stage is consumption, which involves eating, tasting, chewing, and digesting food. The final stage is emotional (love, enjoy). The word sketch data reflected that there were no negative emotion verbs that
were frequently linked to food in the corpus. Obviously, food can be negatively evaluated, but there was a much higher prevalence of positive emotions associated with food. This is evidence of the extremely positive evaluation of food as a basic need and pleasure. It could be thus argued that the default status of food is *good*, whereas the status *bad* is exceptional. As a consequence, humans experience many more events in which food is good instead of bad.

<table>
<thead>
<tr>
<th>Table 1.</th>
<th>Semtemplate parameters reflected in the verbs that most frequently collocate with <em>food</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. EXISTENCE [exist]</strong></td>
<td>To cause food to exist: produce, grow, cook1</td>
</tr>
<tr>
<td><strong>2. ACTION [make/do]</strong></td>
<td>To make food ready for certain purpose: prepare, process, cook2</td>
</tr>
<tr>
<td><strong>3. POSSESSION [have]</strong></td>
<td>To come to have food: buy, choose To have food over time: store To cause sb to have food: provide, bring, sell, serve</td>
</tr>
<tr>
<td><strong>4. CONSUMPTION [ingest]</strong></td>
<td>To consume food by putting it into your mouth (and swallowing): eat, taste, try, chew, digest</td>
</tr>
<tr>
<td><strong>5. FEELING [feel]</strong></td>
<td>To feel pleasure in food: love, enjoy</td>
</tr>
</tbody>
</table>

This was confirmed by the adjectives that most frequently modify food (see Table 2). These descriptive parameters are indicative of positive emotion (*fantastic, amazing, wonderful*, etc.), quantity (*scarce, plentiful, abundant*), and price (*expensive, cheap*). The most salient parameter was agreeable emotion as reflected in the gradable adjectives that lexicalize degrees of positive evaluation, which stem from the shared cultural perceptions of community of speakers that place a high value on food.

<table>
<thead>
<tr>
<th>Table 2.</th>
<th>Adjectives that most frequently modified <em>food</em>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive default value</strong></td>
<td><strong>Positive (+)</strong></td>
</tr>
<tr>
<td>good</td>
<td>tasty, delicious</td>
</tr>
</tbody>
</table>

4. The ratings for the adjectives were obtained from a group of 24 native speakers of American English who were asked to grade them from least positive to most positive. The ratings are a consensus of their answers.
Based on the information in Tables 1 and 2, the cultural meaning of food terms is primarily derived from the following contexts: (i) preparation of food; (ii) giving and receiving of food; and (iii) positive sensory evaluation of food.

As shall be seen, these parameters also influence the conceptual processing of the main characters in the novels in the literary corpus. The extreme culture embeddedness of food-related terms is directly reflected in their non-translation in the literary texts since the target language-culture has no term that adequately expresses all of the dimensions of the source-language food. This is not only because of culture-specific food types and food preparation processes, but also because of wider extralinguistic contextual factors that are location-based and agent-based. This is exemplified by staple foods, such as bread and rice, which are found in practically all cultures, and play a crucial role in all of the literary texts in the corpus.

4.2 Bread

Bread is a food that has existed from the very dawn of recorded history. It is baked from dough composed of some type of crushed grain (flour) and water, which often has a leavening agent. It is present in all cultures in a wide variety of different forms.

4.2.1 Bread: EnTenTen corpus data

As shown in Table 3, the semplate for bread is a subset of the food semplate. The semplate parameters are reflected in the verbs that most frequently occur with bread. The actions that are lexicalized in a certain language culture are those regarded as most salient.

As can be observed, bread is created by combining ingredients, and then by baking or cooking the resulting mixture. In this context, bake and cook are both verbs of creation in the causative dimension of the lexical domain of existence (cause to exist), when bread is one of the arguments. Nevertheless, once created, bread can also undergo a series of preparation actions for a certain purpose. In the first case, the purpose is eating, and in the second case, the purpose is religious, namely, to make the bread holy, usually so that it is apt for consumption in a religious celebration or event.
Table 3. Semplate parameters reflected in the verbs that most frequently collocate with bread

1. **Existence [exist]**
   To cause bread to exist: bake, cook

2. **Action [make/do]**
   To make bread ready by means of a certain action for a certain purpose:
   - Eating purpose: knead, steam, grill, fry, leaven, toast, slice, butter, dip, soak
   - Religious purpose: bless, consecrate

3. **Possession [have]**
   To want to have bread: beg
   To come to have bread: earn

4. **Consumption [ingest]**
   To consume bread by putting it into your mouth (and swallowing): eat, break, taste

As shown in Table 3, bread is also regarded as a desired goal since the members of a cultural community are willing to beg for it, and to also perform activities (work) in order to earn it. The consumption verbs that most frequently collocate with bread are eat, taste, and break (in its eating sense).

Although there are no emotion verbs, either positive or negative, linked to bread, emotional evaluation is conveyed in the adjectives that most frequently modify this term (see Table 4).

Table 4. Graded scale of adjectives that most frequently modify bread

<table>
<thead>
<tr>
<th>Negative (-)</th>
<th>Positive (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>stale, sour, crumbly, chewy, crisp, soft, fluffy, crusty, hearty, golden, nutritious, fresh, tasty, yummy, delicious</td>
<td></td>
</tr>
</tbody>
</table>

The adjectives in Table 4 are gradable and can be configured on a scale ranging from negative to positive. However, negative evaluation is only present in stale and sour. After crumbly and chewy, which are more or less neutral observations of state, the rest of the adjectives denote increasingly positive perceptions of bread. The adjectives are also based on sensory parameters such as taste (tasty, delicious, yummy), visual perception (golden), touch (moist, soft, fluffy, crisp, crumbly, chewy), and nutritional evaluation (nutritious, fresh).

Table 5 shows examples of terms for specific types of bread in English and a few other languages. The name of each type of bread highlights a meaning parameter that differentiates the bread type from the neutral default value (bread).
Table 5. Examples of bread types that are representative of meaning differentiation parameters in English and other languages (i.e. Italian, Spanish, German, etc.) (extracted from en.wikipedia.org/wiki/List_of_breads)

<table>
<thead>
<tr>
<th>Differentiation parameter</th>
<th>Bread type (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>cornbread, banana bread, carrot bread, chickpea bread, multigrain bread, potato bread, rice bread, rye bread, soda bread, potato scone</td>
</tr>
<tr>
<td>Shape</td>
<td>cottage loaf, baguette [stick], bastone [cane], boule [ball], breadstick, flatbread, pain d’épi [wheat stalk bread], rumali roti [handkerchief bread], tortilla [little cake], colomba pasquale [Easter dove]</td>
</tr>
<tr>
<td>Color</td>
<td>brown bread, white bread, black bread, khubuz hamar [red bread]</td>
</tr>
<tr>
<td>Texture</td>
<td>crisp bread, hard bread, hardtack, cracker,</td>
</tr>
<tr>
<td>Taste</td>
<td>sweetbread, sourdough bread</td>
</tr>
<tr>
<td>Surface appearance</td>
<td>tiger bread</td>
</tr>
<tr>
<td>Location</td>
<td>Vienna bread, Cuban bread, Texas toast, Parker House roll, Banbury cake, Bath bun</td>
</tr>
<tr>
<td>Creator</td>
<td>Graham bread, Scali bread, Barbari bread</td>
</tr>
<tr>
<td>Preparation_tool</td>
<td>pancake, potbrood [pot bread], pan loaf, griddle scone, tandoori roti [clay oven bread]</td>
</tr>
<tr>
<td>Preparation_time</td>
<td>quick bread</td>
</tr>
<tr>
<td>Preparation_action</td>
<td>frybread, popover</td>
</tr>
<tr>
<td>Giving-receiving_context</td>
<td>sacramental bread, Christmas wafer, colomba pasquale [Easter dove], roscon de reyes [king cake]</td>
</tr>
<tr>
<td>Emotion</td>
<td>Amish friendship bread</td>
</tr>
</tbody>
</table>

The bread terms in Table 5 highlight contextual parameters that are salient in the differentiation of types of bread and therefore in their meaning. The most basic parameters are directly related to three of the senses: (i) visual perception (color, surface appearance); (ii) taste (sweet, sour); (iii) touch (texture). Olfactory perception is not a differentiating factor for bread because all bread of whatever type smells delicious to the perceiver during the baking process. As for auditory perception, it is not relevant in this context.

The importance of perceptual information is hardly surprising given the fact that cognition is grounded in multiple ways. These include simulations, situated action, and even bodily states. More specifically, it is claimed that interactions between sensorimotor systems and the physical world underlie cognition (Gallese and Lakoff 2005). When we encounter a physical object, our senses represent it during perception and action. Processing the object in the brain involves partially
capturing property information on sensory modalities so that this information can later be reactivated (Damasio and Damasio 1994; Faber 2011; Faber et al. 2014). In this sense, language reflects the importance of perception in the way that we process and understand reality.

The remaining parameters are derived from the extralinguistic context of bread (preparation, location, creator, etc.). There is also a link to emotion in which bread is served as a symbol of help and friendship (i.e. Amish friendship bread). Although these types of bread are not common to all cultures, in all likelihood, many of the differentiation parameters are shared and are not culture-specific because they are derived from general cognitive processing.

4.2.2 Literary corpus: La filla estrangera [The Foreign Daughter]
In the literary corpus, Moroccan bread terms are used in La filla estrangera (El Hachmi 2015). El Hachmi represents the global, multilingual, and hybrid society of the world today. She accomplishes this by writing in a hybrid language, which she uses to encode deeply embedded cultural concepts, such as bread. This language as well as the conscious use of source language terms is indicative of cultural identity, which is vividly reflected in language.

From the beginning of the novel, no translation is given for terms connected with food and food preparation: zaghlasht [tea pot], abarrad [coffee pot], irqusen [bread with oil on it], resemmen [sweetbread] and sfen jringu [deep-fried doughnuts]. The main character in the novel is a Moroccan girl who lives in Barcelona, and who now feels fully adapted to the culture. However, when she returns to Morocco to marry her cousin, she finds that she can only think and talk about certain things in the language of her mother. This is evident in Examples (1) and (2).

(1) It was an effort to swallow the irqusen, the pieces of bread dipped in oil. The pain in my throat was excruciating, the pain that comes when you wish to cry, but you have to hold it inside because it is not the right moment

(2) I cook; I keep on baking bread; I make resemmen and sweets, sfen jringu; I help out in the holidays that we celebrate.

These food-related terms in Amazigh (Berber) represent the distance between her and her mother as well as between her and other members of the Moroccan community. As reflected in both examples, the activities of consuming and making bread are closely linked to emotions derived from childhood memories of participating in culinary events. As such, they also highlight the importance of bread in Moroccan culture, in which girls learn how to bake their family’s bread at an early age. The Moroccan bread types in the novel are thus considerably more than the sum of their ingredients.
The issue here is not the uniqueness of Moroccan bread as a food staple, but rather its role in all the layers of the culture. As observed by Oster and Molés-Cases (2016, 53):

Some of the most visible differences among cultures are precisely those concerning eating habits, types of foods, the social roles of different meals and the rules related to them, and also the way some of these are encoded linguistically, in spite of the fact that there should be ample physiological common ground.

It is thus hardly surprising that food and gastronomic dishes are so difficult to successfully transfer to other cultures without a detailed explanation, especially when there are allusions to the outermost layers of extralinguistic context.

For example, Figure 1 depicts images of khobz, resemmen, and sfenj jringu, three types of Moroccan bread, which are all cooked from a dough of flour and water. Each conveys a high level of cultural embeddedness linked to context. Although types of flatbread and fried doughnuts abound in many other cultures, the uniqueness of bread lies in the scenario where it is served and eaten as well as its intrinsic and extrinsic value in the speaker community. For instance, in Morocco, bread is almost sacred. If a piece of bread from the dinner table falls on the ground, the custom is to pick it up and kiss it. Instead of being thrown away, leftover bread is instead given to the poor or to livestock.

The images in Figure 1 not only highlight these types of bread, but also the way bread is prepared, how it is served, and the context in which it is eaten. Figure 1a includes the preparation instrument (imsajjar or frying pan) for the bread (khobz). In Figures 1b and 1c, sweet tea is the accompanying beverage for resemmen and sfenj jringu.

![Figure 1. Types of moroccan bread](image-url)

Other layers of extralinguistic context that comprise the meaning of bread include the (female) person who prepares the bread, how bread is acquired and provided, who eats it, when and how it is eaten, and finally the emotional value of bread in the language culture. This is world knowledge, but it is also part of the (cultural) meaning of the term. For example, the term sfenj means sponge, and refers...
to the soft absorbent composition of the bread. The corpus shows the following two concordances for *sfenj* that indicate time of consumption (3) and transport method (4).

(3) Consumed for breakfast and in late afternoon, *sfenj* are deep-fried rings made from unsweetened sticky yeast dough.

(4) For a simple wandering snack, strings of *sfenj* donuts are held together by a strip of leaf to make carrying easier.

Although deep-fried doughnuts are eaten in many countries, shared cultural memories involving scenes where street vendors hawk this pastry by carrying them on strips of leaves are unique to Morocco (see Figure 2).

![Figure 2. Transportation method for *sfenj*](image)

All of these factors have a direct impact on the meaning of the cultural concept, which is personalized in each member of the speaker community. This type of context is also reflected in *La filla estranjera*, where the uniqueness of bread lies in such contextual factors.

(5) Thoughts spiraled in my mind, but the same idea kept surfacing with increasing intensity. If I had to explain how to make bread in this language, I would not know how. There would be no words.

(6) I wanted to always remember her way of picking up small pieces of bread with the first three fingers of her hand while the other two rested on the soft flat surface of the bread in the frying pan. Of course, *frying pan* is not the right word, I know, it is *imsajjar* or *imsajja* because the “r” is silent.

The action of picking up bread in (6) is also reminiscent of the way food is eaten in Morocco. Instead of a knife and a fork, people use a small piece of bread, their thumb and first two fingers to pick up food. The bread is also used to soak up sauce while also picking pieces of meat and vegetables.

Similarly, in another context in the novel, bread also appears in the form of a Moroccan sandwich known as a *boqadio* (see Figure 3). This type of grilled...
open-face sandwich is not exclusive to Morocco, since it is also found and consumed in other countries. However, once again, the cultural context is the meaning differentiation factor.

Figure 3. boqadio

The term appears in the following excerpt:

(7) Suddenly, I thought of my future husband because I do not know whether he will come to have dinner. I don’t think so, answered my cousin. He usually stays at the store, eating a boqadio. Men always prefer to eat outside.

The author does not translate boqadio because then the extralinguistic meaning would be lost. This context reflects the entire event, namely, young unmarried men lounging around on the street eating a sandwich with their friends in the evening before returning home to sleep. This type of context has no relation to grilled open-faced sandwich, but can only be activated by the term in the source language.

4.2.3 Literary corpus: “Bien Pretty”
In her short story, “Bien Pretty”, Cisneros (1991) speaks through Lupe, a woman who, after a few disastrous relationships with English-speaking men, reflects on how she has never made love to a Spanish-speaking man. She relates this fact as well as the Spanish language to food, its preparation, and its fragrance, more specifically to flour tortillas:

(8) ¡Ay! To make love in Spanish, in a manner as intricate and devout as la Alhambra. To have a lover sigh mi vida, mi preciosa, mi chiquitita, and whisper things in that language crooned to babies, that language murmured by grandmothers, those words that smelled like your house, like flour tortillas, and the inside of your daddy’s hat, like everyone talking in the kitchen at the same time, or sleeping with the windows open … That language.

(Cisneros 1991, 153)

Here a type of bread (flour tortillas) is an integral part of the language of love, which in this case is Spanish. The tortillas are important because of their fragrance that permeates the house. They evoke memories of home, and a sequence of
contexts from the past. Throughout the short story, food and the sensory perceptions activated by food are irrevocably linked to Spanish, which is regarded as the language of the heart.

As is well known, tortillas are a thin flatbread made from finely ground wheat flour. They date back to the Aztecs and are an important cultural tradition in Mexico and the southwestern part of the USA. In Spain, the term tortilla, however, has a totally different referent. It does not refer to flatbread but rather to an omelet. In contrast, in Latin America, tortillas are either made with corn or flour. Although corn tortillas are more popular in Mexico, flour tortillas are more popular among Mexican Americans. In both countries, tortilla consumption is directly linked to education level since they are most popular among the grassroots population without a university education (Romero-Gwynn and Gwynn 1994, 349).

However, the tortilla is hardly unique to a certain geographic region. As shown in Figure 4, similar types of flatbread, though with different names, can be found in countries such as China (Figure 4b) and Turkey (Figure 4c).

![Figure 4](image)

| (a) flour tortillas (Mexico) | (b) laobing (China) | (c) yufkha (Turkey) |

**Figure 4.** Flatbreads in Mexico, China, and Turkey

Tortillas, in the same way as other types of bread, have a cultural role, which includes the preparation and eating context, imbued with a wide range of sensory and emotional perceptions, the majority of which are shared by members of a certain language culture.

4.3 Rice

Rice is another important food staple throughout the world. As a cereal grain, it is widely consumed by a large part of the world’s population, especially in Asia and Africa. Rice cultivation began in China over 8,000 years ago and spread throughout the world. In Africa, for example, rice has been cultivated for the last 3500 years, beginning in the Niger River delta, and subsequently extending to Senegal. The varieties of rice depend on the length of the grain and are typically classified as long-, medium-, and short-grained. However, once again, this basic food has come to mean much more in certain cultures than just a basic means of nutrition.
4.3.1 Rice: EnTenTen corpus data
As reflected in the word sketch data in Table 6, rice can be grown, planted, and harvested. It can also be cooked and eaten. This means that it is conceptualized either as a crop or a food. Thus, unlike bread, to cause rice to exist, it is necessary to first plant, irrigate, cultivate, and harvest it. Cooking rice is a way of preparing it to be eaten in rice dishes.

Table 6. Semtemplate parameters, reflected in the verbs that most frequently collocate with rice

| 1. EXISTENCE [exist] | To cause rice to exist: grow, plant, harvest, cultivate, irrigate |
| 2. ACTION [make/do] | To make rice ready for certain purpose: |
| | – Eating purpose: cook, steam, boil, puff, soak, fry, parboil, rinse, stir, toast, flavor, mix |
| | – Flour_creation purpose: grind, mill, pound |
| 3. POSSESSION [have] | To come to have rice: import |
| | To cause sb to have rice: export |
| 4. CONSUMPTION [ingest] | To consume food by putting it into your mouth (and swallowing): eat, taste |

Table 6 shows that for eating purposes, rice is prepared by means of actions such as steam, boil, puff, soak, fry, etc. A second purpose for preparing rice is to make flour. In the lexical domain of possession, the value of rice as an economic asset is reflected in its most frequent verbs: import and export. The general consumption verbs for rice (eat, taste) are the same as in the semtemplates of food and bread.

Similarly to bread, there are no emotion verbs, either positive or negative, linked to rice. However, emotional evaluation is conveyed in the adjectives that most frequently modify rice.

As shown in Table 7, despite the presence of some negative adjectives (e.g. undercooked, sticky, mushy, starchy, bland), related to texture, content, and taste, most of the modifiers are indicative of positive evaluation. However, in regard to rice, visual perception seems to be less salient. In contrast, there is more emphasis on touch (texture) (e.g. firm, tender, fluffy), taste (seasoned, flavorful), and smell (aromatic, fragrant). The explanation may be that in the case of rice, a less attractive appearance is not necessarily connected with a bad taste (e.g. Japanese sushi is both sticky and delicious).
Table 7. Graded scale of adjectives that most frequently modify rice

<table>
<thead>
<tr>
<th>Negative (-)</th>
<th>Positive (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>under-cooked,</td>
<td>tender,</td>
</tr>
<tr>
<td>sticky, mushy</td>
<td>digestible,</td>
</tr>
<tr>
<td>starchy, bland</td>
<td>nutritious,</td>
</tr>
<tr>
<td>firm, crunchy,</td>
<td>crunchy,</td>
</tr>
<tr>
<td>chewy, moist,</td>
<td>fiber,</td>
</tr>
<tr>
<td>seasoned</td>
<td>firm,</td>
</tr>
<tr>
<td></td>
<td>crunchy,</td>
</tr>
<tr>
<td></td>
<td>chewy,</td>
</tr>
<tr>
<td></td>
<td>moist,</td>
</tr>
<tr>
<td></td>
<td>seasoned,</td>
</tr>
<tr>
<td></td>
<td>flavorful,</td>
</tr>
<tr>
<td></td>
<td>aromatic,</td>
</tr>
<tr>
<td></td>
<td>fragrant,</td>
</tr>
<tr>
<td></td>
<td>tasty,</td>
</tr>
<tr>
<td></td>
<td>yummy,</td>
</tr>
<tr>
<td></td>
<td>delicious,</td>
</tr>
</tbody>
</table>

Table 8 shows the meaning parameters conveyed by examples of rice dish terms. These parameters include composition, shape, color, surface appearance, location, preparation tool, preparation action, giving/receiving context, and metaphoric/metonymic extension.

Table 8. Examples of rice and rice dishes that are representative of meaning differentiation parameters in English and other languages (Spanish, Italian, Indonesian, Creole, French, Burmese, Korean, and Wolof) (Extracted from en.wikipedia.org/wiki/List_of_rice_dishes)

<table>
<thead>
<tr>
<th>Differentiation parameter</th>
<th>Rice type (examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>coriander rice, arroz con pollo [rice with chicken], jambalaya [ham + rice], drunk rice [rice with beer], arroz caldoso [rice with broth]</td>
</tr>
<tr>
<td>Shape</td>
<td>rice cake, Hawaiian haystack</td>
</tr>
<tr>
<td>Color</td>
<td>brown rice, arroz negro [black rice], nasi kuning [yellow rice], Charleston red rice</td>
</tr>
<tr>
<td>Surface appearance</td>
<td>dirty rice</td>
</tr>
<tr>
<td>Location</td>
<td>Hawaiian haystack, Charleston red rice</td>
</tr>
<tr>
<td>Preparation tool</td>
<td>claypot chicken rice, paella [from old Fr. paella (pan)]</td>
</tr>
<tr>
<td>Preparation action</td>
<td>fried rice, étoufée [smothered rice], nasi kampur [mixed rice], nurungji [scorched rice]</td>
</tr>
<tr>
<td>Giving-receiving context</td>
<td>glorified rice, mont link-ma-ya [husband and wife], party jollof rice</td>
</tr>
<tr>
<td>Metaphor/metonym</td>
<td>jibaro [Puerto Rican peasant who ate the rice dish], platillo moros y cristiano [rice and beans (color contrast)], arancini [little orange (rice balls)], Hawaiian haystack</td>
</tr>
</tbody>
</table>

Although these (mainly English) differentiation parameters for rice are similar to those of bread, there is no reference to preparation time, creator of the rice dish, or emotional contexts.

4.3.2 Literary corpus: Americanah
In the literary corpus, there is specific mention of rice in Americanah, a novel written by the Nigerian writer, Chimamanda Adichie (2013). Ifemelu, the main
character, is an *Americanah*, a term used in Nigerian English to contemptuously refer to Nigerians who emigrate to the United States and then come back to Nigeria. In the same way as the Moroccan girl in *La filla estrangera*, Ifemelu, who has returned to Nigeria after being in America, affirms her identity by using Nigerian English words in her daily conversations with Americans. Many of these terms are food-related, such as *jollof rice*.

(9) They have the kind of things we can eat. […] She [Ifemelu] loved eating all the things she had missed while away, jollof rice cooked with a lot of oil, fried plantains, boiled yams, but she longed for the other things she had become used to in America, even quinoa, made with feta and tomatoes. This was what she had hoped she had not become but feared that she had: a “they have the kind of things we can eat” kind of person.

These food terms are charged with ethnicity because of their cultural embeddedness. This consistent use of a weak or ‘minor’ language instead of a major language, such as English, French, or German, is a conscious almost political act and is a peculiar kind of bilingualism. In this sense, the authors of these novels (and their characters) share a multiculturalism that makes them not belong to any one place and be part of two or more cultures at the same time.

The example of *jollof rice* in *Americanah* is particularly significant. This rice dish is popular throughout West Africa. In fact, Nigeria and Ghana, whose populations both belong to the Wolof ethnic group, have an ongoing dispute since both countries claim this food as their own. Nigeria even has a jollof rice hierarchy in which the supreme example is *party jollof rice*, because, as reflected in its name, this dish is primarily served on festive occasions. Nigerians claim that no celebration is complete without this dish. This extralinguistic context is what makes jollof rice culturally salient rather than its ingredients.

Like many similar rice dishes in other countries, jollof rice is made from rice, tomatoes and tomato paste, onion, salt, and red pepper though any kind of meat, vegetable, or spice can be added. According to Chef Mireille (2012), almost every culture has some form of one-pot meal with rice, tomatoes, and meats. She compares joloff rice (Nigeria and Ghana) to similar rice dishes such as jambalaya (Louisiana USA), and paella (Spain).

As can be observed, the rice dishes in Figure 5 (a–d) contain many of the same ingredients and even bear a certain resemblance to each other. However, cultural meaning, eating contexts, shared memories, and emotions make each rice dish special within their respective speaker communities.
Returning to Barthes’ idea, it can be argued within this context that if food is a system of communication, the terms chosen to refer to its constituent units permit a person to partake the national past. Food terminology is “the repository of a whole experience … food brings the memory of the soil” but also “feelings of inferiority” (Barthes in Counihan and Van Esterik 2013, 28) of a culture with respect to another culture. In the hybrid novels in our corpus, the terminology chosen to refer to food is consciously bound to values of power.

5. Conclusion

This study explored the cultural dimension of the conceptual category of food within the context of Frame-based Terminology. Its primary focus was on bread and rice dishes, given their status as culture-bound foods in a wide variety of countries. The analysis of data from a general English language corpus as well as the study of micro-contexts extracted from a corpus of novels highlighted a common cultural frame or template in English for food in reference to the cultural themes and linguistic patterns imposed by cognition to create, coordinate, subcategorize, and contrast categories.

As reflected in the terminology and contexts analyzed in this study, food is a vehicle for transmitting culture. People from different cultural backgrounds eat different foods. Both the geographic and temporal contexts in which families live evidently influence food likes and dislikes. These food preferences result in patterns of food choices within a cultural or regional group.

However, culture is infinitely more complex. As previously mentioned, the fact that culture is also co-created between individuals means that it is negotiated, changing, and difficult to predict. The contexts analyzed in this research reflect how foods within a culture activate culturally-specific gastronomic action frames and are related to positive memories and emotions. They also confirm that food and food habits reflect the transmission of culture and the reaffirmation of cultural identity (Kittler et al. 2012). These foods (and the terms that designate
them) are part of our life experience. They reflect not only who we are but also what we become.

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References


Authors’ addresses

Pamela Faber
Department of Translation and Interpreting
C/ Buensuceso 11
University of Granada
18071 Granada
Spain

M. Carmen África Vidal Claramonte
Department of Translation and Interpreting
C/ Francisco Vitoria 6-16
University of Salamanca
37008 Salamanca
Spain
Biographical notes

**Pamela Faber** is full professor in the Department of Translation and Interpreting at the University of Granada, where she lectures on Terminology and Specialized Translation. She holds degrees from the University of North Carolina at Chapel Hill, the University of Paris IV, and the University of Granada. She is the director of the LexiCon research group, with whom she has carried out various national and international research projects that focus on applications of Frame-based Terminology to knowledge representation and the design of specialized knowledge bases. She is the author of over a hundred articles, chapters, and books on terminology, specialized lexicography, and lexical semantics.

**M. Carmen África Vidal Claramonte** is full professor of Translation at the University of Salamanca, Spain. Her research interests include translation theory, post-structuralism, postcolonialism, contemporary art, and gender studies. She has published 13 books, 10 anthologies and over a hundred essays (*Meta, Perspectives, The Translator, European Journal of English Studies, Translating and Interpreting Studies, Forum*, etc.) on these topics. She has been recently been included in Routledge’s Collection of Great Linguists and Translation Theorists. She has lectured in México, Puerto Rico, Argentina, Chile, Italy, England and France. She is a practising translator, specialized in the fields of philosophy, literature, history and contemporary art.