Body part extensions with mặt ‘face’ in Vietnamese
Annika Tjuka

1 Introduction

In many languages, body part terms have multiple meanings. The word tongue, for example, refers not only to the body part but also to a landscape or object feature, as in tongue of the ocean or tongue of flame. These examples illustrate that body part terms are commonly mapped to concrete objects. In addition, body part terms can be transferred to abstract domains, including the description of emotional states (e.g., Yu 2002). The present study investigates the mapping of the body part term face to the concrete domain of objects. Expressions like mouth of the river and foot of the bed reveal the different analogies for extending human body parts to object features. In the case of mouth of the river, the body part is extended on the basis of the function of the mouth as an opening. In contrast, the expression foot of the bed refers to the part of the bed where your feet are if you lie in it. Thus, the body part is mapped according to the spatial alignment of the body part and the object.

Ambiguous words challenge our understanding of how the mental lexicon is structured. Two processes could lead to the activation of a specific meaning: i) all meanings of a word are stored in one lexical entry and the relevant one is retrieved, ii) only a core meaning is stored and the other senses are generated by lexical rules (for a description of both models, see, Pustejovsky 1991). In the following qualitative analysis, I concentrate on the different meanings of the body part face and discuss the implications for its representation in the mental lexicon. The present study aims to shed light on patterns of body part extensions and their value for the investigation of how the meanings of ambiguous words are stored in the semantic network of the brain.

In theoretical linguistics, the notion of the ambiguity of words has been discussed either in regard to homonymy or polysemy. The former includes meanings that share the same lexical term but do not relate to each other, for example, bank ‘financial institution’ or ‘bank of a river’. In contrast, the meanings of polysemous words are related, as in wood ‘a group of trees’ or ‘a cut down tree’. In recent years, polysemy has been widely discussed in theoretical lexical semantics (see Geeraerts 2010 for an overview). The classical account by Apresjan (1974) – which is relevant for this chapter – subdivides the phenomenon of polysemy further into words with meanings that are metaphorically motivated or based on metonymy. He assumes that a metaphorical meaning seems to be transferred on the basis of sharing similar features between source and target domain. Furthermore, Apresjan (1974) differentiates between irregular and regular polysemy. The former is close to metaphorical polysemy because the transfer of a meaning is not applied in the same way to other concepts (Apresjan 1974). Regular polysemy, on the other hand, includes instances of metonymic polysemy in which the meaning of a word is transferred to multiple concepts in the same manner and is found in productive processes of word formations (Apresjan 1974). The categorization made by Apresjan (1974) is crucial for this
chapter because it illustrates the regularities in transferring body parts to object and landscape features while other accounts focus on irregular and metaphorical transfer in specific contexts (e.g., Lakoff and Johnson 1980). Apresjan’s account was further developed by Pustejovsky (1995) to establish a decompositional model of the lexicon. The idea formulated in the Generative Lexicon (Pustejovsky 1995) influenced further research, especially in computational linguistics. However, we will focus on the original categorization based on Apresjan (1974) in the remainder of this chapter.

These theoretical assumptions raise the question of whether words from both types of polysemy are represented similarly in the mental lexicon. In the light of this question, I will examine body part extensions with *face*, particularly, the use of *mắt* ‘face’ in Vietnamese. First, the features of similarity of a body part and its extensions are discussed in Section 2. In addition, cross-linguistic patterns of extensions with *face* are illustrated by using the database of Cross-Linguistic Colexifications (CLICS³, Rzymski et al. 2020). Section 3 introduces the Vietnamese term *mắt* ‘face’ and its transfer to different target domains. In Section 4, the results of my qualitative analysis are discussed with regard to recent psycholinguistic studies of polysemous words. Lastly, the implications of this study are summarized (Section 5).

2 Similarity features

Body part extensions are often based on a shared similarity between the body part and the object. As proposed by Apresjan (1974), the metaphorical use of body part terms seems to highlight certain features of the source in the target. Furthermore, the development of a more advanced account for regular polysemy (or ‘logical polysemy’, see Pustejovsky 1995) suggests that meaning is represented in a logical way in the mental lexicon. In a study of body part terminology across languages, Andersen (1978) noted that the similarity in shape and particularly, the features ‘round’ and ‘long’ evoke the metaphorical transfer of body part terms to objects. In addition, she assumed that visually perceptible body parts are more salient.

Recent studies continue to investigate those claims: for example, an extensive study on various body part extensions by Kraska-Szlenk (2014) showed that perceptually salient body parts seem to develop polysemous meanings and are often used as a source domain. Another important observation in Kraska-Szlenk (2014) is that extensions of body parts to the object domain are based on visual, spatial, and functional features which are connected to a body part. These findings support psychological studies which investigate the properties associated with objects. In addition, studies in psychology found that body parts commonly refer to object parts (Tversky and Hemenway 1984). Furthermore, Tversky and Hemenway (1984) suggested that perceptual salience and function of parts are important features to categorize everyday objects.

Another feature which commonly establishes a body part extension is shape, for example, in *tongue of the ocean*. Levinson (1994) demonstrated that shape is productively used to map body parts to objects in Tzeltal (a Mayan language spoken in Mexico). The shape information is
added to the locative description of the object (Levinson 1994). The language consistently uses body part terms to describe object features, for example, *s-nin* ‘its nose’ for pointy object parts such as a knife tip. The advantage of the Tzeltal system is that it leads to stable predictions in terms of which body part refers to a given feature (Levinson 1994). In addition, Hollenbach (1995) demonstrated how the words for ‘face’ and ‘foot’ developed into prepositions and phrases such as ‘in front of’ or ‘at the beginning of’, respectively. Her sample included Mixtecan languages which belong to the Oto-Manguean language family and are spoken in Mexico. These studies illustrate the various possibilities of meaning extensions found in the body part domain.

In an experimental study, Tilbe (2017) investigated whether speakers of different languages have preferences for the similarity features of shape and function. He performed a series of verbal and non-verbal tasks in a fieldwork setting with speakers of two Mesoamerican languages (Tzeltal and Zapotec, which also belongs to a branch of the Oto-Manguean language family) and English speakers. In one experiment, the speakers had to group pictures together in which different object parts were highlighted in red, for instance, a match head, upper part of a lighter, and a pinhead (Tilbe 2017). The results of the task showed that Tzeltal speakers based their choice significantly more often on the shape dimension than the Zapotec speakers. In comparison, the English speakers used the functional dimension most frequently (Tilbe 2017). This study indicates that languages have a preference for a certain similarity feature to map body parts to objects. Tilbe (2017) concluded that the differences between the languages indicate that the strategies are shared cross-linguistically although languages differ in the strengths of preferences for particular strategies.

Tjuka (2019) conducted a systematic typological study of body part extensions which was inspired by the usage of different features across languages. The study used a set of 93 body part extensions in the object and landscape domain which were illustrated in pictures. 13 native speakers of different languages (e.g., Mandarin Chinese, Khoekhoe, Hungarian) participated in an elicitation study. The participants had to recall if they used a body part for certain object features while looking at each picture (Tjuka 2019). The frequency of the body part extensions and the preference for the dimensions shape, spatial alignment, and function were analyzed in each language. The results showed that Wolof, Mandarin Chinese, and Vietnamese seem to use body parts more frequently to refer to object parts compared to Japanese and Marathi (Tjuka 2019). Furthermore, the languages differed in terms of which body part they used to refer to an object feature such as the *tip of an arrow*: ‘nose’ in Vietnamese and Marathi, ‘head’ in Mandarin Chinese and Hebrew, ‘mouth’ in Khoekhoe (Tjuka 2019). Although Vietnamese seems to prefer mapping body parts on the basis of shape features, Tjuka (2019) did not find a correlation between the preference for a dimension in a language and the variation of body part terms for the same object feature. However, the data showed a clear distinction in the overall frequency between body part extensions which were related to all dimensions: the expressions *leg of the table/chair/bed* occurred in the entire language sample (Tjuka 2019).

These investigations indicate that body parts are transferred to objects with regard to
certain features that are shared between the body part and the object. The body part face includes the following features: round shape, function as a representative for an entity or part-whole relation, visibility, and from a spatial perspective, contour and being opposite (e.g., She faced a wall).

2.1 Colexifications of the concept FACE across languages

From a cross-linguistic perspective, the relationships between different senses across languages indicate how languages organize meaning (Evans 2010). However, the comparison of those meanings needs a cross-linguistic basis. Haspelmath (2010) proposed the use of (lexical) comparative concepts which can enhance the systematic study of meanings across languages.

The database of Cross-Linguistic Colexifications (CLICS³, Rzymski et al. 2020) is based on this theoretical framework. The term ‘colexification’ refers to the occurrence of one lexeme for multiple meanings (François 2008). This phenomenon incorporates instances of polysemous and homonymous words (François 2008). The CLICS³ database comprises colexifications for 2,906 concepts in 2,940 language varieties. The data is interconnected. The concepts which are represented in CLICS³ are curated in a reference catalog: Concepticon (List et al. 2016). This catalog includes a set of comparative concepts and their occurrence in a variety of languages (List et al. 2019). The lexemes for a concept, which are recorded in word lists (e.g., Swadesh 1952), are compared with each other and the result appears in the CLICS³ database (Rzymski et al. 2020). This database is a valuable resource to study cross-linguistic patterns of extensions of a given term in various domains.

A simple filter function on the CLICS³ website (https://clics.clld.org/) shows the colexification of a given concept across languages. The use of the concept FACE for other concepts and the number of language varieties in which the colexification occurs (e.g., EYE in 36 language varieties) is listed in Table 1.

<table>
<thead>
<tr>
<th>Colexified Concept</th>
<th>Number of Language Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>EYE</td>
<td>36</td>
</tr>
<tr>
<td>FOREHEAD</td>
<td>16</td>
</tr>
<tr>
<td>CHEEK</td>
<td>15</td>
</tr>
<tr>
<td>IN FRONT OF</td>
<td>11</td>
</tr>
<tr>
<td>MOUTH</td>
<td>10</td>
</tr>
<tr>
<td>SIDE</td>
<td>4</td>
</tr>
<tr>
<td>JAW</td>
<td>4</td>
</tr>
<tr>
<td>EDGE</td>
<td>3</td>
</tr>
<tr>
<td>COLOR</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 1: Colexifications of the concept FACE in the CLICS³ database (Rzymski et al. 2020).
Furthermore, the CLICS\textsuperscript{3} database provides a graph with a network structure for each concept and its colexifications, see Figure 1. This graph shows the colexifications of \textit{face} in relation to its colexifications and beyond. The frequency of occurrences of a colexification is indicated through the weighted connections between the nodes. For example, the concept \textit{edge} is more commonly colexified with the concept \textit{side} than with \textit{face}.

![Network structure of the concept face in the CLICS\textsuperscript{3} database](image)

\textbf{Figure 1:} Network structure of the concept \textit{face} in the CLICS\textsuperscript{3} database (Rzymski et al. 2020). The nodes represent the colexified concepts and the edges represent the weighted connection between them.

The results of this cross-linguistic comparison illustrate that the term for \textit{face} commonly refers to other body parts such as \textit{eye} or \textit{forehead}. In addition, the different colexified concepts reveal that multiple features can lead to an extension of the body part term. The colexification of various body part concepts (\textit{eye}, \textit{forehead}, \textit{cheek}, \textit{mouth}, \textit{jaw}) implies that a part-whole relation plays a role in the transfer within the body part domain.

In contrast, the use of \textit{face} for the preposition \textit{in front of} indicates the feature of being opposite (spatial alignment) or visibility. In the case of \textit{side} and \textit{edge}, the contour of a face from a lateral view is a shared feature. The colexification with \textit{color} might point to the visibility as in the English word \textit{typeface}. It is also likely that this colexification is an instance of homonymy because it only occurs in three language varieties.

The data in CLICS\textsuperscript{3} provide valuable insights into the analogies that are established across languages. It can be applied for the global analysis of colexification patterns. However, the algorithm does not yet incorporate partial colexifications (e.g., \textit{tree skin} for \textit{bark}) which means that compounds are not included in the database. This restriction limits the study of body part extension patterns because body part terms which denote objects are often utilized as
compounds, as shown in Tjuka (2019).

3 The use of mặt in Vietnamese

Vietnamese speakers use the word mặt ‘face’ in specific contexts and in reference to certain object and landscape features. On the one hand, the use of mặt is motivated by the concept of ‘save face’ in the Vietnamese culture. On the other hand, the features of the face establish meaning extensions of mặt on the basis of shape, function, and spatial alignment. Following a typological overview of the Vietnamese language, this section presents the different applications of ‘face’ with regard to culture and the dimensions of shape, function, and spatial alignment.

About 70 million people in Vietnam and around 1 million people in other countries speak Vietnamese (Campbell 2003). The language belongs to the Austroasiatic language family and can be divided into three major dialect groups: South, Central, and North Vietnamese (Campbell 2003). These differ in their vocabulary, pronunciation, and tone inventory (South Vietnamese seems to differentiate between five tones instead of six, see Brunelle 2009). The North Vietnamese dialect which is spoken in the area around the capital city Hanoi is sometimes referred to as the standard dialect by native speakers.

As a tonal language, Vietnamese distinguishes six tones: ngang ‘level’, huyền ‘low’, sắc ‘mid rising’, nặng ‘mid falling’, hỏi ‘falling-raising’, and ngã ‘glottalized’. The tones are marked with diacritics above the last vowel of the word and are used to differentiate meanings, for example, mà ‘grave’ versus mà ‘mother’. The Vietnamese language is classified as a language with SVO word order (see, Campbell 2003) although this might only be a tendency. The grammatical categories case, number, and gender are not marked in the language. Vietnamese belongs to the isolating languages and commonly makes use of various particles to express grammatical categories, for example, tense: dâ ‘past tense’, sê ‘future tense’. In addition, compounding is a productive process for nouns and serial verb constructions are common.

Nguyen (2015) investigated the concept of respect towards people in everyday life in interviews with native and non-native Vietnamese speakers. He introduced two terms which are used in this social domain: mặt and thể diển. Note that his description does not address the origin of those two words. The term mặt belongs to the basic Vietnamese vocabulary whereas thể diển is a borrowing from Chinese 体面 ti miàn ‘body face’. The latter belongs to the Sino-Vietnamese vocabulary and is used in more formal settings.

The analysis by Nguyen (2015) showed that Vietnamese speakers employ deference mechanisms (lễ phép ‘deference’) in everyday life to ‘save the face’ of a person. These social strategies entail certain behaviors that are expected from a younger person or a person of a lower status when she/he addresses an older person or a person of higher status. Some expressions from Nguyen (2015) that describe aspects of these social customs are given in (1).
The concept of ‘losing face’ is also present in English. However, in Vietnam, a hierarchical order needs to be respected which is in favor of the super-ordinate person (Nguyen 2015). These communication strategies seem to be intertwined with the Vietnamese culture and lead to a continuing significance of the concept thể diện or mặt in social encounters.

The results in Nguyen (2015) illustrate the extension of the body part term face to the domain of social interactions. The examples indicate the transfer of face on the basis of its function as a representative of an entity. In particular, the metonymy of face in reference to a person or a person's honor is established.

3.1 The face of the moon

The data presented in this and the following section (3.2) is collected through conversations with Vietnamese native speakers, elicitation in Tjuka (2019), an English-Vietnamese online dictionary (https://dict.laban.vn/), and the data in Key and Comrie (2016) as well as in Haspelmath and Tadmor (2009). The analysis focuses on the extensions of the term face to the concrete domain of objects.

First, I discuss the two celestial bodies of the moon and the sun because of their importance in the Vietnamese culture. The traditional Vietnamese calendar follows the lunar cycle. The beginning of the new year (Tết Nguyên Đán) is celebrated by all Vietnamese people
and is one of the most important holidays in their culture. The celebration begins from the first day of the first month of the moon calendar and continues for about one week. The body part term mặt ‘face’ is lexicalized in the terms for ‘moon’ and ‘sun’, see examples (2) and (3).

(2)  

<table>
<thead>
<tr>
<th>Việt Nam</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>mặt</td>
<td>face</td>
</tr>
<tr>
<td>trăng</td>
<td>moon</td>
</tr>
</tbody>
</table>

(3)  

<table>
<thead>
<tr>
<th>Việt Nam</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>mặt</td>
<td>face</td>
</tr>
<tr>
<td>trời</td>
<td>sky</td>
</tr>
</tbody>
</table>

The connection of the moon with the body part face reflects the emphasis on the similarity feature shape when the moon is in its main stage: full moon. The body part extension could also be based on the function of the face as a representative for an entity. Interestingly, the use of mặt seems to be additional because trăng on its own already has the meaning ‘moon’. The addition of mặt could highlight the significance of the moon in the Vietnamese culture and its status as a human-like entity.

The second example with mặt (3) indicates the literal meaning of mặt trời as ‘face of the sky’. Thus, the connection between body part and object is clearly based on the representative function of the face. The sun is marked as the face of the entity ‘sky’. The feature of the round shape of the sun also facilitates the mapping. In comparison, other Southeast Asian languages, for example, Jahai, make another choice. They refer to sun as the ‘eye of the day’ (Urban 2010). This mapping seems to be based on the roundness of the eye and the shape of the sun in the sky. It is important to note that Urban (2010) also included Vietnamese as a language with this body part extension. This interpretation is based on the spelling of mặt ‘face’ and mắt ‘eye’. But as noted before, Vietnamese has a lexical tone system and the meaning of the two words can be distinguished.

Another example which uses the function and shape features of the body part face in the extension to an object is given in (4).

(4)  

<table>
<thead>
<tr>
<th>Việt Nam</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>mặt</td>
<td>face</td>
</tr>
<tr>
<td>đồng hồ</td>
<td>clock</td>
</tr>
</tbody>
</table>

‘face of the clock’

On the one hand, the use of mắt, in this case, reflects the function of the face as the most important part of the clock and also its representative status. On the other hand, the body part extension could be established on the connection between the round shape of the body part and
the object feature.

The examples presented in this section indicate that the body part term *face* is transferred to objects on the basis of its function and shape. This supports the finding in Tjuka (2019) that Vietnamese tends to prefer body part extensions which highlight the function and shape dimension.

3.2 The (sur)face of the water

In English, the prefix *sur-* ‘on, above’ (from French) was added to ‘face’ in the early 17th century (Oxford English Dictionary, online version). The composition was patterned after Latin *sūperfīcies* ‘surface, upper side, top’ (Lewis and Short 1879). The prefix indicates that *surface* refers to the outer or often upper part of an object. Vietnamese also has a designated term for ‘surface’, namely bè mặt. The first part of the compound has the meaning bè ‘side, dimension’. The literal translation of bè mặt is ‘the side with the face’. Example (5) demonstrates how the compound is used to refer to the outer layer of the moon.

(5) bè.mặt mặt.trăng
    surface moon
    ‘surface of the moon’

The term bè mặt occurs mainly in formal contexts, for example, science textbooks or reports. However, in everyday language, the body part term mặt is commonly used to refer to surface areas without bè, as illustrated in examples (6) – (9).

(6) mặt đất
    surface earth
    ‘surface of the earth’

(7) mặt bàn
    surface table
    ‘surface of the table’

(8) mặt nước
    surface water
    ‘surface of the ocean’
The examples reveal body part extensions based on the similarity feature of function and visibility. Body part extensions such as mặt bàn ‘table surface’ highlight the similarity of the body part face and its status as a representative of a larger body. In addition, the face is the external appearance of an object which reflects the similarity of visibility between body part and object. Furthermore, the examples show that the face is something that lies on top or is an outer shell. Compared to the examples in Section 3.1, the shape feature does not play a role in the extension of mặt to surfaces.

This case of body part extensions seems to be a common pattern in the Vietnamese language. Based on the intuition of Vietnamese native speakers, it is possible to extend mặt to the different sides of a cupboard, as illustrated in (10).

(10)  a. mặt    tủ
      face    cupboard
      ‘front side of the cupboard’

     b. mặt sau    tủ
      face    behind    cupboard
      ‘backside of the cupboard’

     c. mặt trên    tủ
      face    above    cupboard
      ‘top of the cupboard’

     d. mặt bên trái    tủ
      face    left     cupboard
      ‘left side of the cupboard’

     e. mặt bên phải    tủ
      face    right    cupboard
      ‘right side of the cupboard’

In the case of a cupboard, the spatial dimension of ‘being in front’ and visibility are not the decisive similarity features. The similarity of ‘being the outer part’ of an object seems to be the basis for this mapping. The expressions discussed in this section introduce a variety of possible use cases for mặt. They also show that a single body part term can incorporate many meanings. The term mặt can refer to an entity like the moon, to surfaces of objects, and sides of objects.
Discussion

The body part term *face* is used for various concepts besides its general reference to a human body part. This chapter analyzed the hypothesis that body part terms are transferred between the body part domain and the object domain on the basis of common features. The main aim was to identify common patterns of body part extensions with *mắt* ‘face’ in the Vietnamese language. The implications of those findings for the structure of the mental lexicon are discussed in this section.

The cross-linguistic comparison of colexifications with the concept *face* indicates that different features are utilized when transferring the body part to other concepts. The basis for this transfer seems to be a part-whole relation. The use of the term *face* for other body parts introduces two aspects that need to be taken into account while discussing body part extensions: languages differ in terms of how they categorize the parts of the body (Enfield et al. 2006) and it is common to use the same term for multiple body parts (Pattillo 2014).

Based on the data in the CLICS³ database (Rzymski et al. 2020), it seems to be the case that *face* is more often used to name other body parts. In particular, the colexification of the concepts *face* and *eye* is striking and supports the findings in Brown and Witkowski (1983) that this polysemy frequently occurs across languages. Some languages use the spatial alignment of an opposite face as a similarity feature for the mapping to the preposition *in front of*. Furthermore, the study by Hollenbach (1995) shows that the Mixtec languages extend ‘face’ to prepositions. Although the data of the present study does not follow this pattern, it seems to support the findings in Hollenbach (1995) to some extent: in Vietnamese, *mắt* frequently refers to surfaces without a syntactic category shift but this could still reflect phrases such as ‘top surface’ which is present in Mixtec languages.

However, the emerging picture could also be due to the distribution of the data in CLICS³. The algorithm only compares single lexemes and most word lists in the database include only the basic vocabulary of a language. Thus, the data is preferably used for a global analysis of common colexification patterns across languages (an example of such a study in the domain of emotions is Jackson et al. 2019). The study of those global patterns provides insights for distinguishing commonly used similarity features that lead to colexifications (which could enhance a broader examination of the findings in Tjuka 2019).

The qualitative analysis of *mắt* in Vietnamese reveals a similarity feature on which most body part extensions are based: *face* as a representative for an entity. In particular, the extensions of *face* in the social domain indicate that the term is strongly connected with the notion of a person or a person’s honor (Nguyen 2015). However, the entity which is represented by the term *face* does not necessarily need to be a person. The extensions of *mắt* to objects such as the moon, sun, and clocks illustrate the range of entities that share certain features with the body part. In those cases, the round shape of the objects also fosters the transfer of the body part term. Nevertheless, this process seems to be rather irregular because the mapping of *mắt* to other round
object shapes, for example, a dinner plate, a dartboard, or a disco ball, is not possible. In addition, the importance of the moon in the Vietnamese culture could equate the moon with a person-like entity. This indicates that the transfer is metaphorical rather than regular polysemy, as defined by Apresjan (1974).

On the other hand, the examples given in Section 3.2, which demonstrate the use of mmap as a ‘surface’, show another pattern: the use of mmap in reference to object surfaces is more productive and points to regular polysemy (Apresjan, 1974). It is not yet clear whether the similarity feature in spatial alignment influences the choice for mmap. In the case of the cupboard (example (10), Section 3.2), where mmap can refer to all sides of the object, the similarity of ‘being the outer part’ might establish the mapping. However, more data is needed to test whether this pattern is regular.

The data presented in this study challenges the models of the structure of the mental lexicon from a psycholinguistic perspective. The storage of two types of polysemy (metaphor and metonymy) in the word mmap does not support recent findings in behavioral studies. Although psycholinguists are becoming aware of the distinction between homonymy and polysemy as two separate phenomena (see, Klepousniotou, 2002), this division does not seem to be exhaustive enough for the case of mmap. More recent accounts investigate the different mechanisms involved in the processing of polysemous words (e.g., Klepousniotou and Baum, 2007; MacGregor et al., 2015). They studied whether words with metaphorical meaning are accessed and stored in the same way as words with metonymic meaning. In two lexical decision tasks (auditory and visual), Klepousniotou and Baum (2007) examined the different processes and reaction times of ambiguous words (polysemous and homonymous) versus unambiguous words. The analysis showed that metonymic words are processed faster than metaphorical words compared to unambiguous words, whereas homonymous words did not show a facilitative effect. Klepousniotou and Baum (2007) concluded that this finding suggests a continuum in the processing of ambiguity, as illustrated in Figure 2.

\[ \text{homonymy} > \text{polysemy (metaphor)} > \text{polysemy (metonymy)} \]

Figure 2: Continuum of ambiguous meanings from unrelated to related meanings.

The results seem to support the assumption that meanings are retrieved on the basis of lexical rules which use a core meaning to generate other meanings of a word (see, Pustejovsky, 1991). However, the study does not take into account the number of meanings that are incorporated in each stimulus (see Appendix A in Klepousniotou and Baum, 2007). For example, the word doll has only two meanings associations whereas fox has ten according to WordNet (Fellbaum, 1998, online version 3.1). In addition, the categorization of certain words into metaphorical versus metonymic is not clear, for example, nucleus refers commonly to core parts of objects which
accounts for a regular polysemy. The stimuli are also not balanced for semantic categories: six out of eighteen stimuli in the ‘metaphor’ category are body part terms.

The assumption that words are stored according to their tendency of being more metaphorical or metonymous does not consider the possibility of words incorporating both types, as shown by the use of mât in Vietnamese. An alternative explanation for the different processing of ambiguous words is that the representation of a word is stored as a collection of features related to the central meaning of the word (Vicente 2018). The features of the word face relate to the different metaphorical and metonymous meanings and are activated when different meanings of the word are processed. Therefore, the features are responsible for the activation (Vicente 2018) instead of the classification of a word in a theoretical category. This account coincides with the general assumptions by Apresjan (1974) that the metaphorical process is based on suppressing or focusing on certain aspects of a concept. It is also supported by experimental studies that found that perceptual and functional similarity facilitates the use of a body part for object parts (Tversky and Hemenway 1984).

5 Conclusion

Body part terms such as face can have various meanings, but the nature of those meanings varies across languages. Apart from its basic meaning ‘face’ as a human body part, the Vietnamese term mât incorporates the notion of ‘surface’ and ‘front side’ as well as specific metaphors for ‘sun’ and ‘moon’. This diversity of meanings poses a challenge for models of the structure of the mental lexicon. The approach adopted in this chapter suggests that body part extensions are established by a connection of similarity features between body parts and objects. In the case of the concept face, these features include the function of ‘being a representation of an entity’, shape, and spatial alignment. The two similarity dimensions shape and spatial alignment seem to motivate a variety of semantic extensions and could provide valuable insights along with existing studies that investigate the cultural and physiological motivation of body part extension (e.g., Yu 2008; Sharifian and Jamarani 2015). As more cross-linguistic data becomes available, the hypothesis that the emphasis on one or more features leads to the body part extension can hopefully be tested on a larger scale.

References


Brown, Cecil H. and Stanley R. Witkowski. 1983. Polysemy, lexical change and cultural


