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12

Body Part Terms in Conceptualization and Language Usage

EDITED BY

Iwona Kraska-Szlenk



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Body Part Terms in Conceptualization and Language Usage

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Volume 12

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University of Warsaw

John Benjamins Publishing Company

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Introduction

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1. Previous studies on embodiment and body part terms

Embodiment in its many different facets remains one of the key research problems fascinating scholars and students of cognitive science, psychology, anthropology and linguistics. The scholarly work on the embodied character of language has a long tradition of over forty years. In neuroscience and cognitive psychology, the strong connection between the human mind and body is known as *embodied (grounded, situated) cognition* which reflects the assumption that knowledge is based on bodily experience, including motor, sensory and proprioceptive functions. The first academic publications advocating this view appeared as early as in the 1970s and until now the hypothesis of embodied cognition has been elaborated in numerous theoretical works and verified experimentally (cf. chapters by Yu, Lewandowska-Tomaszczyk and Kraska-Szlenk in this volume). More recently, the concept of embodiment has received many different interpretations due to its expansion into various disciplines of science and modifications related to specific research questions (see Rohrer 2007 for a review). In addition, the figurative expression *extended embodiment* is used in reference to a spectrum of interactions in a larger space of the human in the immediate context of one's family, environment, possessions, etc. This interpretation of *embodiment* includes, for example, a musical instrument which can be conceptualized as an extension of a musician's body or his/her companion, as Sanja Kiš Žuvela demonstrates in her chapter in this volume.

George Lakoff and Mark Johnson introduced the notions of *embodiment* and *experientialism* into cognitive linguistic research with a focus on the issue of conceptualization grounded by the experience of people's own bodies and the surrounding world (Lakoff and Johnson 1980, 1999; Johnson 1987; Lakoff 1987). This and subsequent research on embodiment have made an invaluable contribution to the field of linguistics by investigating the role of metaphor and metonymy which provide a vehicle to embodied conceptualization, but also by examining the relationship between universal embodiment and language-specific

cultural models. In this vein, a number of publications have appeared which are devoted specifically to body part terms in various languages and focus on a range of research topics studied from various perspectives.

One of the first research questions related to the topic of body part terms is that of the corporeal terminology *per se*, namely: what parts of the body are distinguished in the lexicons of different languages and how much do these terms correspond one to another? This issue of the “linguistic” body partonomy has been posed in a number of cross-linguistic studies, such as, among others, Brown 1976, 2013a,b, Brown and Witkowski 1981, 1983, Enfield et al. 2006, Koptjevskaja-Tamm 2008, Majid 2010, Majid et al. 2006, Wierzbicka 2007, Wilkins 1996. Most researchers agree that a basic vocabulary of body part terms exists in all languages and can even be assumed to be a language universal (see especially Brown 1976, Andersen 1978, Wierzbicka 2007), although in recent years this assumption started to be questioned (e.g. some contributions in Enfield et al. 2006). At the same time, the extended research on diversified languages has demonstrated that certain naming strategies vary a lot with respect to having more general and more precise terms. For example, Jahai has simplex terms for small parts, such as ‘upper lip’, ‘frontal tuber’, or ‘molar tooth’, but does not have a specific term corresponding to the English *face* (Burenhult 2006: 167). The lack of correspondence among terms for body parts in different languages is, however, compensated by the possibility of the metonymic use of a term denoting one body part for a proximate body part (cf. Kraska-Szlenk, this volume). Some of these strategies are particularly common: ‘hand’ for ‘arm’, ‘foot’ for ‘leg’, or ‘eye’ for ‘face’, as in the above example of Jahai. In some cases, the existence of specific terms for particular body parts seems to be culturally determined in the sense that these body parts play a role in people’s customs and behaviors. For example, Lao has a special term for the rim of the eyelid where mascara is worn (Enfield 2006: 183), and Brown (2013a) speculates that having two distinct terms for ‘finger’ and ‘hand’ might be related to a habit of wearing rings which is common among agricultural peoples and not among hunter-gatherers whose languages tend to exhibit the ‘finger/hand’ metonymy more often. Certainly, more evidence is needed to confirm whether existing correlations of this type are not coincidental.

Another research question considered from the perspective of cross-linguistic similarities and differences concerns semantic extensions of body part terms onto other domains, as well as examining embodied metaphors and metonymies responsible for inter-domain mappings. To mention just a few examples, the human body as a source domain has been investigated in the target domains of grammaticalization, emotions, cognition, social relations and others (e.g. Enfield and Wierzbicka 2002; Heine 1997, 2014; Hilpert 2007; Kövecses 2000, 2005; Kraska-Szlenk 2014a,b; Svorou 1994). A considerable amount of work has been devoted to

the examination of co-occurring “templates”, such as, for example, the metaphor KNOWING IS SEEING (Sweetser 1990) *versus* KNOWING IS HEARING (Evans and Wilkins 2000), or “cerebrocentral” *versus* “abdominocentral” or “cardiocentral” conceptualizations of the mind and intellectual capacities (cf. contributions in Sharifian et al. 2008).

Recent research on the lexical semantics of body part terms and conceptualizations *via* the body parts more and more utilizes a multi-faceted approach in which the tools of cognitive linguistics are accompanied by a thorough argumentation worked out within the framework of Cultural Linguistics (Sharifian 2011, 2017; Yu 2009). Among major publications which recognize *embodied cognition*, but also *cultural cognition* in the analysis of body part terms, Sharifian et al. (2008) deserves a special attention, because not only was this line of approach systematically followed by the contributors in the entire volume, but the book initiated a desirable style of analysis which continues in subsequent multi-authored publications devoted to various languages of the world (Maalej and Yu 2011; Brenzinger and Kraska-Szlenk 2014; Kraska-Szlenk 2019). The present publication follows this trend, too, with an attempt to add new data and theoretical insights in order to demonstrate how universal embodiment couples with *cultural models* which different societies use in their languages and “live by”.

2. An overview of the volume

The focus of the present book is on the human body as a source domain in conceptualization and on the polysemy of body part terms in languages of the world. Different chapters of the book add to the previous research on embodiment in a novel way, analyzing its universal and cultural aspects. The presentation of original data from previously undescribed languages spoken by small communities in Africa or South America allows to discover unknown aspects of embodiment and to propose new interpretations of various facts. Well-known languages are analyzed from new perspectives, including usage-based approaches which rely on modern methodologies and the benefits of linguistic corpora. Contrastive studies help to pinpoint similarities and differences among languages, as well as tendencies in conceptualization patterns and semantic development of the lexis of body part terms. Theoretically oriented chapters seek answers to general issues pertaining to the relationship between universal embodiment, cultural situatedness and linguistic usage.

The book consists of thirteen chapters and is divided into three parts; the first one discusses embodiment from a general and comparative perspective, the second one focuses on grammaticalization, and the third one presents lexical case studies on different body part terms in a variety of languages.

Part I of the book opens up with a chapter authored by Ning Yu who focuses on the relationship between linguistic and conceptual metaphors in a larger context of the interplay of language and thought. Using corpus-based methodologies and Chinese and English linguistic evidence, Yu demonstrates that salient linguistic patterns, with their qualitative and quantitative features, have an effect on language acquisition by native speakers, including learning of metaphoric conceptualizations. The second chapter by Barbara Lewandowska-Tomaszczyk analyzes embodiment from the perspective of dynamically constructed categories, including the issues of *meaning approximation* and *re-conceptualization*, with a focus on polysemic chains of conceptualization and further elaboration towards culturally rich image schemas. Lexical meanings are viewed as stimulators and instructions to construct mental models of objects and events. In the following chapter, Helma Pasch discusses body part terminology in several Indo-European languages and their possible etymology, arguing that important visible body parts and internal organs whose function can be felt are usually coded by inherited simplex terms, while terms for minor body parts are either borrowings or have the form of compounds or metaphors. Simplex body part terms are discussed as possible cognitive sources for metaphors in spatial and temporal domains, and in a domain of tools. The subsequent chapter by Iwona Kraska-Szlenk focuses on recurring patterns of semantic extension of body part terms taking into account two major factors which lie at heart of the phenomenon, one being the *embodied cognition*, the other – *shared culture*. While these two factors lead to considerable resemblance among unrelated languages, they encounter a counterbalance of language-specific features resulting from non-shared culture and different language usage practices. The question is posed, whether a systematic research program can examine polysemy of body part terms from a cross-linguistic perspective and what kinds of challenges and difficulties it would have to overcome. The first part of the book ends with a chapter by Sanja Kiš Žuvela devoted to the comparative study of body part terms extended into a rarely researched domain – the musical discourse. The author analyzes musical terminology in three thematic areas: terms denoting musical instruments and their parts, terminologies of the theories of musical forms and their individual parts, and notational terminology. The comparative material comes from several European languages, including Latin and seven modern European languages arguing for cross-cultural conceptualization patterns.

Although the issue of the human body as a source domain in grammaticalization has been very well researched, all three chapters included in Part Two of the book provide novel data from previously unexamined or rarely studied languages, revealing original grammaticalization patterns which lead to new theoretical accounts. The first chapter by Zygmunt Frajzyngier analyzes grammaticalization paths of the noun ‘body’ and is based on West Chadic languages. The author

argues that, in addition to well described target notions such as, ‘reflexive’, ‘middle’, and ‘reciprocal’, the data from the Chadic language Pero demonstrates the grammaticalization of ‘body’ in an additional function, which indicates that the object of the verb does not undergo a change in form, place, existential status (emergence or disappearance), or internal state. The existence of this function helps to explain other grammatical features of Pero and other West Chadic, such as the use of the third person object pronouns (or lack of their use), which relate to coding of semantic relations between the verbal predicate and arguments. Stéphane Robert focuses in her chapter on grammaticalized uses of the body part *bopp* ‘head’ in Wolof, an Atlantic language spoken in Senegal and other parts of West Africa. The author argues that grammaticalization paths of ‘head’ in Wolof do not strictly follow extensions onto the spatial domain (‘front’, ‘up’) and diathesis (‘reflexive’, ‘middle’), which are well-known from comparative works, but exhibit additional features, earlier unnoticed in grammaticalization studies. The last chapter in this part of the book is written by Katarzyna Wojtylak who examines grammaticalization of body part terms in Murui, a Witotoan language spoken in southern Colombia and northern Peru. The study, based on the author’s original material demonstrates extension of body part terms into the domains of spatial orientation and time, comparison, counting, and the concept of ‘self’. It also shows how these grammaticalization paths in Murui interact with syntactic features of the language, such as case marking and others.

Part Three of the book contains lexical case studies of different body part terms in a variety of the world’s languages. In the opening chapter, Melike Baş analyzes the Turkish terms associated with speech organs, such as ‘voice’, ‘mouth’, ‘tongue’, ‘lips’ and ‘chin’. She identifies a number of conceptual metaphors and metonymic chains underlying the Turkish cultural model revealed by the use of these terms in figurative meanings and idiomatic constructions. The study argues for the embodiment of linguistic structures, but also for the presence of the cultural factors in the conceptualization patterns. The next two chapters are devoted to cultural conceptualizations of ‘eye(s)’ in Hungarian and Hausa, respectively. Both of these studies are based on rich data derived from electronic corpora. Judit Baranyiné Kóczy focuses on the interaction between body, language and culture in the analysis of the Hungarian lexeme *szem* ‘eye’. The author demonstrates that the UNDERSTANDING IS SEEING metaphor, known from other languages, is revealed in Hungarian, too, but many linguistic expressions are based on culture-specific schemas. In the following chapter, Ahmadu Shehu analyzes the extensions of the Hausa term *ido* ‘eye’ being a prolific source for conceptualization in various domains of experience. As many as 70% of corpus occurrences of the term are judged as figurative uses in abstract domains, such as: knowledge and attention, emotions, character traits, grammaticalization, and others. The last two chapters are devoted

to conceptualizations of inner organs. Małgorzata Waśniewska examines several terms denoting ‘entrails’ in English and Polish. The study analyzes the parallels and differences between the two languages in relation to various roles attributed to these organs and the people’s experience of them, explaining how diverse perceptions come to function in thought and language. The corpus data provide rich illustrative material to show that guts are seen as a center of negative or violent emotions and are figuratively associated with hard work in both languages, but only English metaphorically associates guts with courage. Cultural conceptualizations of *nawsk* ‘belly/stomach’ in Kurdish are subjected to analysis in the chapter written by Vahede Nosrati. The study is based on a variety of linguistic sources and on interviews which reflect native speakers’ intuitions. The author demonstrates that *nawsk* is conceptualized as the locus of a wide range of positive and negative emotions, such as love, courage, sadness, curse, and anger, and that it is conceptually associated with expressing feeling, wanting, and thinking.

The present monograph continues the line of research on the polysemy of body part terms and their role as an important source domain in conceptualization uncovering new linguistic data and theoretical points. The book contributes to the field of linguistics, but it can also draw the attention of everybody interested in cognitive science, anthropology and cultural studies.

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PART 1

General and Contrastive Studies

Linguistic embodiment in linguistic experience

A corpus-based study

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This chapter is a corpus-based study of the relationship between language and thought in general and linguistic and conceptual metaphors in particular, focusing on instances of linguistic embodiment. It attempts to show, with evidence from relevant linguistic corpora, that salient features in linguistic patterns, both qualitative and quantitative, may affect the underlying conceptual patterns of the language users. Native speakers of that language inherit their linguistic experience as part of their cultural and cognitive heritage. It is possible that they inherit the underlying conceptual patterns through their linguistic experience learning and using linguistic patterns with salient qualitative and quantitative features.

Keywords: linguistic embodiment, linguistic experience, linguistic pattern, conceptual pattern, language and thought, cultural and cognitive heritage, face, heart

1. Introduction

In this chapter I will explore the notion and nature of “linguistic embodiment” (Brenzinger and Kraska-Szlenk, 2014) as part of linguistic experience from the viewpoint of conceptual metaphor theory (CMT) (Lakoff, 1993; Lakoff and Johnson, 1980, 1999). According to this theory, conceptual metaphors are grounded in human embodied experience, but emerge from the interaction between culture and body (e.g., Gibbs, 1999; Kövecses, 2005; Yu, 1998, 2008). The human body, along with bodily experiences, is a salient source domain for conceptual mappings onto the more abstract target domains such as human cognition, emotion, disposition, and so on. Body-part terms found in metaphoric usages in language

constitute linguistic manifestations of underlying conceptual metaphors. That is, linguistic embodiment is a mere reflection of embodied cognition.

For this study, I will look at the relationship between language and thought in terms of linguistic embodiment and embodied cognition from a different viewpoint. I suggest that linguistic manifestations of conceptual metaphors in characteristic patterns are not just a simple consequence of conceptual mappings in thought. Instead, characteristic linguistic patterns in a language influence its speakers' way of viewing the world and their experience in it. They constitute whole-sale packages that the speakers of the language inherit as part of their cultural and cognitive heritage. For that matter, they carry special weight on and for those who carry them (Yu and Jia, 2016). In other words, speakers of a language inherit their linguistic experience as part of their cultural and cognitive heritage, through repeated use of linguistic patterns.

My main point is that linguistic experience of speakers of a language may play a major role in constructing and shaping their conceptual systems, even though this role of language on thought is, for the most part, unconscious. I will illustrate this point by taking a further look at two Chinese body-part terms which I have studied before qualitatively (Yu, 2009a, 2009b): *xīn* 'heart' and *liǎn* or *miàn* 'face'. I consider these two body-part terms as *cultural keywords* in the Chinese language, which can be used as access points for the understanding of Chinese culture (see Wierzbicka, 1992, 1997). As Wierzbicka (1997, p. 1) points out, there is "a very close link between the life of a society and the lexicon of the language spoken by it". In Chinese culture, the face and the heart respectively embody the outer and inner aspects of human life. For a Chinese person, the face represents the locus of one's social life, and the heart the locus of one's mental life. The Chinese terms that encode these two body parts are therefore particularly rich in cultural meaning and, for that reason, deserve special attention in the understanding of Chinese culture (see Yu, 2009a, 2009b)

In this chapter, I will take a corpus-based approach to the study of the Chinese body-part terms for the face and heart in hopes that it will provide a quantitative perspective on the role of linguistic experience. For that purpose, I will also look into an English corpus, not for a direct comparison, but for the establishment of a reference point that may shed some light on the main point of my study. Before I present my own corpus-based study, I will first review some relevant views on the relationship between language, thought, and culture in the field of metaphor studies.

2. Language and thought in metaphor studies

In this section, I will look at some views on the relationship between language, thought, and culture in the studies of metaphors, both linguistic and psychological. To illustrate the views of CMT, I will use a figure (Figure 1) which I cite from my chapter (Yu, 2017) in *Advances in Cultural Linguistics* (Sharifian, 2017a). As shown in this figure, metaphor involves three levels of phenomena. Primarily, metaphors exist at the conceptual level, namely, *conceptual metaphors*, consisting of mappings between two conceptual domains, the source and target domains, so that the conceptual structures and inferential patterns of the source domain are projected into the target domain. Thus, the target domain is conceptualized metaphorically in terms of the source domain. That is, metaphor is primarily a matter of thought. It is how we think and reason about abstract concepts. For instance, our body constitutes a common source domain of conceptual metaphors for the understanding of our mind, hence, the overarching conceptual metaphor MIND IS BODY.

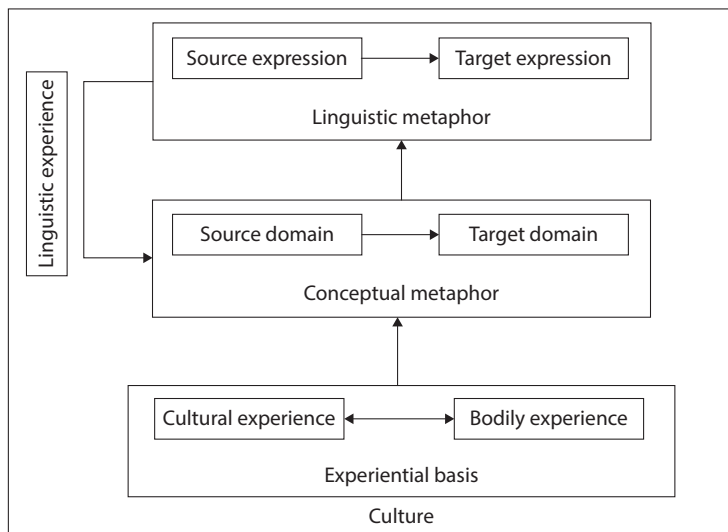


Figure 1. Three levels of phenomena for conceptual metaphor (Yu, 2017, p. 82)

Conceptual metaphors are manifested linguistically when we talk about what we think. Linguistic instantiations of conceptual metaphors are known as *linguistic metaphors*, which are perceptible at the surface level when we communicate in our language. Linguistic metaphors consist in particular linguistic patterns that manifest the underlying conceptual metaphors. When this happens, linguistic expressions, including lexical items and other linguistic units, which are primarily associated with source domains, are deployed to express target-domain concepts

(Lakoff, 1993). Prompted by the MIND IS BODY metaphor, for instance, body-part terms are utilized in the expression of more abstract states, processes, and traits associated with cognition, emotion, disposition, and so on. Thus, language serves as a window into the mind, and systematic description and analysis of linguistic patterns can lead us toward the understanding of the possible function, composition, and construction of our conceptual system that is otherwise hidden in the dark.

According to the earlier views of CMT (Lakoff, 1993; Lakoff and Johnson, 1980), conceptual metaphors are not arbitrary, but are grounded in their experiential basis, especially bodily experience. Since humans across various cultures share many basic embodied experiences, it follows that many conceptual metaphors, which are supposed to be grounded in those common embodied experiences, are universally shared. While earlier CMT views never ignored the role of culture in the emergence of conceptual metaphors, it is fair to say that more emphasis was placed on universal rather than culture-specific aspects of metaphors. Such an emphasis drew a considerable amount of criticism from scholars both within and beyond Cognitive Linguistics (see Gibbs, 2011, 2014, 2017 for relevant reviews). The subsequent cross-linguistic and cross-cultural studies, however, led to a more balanced view that conceptual metaphors emerge from the interaction between culture and body (see, e.g., Brenzinger and Kraska-Szlenk, 2014; Frank et al., 2008; Gibbs, 1999; Kövecses, 2005; Maalej and Yu, 2011; Yu, 2008, 2009a, 2009b; Zeimke et al., 2007). While humans across cultures indeed share the basic structure of the body along with many basic bodily experiences, their understandings of the body and bodily experiences may be quite different, shaped in differing molds of cultural models (Yu, 2014). That is, the interaction between cultural and bodily experiences gives rise to a broad, colorful spectrum of conceptual metaphors, of which some may be potentially universal or widespread whereas others are certainly culture-specific.

More recently, metaphor research, especially in the field of psychology, has arrived at the conclusion that repeated use of linguistic metaphors in a particular language may actually exert a causal influence on the development and formulation of conceptual metaphors in the minds of the speakers of that language (see, especially, Casasanto, 2013, 2016a, 2016b, 2017 for reviews). This impact of linguistic metaphors on conceptual metaphors is consistent with a version of linguistic relativity. It is represented in Figure 1 by a line pointing from linguistic metaphor to conceptual metaphor, thus forming a loop back onto conceptual metaphor. That is, *linguistic experience*, namely the experience using a language with particular linguistic metaphors can somehow affect metaphorical thinking of the speakers of that language.

Through experimental studies, Casasanto and his colleagues have reached a series of findings on the broad relationships between language, culture, body, and

cognition. He has proposed three types of relativity, namely, linguistic relativity, cultural relativity, and bodily relativity, which may affect how people think metaphorically one way or another (Casasanto, 2016a). For my purpose in this chapter, I focus on his specific claims about the relationships between linguistic metaphor and *mental metaphor* – the term he argues should replace *conceptual metaphor* – in particular, and between language and thought in general.

In an article on the role of language in the development of metaphorical thinking, Casasanto (2013, p. 4) points out that three proposals have been made in the literature:

1. Mental metaphors are innate. Cross-domain mappings are the result of co-opting neural machinery that evolved for perception and action to support more abstract thinking (Pinker, 1997). They are ‘unlearned’ (Walker et al., 2010, p. 21).
2. Mental metaphors are learned via direct experience interacting with the physical world (Lakoff and Johnson, 1999).
3. Mental metaphors are learned via experience with language: Using linguistic metaphors invites speakers to construct cross-domain mappings that were not present in their pre-linguistic thought (Gentner, 2001).

Casasanto (2013) points out that language plays no role in the development of mental metaphors according to the first two proposals, but it is necessary for their development on the third. He argues that, while each of the three proposals can explain the origins of some mental metaphors, none of them can draw a complete picture alone. Instead, he argues that a complete picture should emerge from the combination of elements from all three of them. His proposal is the following (Casasanto, 2013, p. 4):

it appears that (i.) *innate predispositions* may cause children (ii.) *to learn particular cross-domain correspondences as they interact with the physical world*, resulting in pre-linguistic mental metaphors that are (iii.) *subsequently shaped by experience using language*, or by other aspects of culture.

According to this proposal, children, as human beings and “metaphorical beings”, possess certain “innate predispositions” with which they are able to learn and acquire certain “cross-domain correspondences” from their interaction with the physical world pre-linguistically. These pre-linguistic “mental metaphors” are then shaped by their subsequent linguistic experience or by other aspects of culture. That is, the subsequent linguistic experience plays a crucial role in determining which mental metaphors people actually use, although it is not the only factor.

In another book chapter reviewing the experimental studies he and his colleagues have done on the relationships between language and cognition, Casasanto

(2017, p. 20) suggests five different ways in which linguistic metaphors and mental metaphors can be related to each other as follows:

1. Linguistic metaphors can reflect mental metaphors (i.e. nonlinguistic metaphorical mappings).
2. Linguistic metaphors can determine which mental metaphors people use.
3. Linguistic metaphors can create new mental metaphors.
4. People can think in mental metaphors that do not correspond to any linguistic metaphors.
5. People can think in mental metaphors that directly contradict their linguistic metaphors.

Of these five ways, the second and third are particularly relevant to the thesis that language may affect thought. The second way is found in the studies of spatial metaphors for musical pitches. Languages may refer to pitches as either High/Low, as in English and Dutch, or Thin/Thick, as in Farsi and Hebrew. Studies done in Dutch and Farsi found that young children already have both versions of metaphors pre-linguistically. However, children learning to speak Dutch will strengthen the High/Low metaphor while at the same time weakening the Thin/Thick metaphor. The opposite is true with children learning to speak Farsi. This result is interpreted as a case of linguistic relativity, in which linguistic experience determines which mental metaphor to use subsequently.

The third way is illustrated by the example of a pair of mental metaphors in political discourse: namely, LIBERAL IS LEFT and CONSERVATIVE IS RIGHT. This pair of mental metaphors was created by the use of linguistic metaphors to refer to liberals and conservatives in the French parliament where the former sat on the left side and the latter on the right. This linguistic usage, which appears to be quite accidental for its beginning, has become widespread and conventionalized in various languages. Thus, the linguistic metaphors create the corresponding mental metaphors in the minds of people speaking those languages.

In this section, I have reviewed some recent literature on the relationship between language and thought focusing on metaphors. Conceptual metaphors have their experiential bases, emerging from the interaction between cultural and bodily experiences. They manifest themselves in language and, at the same time, linguistic experience using the language also affects the underlying conceptual patterns in one way or another. In the next section, I will present my own study using linguistic corpus data. I hope to show that salient linguistic patterns in a language, gained through elaboration and expansion by means of variety and frequency, should impact the formation of conceptual patterns in the minds of its speakers.

3. A corpus-based study of Chinese body-part terms for “face” and “heart”

Experimental studies have found that people using different metaphors in their respective languages conceptualize the target the way they talk about it (Casasanto, 2016a; Zhou and Cacioppo, 2015). In this section, I will discuss the possible and potential influence of linguistic metaphor upon conceptual/mental metaphor from the perspective of Chinese using linguistic evidence from the corpus. That is, through their repeated use, linguistic metaphors can possibly or potentially reinforce, modify, or even produce (especially through linguistic inheritance) conceptual metaphors (Yu and Jia, 2016).

For my purpose, I will focus on the Chinese terms for two body parts, the face and the heart, which I regard as cultural keywords in the Chinese language because, filled with extremely rich Chinese cultural meanings and values, they serve as clues to the Chinese cultural universe and history. In traditional Chinese culture, the “social face” is an extremely important concept at the core of interpersonal relations and social interactions, and the “heart” is regarded as the cognitive and affective center of a human person. I studied these Chinese body-part terms before qualitatively (Yu, 2001, 2009a, 2009b), but now I want to look at them in a new light using some quantitative and qualitative data provided by the linguistic corpus, the CCL corpus, of the Center for Chinese Linguistics at Peking University. In doing so, I will also look at some English data provided by COCA. i.e., the Corpus of Contemporary American English at Brigham Young University, not for the purpose of comparison, but to establish another reference or view point. The current capacities of the two corpora are given in Table 1. Note that the number listed in the table is for “Contemporary Chinese” of CCL, which also contains 201,668,719 characters for “Classical Chinese”, with a total number of 783,463,175 characters. The number of words for COCA is more than 520 million. Note that the numbers listed in Table 1 are those at the end of 2017 when the research presented in this chapter was conducted. COCA is updated annually, now with over 560 million words in 2018.

Table 1. The relevant capacities of the corpora as of 2017

Corpus	Capacity	Unit
CCL Contemporary Chinese	581,794,456	characters
COCA Contemporary American English	520,000,000	words

3.1 The Chinese “face”

As I argued before (Yu, 2001), our face is one of the most important parts of our body. Its importance is determined fundamentally by the kind of body we have and how it functions. It is the external body part that is most distinctive of a person. On the interactive side, the front, of our body, the face is really the focus of human interaction. Consciously or unconsciously, it conveys or betrays our intentions and states of mind, and shows our emotions and feelings. It is well known that Chinese culture attaches special importance to “face” because it is closely associated with interpersonal feelings and sensibilities, and with individual dignity and prestige. That is, our face is the most important identity of who we are, both physically and socially. The “social face” related to the social concepts of RELATIONSHIP, ATTITUDE, DIGNITY, HONOR, REPUTATION and PRESTIGE is the focus of my study here.

The English word *face* has two basic counterparts in modern Chinese: 脸 *liǎn* ‘face’ and 面 *miàn* ‘face’, the other derivatives including 脸面 *liǎnmiàn*, 颜面 *yánmiàn*, all denoting the face. Besides, 面子 *miànzi*, derived from 面 *miàn* ‘face’, means “outer part of something” and “face” in its abstract senses, such as “dignity”, “honor”, “reputation” and “prestige”, but not “face” as part of our body. The understanding of the abstract senses of “face”, such as “prestige”, involves a network of metonymic and metaphoric mappings, as illustrated by Figure 2 (adopted from Yu, 2013, p. 67).

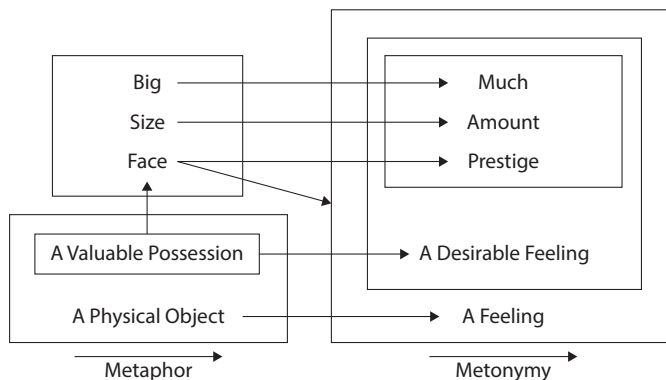


Figure 2. Entities, frames, and mappings involved in PRESTIGE IS FACE

In my earlier study of “social face” in Chinese, I also took a comparative perspective and looked at English as well (Yu, 2001; see also 2008, 2009b). I came up with a table that sums up the literal and figurative senses of the body-part terms for “face” in both languages (Table 2). As shown in the table, English and Chinese share all the meanings associated with the face. However, I cautioned about the table not

providing “a complete picture” because it only indicates “presence” vs. “absence” of a particular sense, but disregards whether it is a “strong” or “weak” presence in the language (Yu, 2001, p. 24). In other words, my earlier study is only qualitative, identifying “types” but disregarding “tokens” of the data (Kövecses, 2015). As I noted back then, there should be remarkable differences between English and Chinese in terms of the strength of certain figurative meanings of the seeming counterparts in both languages. Now that we are equipped with linguistic corpora of various kinds and capacities, we are able to be more specific in that regard. That is what I would like to achieve below.

Table 2. Senses associated with the body part of face in English and Chinese (Yu, 2001, p. 25)

Relevant senses associated with the body part of face	English	Chinese	
	<i>face</i>	脸 <i>liǎn</i>	面 <i>miàn</i>
1. front of head from forehead to chin	+	+	+
2. a look on the face as expressing emotion, character, attitude, etc.	+	+	+
3. front, upper, outer, or most important surface of something	+	+	+
4. outward appearance or aspect; apparent state or condition	+		+
5. composure; courage; confidence; effrontery	+	+	+
6. dignity; prestige	+	+	+
7. have or turn the face or front towards or in a certain direction	+		+
8. meet confidently or defiantly; not shrink from; stand fronting	+		+

The first question I asked for this study is: What are the frequencies of the body-part terms for “face” in each corpus for both languages? The keyword searches led to the results in Table 3. Note that, as mentioned earlier, Chinese has two basic words for “face”, so the total is the sum of two separate numbers. Here, the total frequency does not include, for instance, another “face” word 颜 *yán*, which has other meanings not directly related to the face. As can be seen from this table, Chinese “face” words’ total frequency is over 4.7 times of that of English.

Table 3. Frequencies of the body-part terms for “face” in COCA and CCL

Corpus	Term	Frequency	Total
COCA	<i>face</i>	183,490	183,490
CCL	脸 <i>liǎn</i> + 面 <i>miàn</i>	85,323 + 792,750	878,676

Table 4. Chinese compound words with “face” in abstract social senses

Compound	English gloss	English translation	Total	% in 1st 100
面子 <i>miànzi</i>	face-suffix	face; reputation; prestige	3,773	93
脸面 <i>liǎnmiàn</i>	face-face	face; self-respect; sensibilities; feelings	794	85
脸皮 <i>liǎnpí</i>	face-skin	face; feelings; sensibilities; sense of shame	785	93
颜面 <i>yánmiàn</i>	face-face	face; decency; sensibilities	536	41
情面 <i>qíngmiàn</i>	feeling-face	feelings; sensibilities	763	88
体面 <i>tǐmiàn</i>	body-face	face; dignity; prestige	2,385	72

It is worth noting, however, that the Chinese word 面 *miàn* ‘face’ is highly polysemous. Apart from its verbal meaning “to face” in some compounds, such as 面临 *miànlín* (face-close) ‘to face; to be faced with’, 面对 *miànduì* (face-to) ‘to face; to confront’, 面向 *miànxiàng* (face-towards) ‘to face; to face towards’, 直面 *zhímiàn* (straight-face) ‘to face squarely’, it can mean, in various compounds, “surface; façade, facet, aspect, side” of almost any kind, concrete or abstract, real or imaginary.

My next question is: To what extent the Chinese body-part terms for “face” express figurative meanings related to interpersonal feelings and sensibilities as well as individual dignity and prestige in their abstract social senses? To answer this question, I narrowed down my searches to some compound words that I know are commonly used in the relevant senses. The search results are shown in Table 4. “Total” refers to the total numbers of tokens retrieved, which range from 536 to 3,773. I then manually went through the first 100 tokens to eliminate the noises and to see how many of them are relevant to the abstract social senses related with interpersonal feelings and sensibilities and individual dignity and prestige. The final numbers so obtained are also the percentages of the words with the relevant senses I was looking for.

Table 5. Frequencies of Chinese “face” compounds and collocations in abstract social senses

Expression	English gloss	English translation	Frequency
有脸 <i>yǒuliǎn</i>	have-face	have prestige; have face	435
没脸 <i>méiliǎn</i>	not have-face	be too ashamed (to do sth.)	273
要脸 <i>yàoliǎn</i>	want-face	have a sense of shame	579
丢脸 <i>diūliǎn</i>	lose-face	lose face; be disgraced	719
有面子 <i>yǒu miànzi</i>	have-face	have face	205
没面子 <i>méi miànzi</i>	not have-face	not have face	159
好面子 <i>hào miànzi</i>	like-face	like face; be fond of face; be obsessed with face	49

Table 5. (continued)

Expression	English gloss	English translation	Frequency
爱面子 <i>ài miànzi</i>	love-face	have a strong sense of face; care too much about one's face	133
要面子 <i>yào miànzi</i>	want-face	be keen on face-saving; be anxious to preserve one's reputation; anxious to save face	175
给\$4面子 <i>gěi miànzi</i>	give face	show due respect for sb.'s feelings; do sb. a favor	529
留\$4面子 <i>liú miànzi</i>	leave face	spare sb.'s susceptibilities; let sb. keep some self-respect; not completely disgrace sb.	132
顾\$4面子 <i>gù miànzi</i>	attend to face	save face; keep up appearances; spare sb.'s feelings or sensibilities	109
碍\$4面子 <i>ài miànzi</i>	be hindered by sb.'s face	for fear of hurting sb.'s feelings; afraid to wound sb.'s sensibilities	77
丢面子 <i>diū miànzi</i>	lose face	lose face; feel humiliated	137
失面子 <i>shī miànzi</i>	lose face	lose face; feel humiliated	58

My next step was to search for the frequencies of some common V+N collocations, where N stands for either 脸 *liǎn* 'face' or 面子 *miànzi* 'face' in its abstract social senses. The results are given in Table 5. In this table, some search terms have "\$4" between the verb and the "face" word. It means that up to four characters, which could represent the indirect object of the verb or the modifier of the "face" word, were allowed between V and N. I went through all the tokens and manually removed the noises and those that express meanings irrelevant to what I was looking for. For instance, the total search result for 有脸 *yǒuliǎn* 'have face; have prestige' is $535 - 100 = 435$. As far as I know, English word *face* does not have many similar collocations that have similar meanings. The most common ones that I know are *lose face*, *save face*, and *gain face*, which I also searched for their frequencies in COCA. The results are provided in Table 6 as a reference point. As can be seen in this table, the frequencies of the three English collocations are 153, 340, and 6 respectively.

Table 6. Frequencies of English collocations with *face* in abstract social senses

Collocation	Frequency	Collocation	Frequency	Collocation	Frequency
<i>lose face</i>	69	<i>save face</i>	245	<i>gain face</i>	2
<i>loses face</i>	6	<i>saves face</i>	7		
<i>lost face</i>	22	<i>saved face</i>	12	<i>gained face</i>	1
<i>losing face</i>	56	<i>saving face</i>	76	<i>gaining face</i>	3
Total	153		340		6

The last thing I did with “face” in the CCL corpus was to look at the variety of the “face” collocations. In particular, I focused on 面子 *miànzi*, which, as mentioned above, is often used to refer to reputation and prestige as well as interpersonal feelings and sensibilities, namely the “social face”. As listed in Table 4, this word has a total frequency of 3,773 in CCL, and 93% of them refers to the relevant senses of “social face” in the first 100 instances. I looked through the first 200 tokens only, but already found a large variety of relevant collocations, as listed in Table 7. Some of them are already listed in Table 5, but most of them are new occurrences.

Table 7. The variety of the 面子 *miànzi* ‘face’ collocations in the first 200 tokens of CCL

No.	Collocation	Literal English translation
1. “face” as object (V+O)		
1	有面子	Have face
2	有点面子	Have a bit of face
3	没面子	Not have face
4	没有面子	Don’t have face
5	给面子	Give face
6	给予面子	Award face
7	给足面子	Give sufficient face
8	不给面子	Not give face
9	看面子	See one’s face
10	顾面子	Attend to one’s face; take one’s face into consideration
11	照顾面子	Take care of one’s face
12	顾及面子	Considering one’s face
13	顾全面子	Keep one’s face intact or whole
14	考虑面子	Consider face; take one’s face into account
15	留面子	Leave one’s face; save face
16	丢面子	Lose face
17	丢尽面子	Lose one’s entire face
18	失面子	Lose face
19	有失面子	Have lost one’s face
20	丧失面子	Lose one’s face
21	失去面子	Lose one’s face off
22	影响面子	Affect one’s face
23	伤面子	Hurt one’s face
24	损害面子	Damage one’s face

Table 7. (continued)

No.	Collocation	Literal English translation
25	栽面子	Tumble one's face
26	跌面子	Fall one's face
27	爱面子	Love face
28	要面子	Want face
29	争面子	Vie for face
30	争得面子	Vie for and obtain face
31	找回面子	Look for and recover one's face
32	争回面子	Vie for and get back one's face
33	挣回面子	Earn one's face back
34	挽回面子	Rescue and save one's face
35	好面子	Like face
36	碍面子	Be hindered by face
37	碍于面子	Be hindered by one's face
38	撑面子	Prop up one's face
39	硬撑面子	Work hard to prop one's face up
40	保全面子	Protect and keep one's face whole
41	保住面子	Protect and hold one's face
42	保有面子	Protect and possess face
43	为了面子	Support/help face
44	讲究面子	Be particular with face
45	关系到面子	Be related to face
46	与面子有关	Be relevant to face
47	凭面子	Lean on face; (do sth.) with the help of one's face
48	卖面子	Sell face
49	冲着面子	Facing toward one's face; considering one's face
50	放下面子	Lay down one's face
2. "face" as subject (S+V)		
51	面子上挂不住	Face cannot hang and hold
52	面子上下不来	Face cannot come down
53	面子上过不去	Face cannot pass over
54	面子上放不下	Face cannot be laid down
55	面子上觉得光彩	Face does not feel bright and brilliant
56	面子十足	Face is fully sufficient

(continued)

Table 7. (continued)

No.	Collocation	Literal English translation
3. “face” as nominal modifier (N+N)		
57	面子事	A face thing; a matter of face
58	面子问题	A face problem; a problem of face
59	面子上的话	Words on/about face

As can be seen from the table, there are 59 different kinds of collocations in just the first 200 tokens alone, even though some of them are quite similar to each other in meaning. In contrast, just to note in passing, I found only one instance of *lose face* in the first 200 tokens of *face* keyword search. Although I did not attempt a real comparison between English and Chinese, we can see from what I have roughly done with the corpora that the magnitude of differences between the two languages is tremendous in this regard. While the abstract social concepts of “face” exist in both languages, we see on the Chinese side extremely productive linguistic elaborations, extensions, and constructions that are incomparable on the English side. The Chinese side shows a huge pyramidal structure. On the very tip are two basic “face” words, which combine with other elements into various compound words and idiomatic expressions (see Yu, 2001) at the middle, which are then further elaborated, extended, and constructed into a gigantic base of collocations. These collocations spread out in the Chinese language, used repeatedly in daily communication.

3.2 The Chinese “heart”

My second case study concerns the Chinese “heart”, 心 *xīn*, which I argued is taken as the central faculty of cognition in traditional Chinese culture (Yu, 2009a). The cultural belief that the heart is the center of mental life, or so-called cardiocentrism, is reflected in a great number of Chinese linguistic expressions (Yu, 2009a; see also Sharifian et al., 2008). Experimental studies confirmed that the folk theory that the heart is a mental organ governing aspects of mental life, or so-called cardiopsychism, is still very much alive, and that conventionalized “heart” expressions people use in everyday life might be responsible for its perseverance and persistence (Zhou and Cacioppo, 2015). In this subsection, I will apply a similar approach as in the preceding one.

I first searched the terms for “heart”, “brain”, and “head” in English and Chinese and the total frequencies for these terms are given in Table 8. As can be seen in the table, the frequency for the “heart” is especially high in Chinese, over six times as many as that of *heart* in English, whereas the frequencies for the “brain”

and “head” terms are about 2:1 between Chinese and English. I then went through the first 100 tokens for the “heart” terms in both languages, and found a remarkable difference between the two languages, i.e., in English 61 tokens (61%) refer to the physical organ of heart whereas in Chinese only two of them (2%) do the same.

Table 8. Total frequencies for “heart”, “brain” and “head” in COCA and CCL

COCA			CCL		
Heart	Brain	Head	心 <i>xīn</i> ‘heart’	脑 <i>nǎo</i> ‘brain’	头 <i>tóu</i> ‘head’
111,184	47,490	234,599	689,611	93,158	428,033

In Chinese, the source concept of “heart” is mapped onto all cognitive and affective aspects of a human person, such as mental, intellectual, rational, moral, emotional, dispositional, and so on. In Table 9, which is adopted from Yu (2014), the Chinese compound words are just some examples for the purpose of illustrating that the Chinese “heart” is present in all aspects of inner life. Interestingly, while all Chinese compounds involve the “heart” term as one of the two component elements, none of the English translations actually contains its English counterpart, *heart*. This difference at the linguistic surface itself points to some more fundamental cultural and cognitive differences. This is another case in which the linguistic patterns, with compound types and token frequencies, should not only manifest, but also reinforce, the underlying conceptual patterns. In fact, the list here contains only some examples, and it can go on and on (see Yu, 2009a).

Table 9. Some examples of Chinese compounds involving the “heart” term (from Yu, 2014)

Compound	English gloss	English translation	Frequency
诚心 <i>chéngxīn</i>	sincere-heart	sincerity	1,420
良心 <i>liángxīn</i>	good/fine-heart	conscience	3,766
知心 <i>zhīxīn</i>	knowing-heart	intimate; understanding (friend)	1,039
心想 <i>xīnxiǎng</i>	heart-think	think to oneself	6,484
心服 <i>xīnfú</i>	be heart-convinced	be genuinely convinced	942
心甘 <i>xīngān</i>	be heart-willing	be willing	1,032
好心 <i>hǎoxīn</i>	good-heart	good intention	3,134
成心 <i>chéngxīn</i>	establish-heart	on purpose	655
用心 <i>yòngxīn</i>	use-heart	with concentrated attention	4,531
决心 <i>juéxīn</i>	determined-heart	determination; be determined	21,971
违心 <i>wéixīn</i>	disobey/violate-heart	against one’s will	408
恒心 <i>héngxīn</i>	constant-heart	perseverance; persistence	221

(continued)

Table 9. (continued)

Compound	English gloss	English translation	Frequency
小心 <i>xiǎoxīn</i>	small-heart	be careful; be cautious	11,319
粗心 <i>cūxīn</i>	thick-heart	careless; thoughtless	624
焦心 <i>jiāoxīn</i>	scorch-heart	feel terribly worried	67
开心 <i>kāixīn</i>	open-heart	feel happy	4,964
心醉 <i>xīnzùi</i>	be heart-drunk	be charmed; be enchanted	405

The last thing I did in CCL is that I went through the first 200 tokens of the 心 *xīn* 'heart' keyword search. As I said above, the search brought up 689,611 tokens (see Table 8). When I looked through the first 200 tokens, however, only two of them refer to the physical heart organ, whereas the remaining ones are compounds and idioms expressing some sort of figurative meanings in combination with other elements. I then searched each of them for their frequencies in the corpus. The results are provided in Table 10, which include some of the compounds in Table 9.

Table 10. Compounds and idioms in the first 200 "heart" tokens and their frequencies in CCL

Expression	English gloss	English translation	Frequency
关心 <i>guānxīn</i>	enclose-heart	be concerned with; care for	36,207
尽心 <i>jīnxīn</i>	exhaust-heart	with all one's heart	2,377
知心 <i>zhīxīn</i>	know-heart	intimate; understanding	1,000
悉心 <i>xīxīn</i>	all-heart	devote all one's attention	946
正心 <i>zhèngxīn</i>	straighten-heart	cultivate one's moral character	77
专心 <i>zhuānxīn</i>	concentrate-heart	concentrate one's attention	2,552
热心 <i>rèxīn</i>	hot-heart	enthusiastic; earnest; warm-hearted	5,283
省心 <i>shěngxīn</i>	save-heart	save worry	258
决心 <i>juéxīn</i>	determined-heart	determination; be determined	21,971
小心 <i>xiǎoxīn</i>	small-heart	take care; be careful; be cautious	11,319
信心 <i>xìnxīn</i>	trust-heart	confidence; faith	27,283
谈心 <i>tánxīn</i>	talk-heart	have a heart-to-heart talk	1,707
内心 <i>nèixīn</i>	inner-heart	innermost being; inner self	12,974
心灵 <i>xīnlíng</i>	heart-soul/spirit	mind; heart; soul; spirit; psyche	11,890
心态 <i>xīntài</i>	heart-condition	mental state; mentality; psychology	7,423
心理 <i>xīnlǐ</i>	heart-principle	mind; mentality; psychology	35,868

Table 10. (continued)

Expression	English gloss	English translation	Frequency
身心 <i>shēnxīn</i>	body-heart	body and mind	5,747
重心 <i>zhòngxīn</i>	heavy-heart	focus; crux; core	3,409
轴心 <i>zhóuxīn</i>	axle-heart	axle center; axis	1,261
核心 <i>héxīn</i>	core-heart	core; heart of the matter	24,332
中心 <i>zhōngxīn</i>	central-heart	center; main; key	119,322
日心 <i>rixīn</i>	sun-heart	sun-centered	100
上进心 <i>shàngjìnxīn</i>	upward advance-heart	desire for improvement	159
好胜心 <i>hàoshèngxīn</i>	like to win-heart	keen/eager to outdo/outshine others	67
羞耻心 <i>xiūchǐxīn</i>	shame-heart	sense of shame	88
自尊心 <i>zìzūnxīn</i>	self respect-heart	self-esteem	1,500
责任心 <i>zérènxīn</i>	responsibility-heart	sense of responsibility	1,688
心悦诚服 <i>xīnyuè chéngfú</i>	heart-happy sincerely-convincing	be completely convinced; feel a heartfelt admiration	308
心急如焚 <i>xīnjí rúfén</i>	heart-anxious like-being burned	burning with impatience	575
得心应手 <i>déxīn yìngshǒu</i>	get-heart respond-hand	(do sth.) with high proficiency/facility	681

As we can see, there are 30 different compounds and idioms that contain the Chinese “heart” word as a component, and their frequencies in CCL range from 67 to 119,322. Specifically, 4 of them have frequencies up to 100 (67, 77, 88, 100), 6 of them up to 1,000 (159, 258, 308, 575, 681, 946), and the remaining 20 ranging from 1,261 all the way to 119,322. On the other hand, the English word *heart* appears in the English translations only twice (as highlighted by the bold font).

As shown in the relevant tables in this section, each linguistic item with its frequency in the corpus may not look significant in the sea of everyday language use. When the variety and frequency of them are added up, however, the magnitude of the numbers are tremendous. It is still the tip of the iceberg considering the fact that, for instance, the 30 different compounds and idioms in Table 10 are found in just the first 200 “heart” tokens in the corpus.

4. Conclusion

In my study presented in Section 3, I have outlined the linguistic patterns concerning the Chinese “social face” and “cognitive and affective heart” in both qualitative and quantitative terms, in contrast with a reference point from English. Such are the unique linguistic patterns experienced by native speakers of Chinese in everyday life. When the linguistic patterns repeat and expand themselves, with a snowball effect, in everyday linguistic usages, they should only reinforce the underlying patterns at the conceptual level. It can be argued that such linguistic patterns constitute a main force, among others, which help nail the conceptual patterns into the minds of Chinese speakers when they grow up learning and using these linguistic patterns. Since linguistic usages are part of cultural heritage that is passed down from generation to generation, each generation of speakers then inherits the conceptual patterns while learning and using the corresponding linguistic patterns. Thus, native speakers acquire the underlying conceptual patterns, at least partly, through their linguistic experience of learning and using the linguistic expressions. The repeated use of linguistic expressions that form salient linguistic patterns are at least partially responsible for the corresponding elements in the conceptual systems of the native speakers.

The linguistic usages involving the “face” and “heart” words are embodied in the sense that they express aspects of cultural cognition through parts of the body. In other words, they convey cultural conceptualizations through embodied cultural metaphors (Sharifian, 2017b). Linguistic embodiment manifests itself in varying linguistic patterns that entail differing linguistic experiences. Different strengths of linguistic patterns in linguistic experience should exert an impact on the cognitive status of the corresponding conceptual patterns as being either strong or weak in different languages and cultures. That should be a major reason why the abstract “social face” and “cognitive and affective heart” concepts are much stronger in the Chinese speaking cultures than are they in the English-speaking cultures. That is, linguistic patterns are not mere linguistic manifestations of conceptual patterns, and linguistic experience they constitute should loop back to affect the conceptual system one way or another.

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Polysemic chains, body parts and embodiment

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The paper focuses on the phenomenon of *embodiment* via the perspective of *meaning approximation*, and *re-conceptualization* in terms of body-part *polysemic* chains of conceptualization via dynamically constructed categories. In the first part the analysis focuses primarily on the processes in which body part conceptualizations act as special reference points at relevant mental elaboration sites for broader meaning phenomena. The interpretation is further elaborated on with reference to culturally rich image schemas, emerging as a consequence of their dynamic repeatedness. In the second part the concept of embodiment is taken up, the discussion leading to a thesis which assumes the status of lexical meanings as stimulators and instructions to build mental models of objects and events. The framework adopted for the analysis presents examples of body parts from English, Polish and occasionally from other languages and combines interdisciplinary methodological instruments: Cognitive Linguistic construal and conceptualizations, cultural schemas and models, and relevant corpus linguistic tools (monolingual and parallel).

Keywords: categorization, body parts, embodiment, meaning approximation, meaning displacement, polysemy, re-conceptualization

1. Perceptual and action-based grounding of cognition

The hypothesis that cognition is grounded in perception and action has been supported by strong evidence (Glenberg, 1997; Glenberg et al., 2013; Dijkstra and Zwaan, 2014), not only with respect to cognitive models of physical, concrete objects but also with regard to abstract thinking. The Embodiment Thesis, which serves as a point of reference in the present study, has been formulated in terms of a causal and motivating type of relationship between bodily experiences and cognition. In cognitive linguistics the embodiment thesis has been formulated by George Lakoff and defined as “[The] properties of certain categories are a consequence of the nature of human biological capacities and of the experience of

functioning in a physical and social environment.” (Lakoff 1987: 12). The interaction of the human body and the environment, both of physical and social nature (Sinha and Jensen de López 2000: 18), conditions the development of image schemas of numerous recurring types (motion, force dynamics, events, directions, etc.), most fully expressed in human language. Lexical senses can be organized in terms of *motivated* semantic networks in respect to central *sanctioning senses* (Evans 2005). Such an organization of the lexicon accounts for the polysemy of linguistic forms in the categories whose members are inter-related by means of particular links with the sanctioning sense.

The instantiations of such processes are observed in the polysemy of numerous linguistic forms, inter alia, of those terms which refer to body parts and can be interpreted in a way that contributes to a cognitive linguistic reformulation of the phenomenon of linguistic polysemy. This phenomenon is particularly often observed in world languages as a consequence of the interaction between the physical human body with the physical and social world, which leads to the construction of a universal pool of image schemas of objects, events, motion, force dynamic scenarios and abstract thought. In terms of definitional generalization, polysemy can be regarded as, to refer to Tuggy (1993) here, a search for a schema subsuming related senses, or to refer to Evans’s model – as a sense sanctioning the extensions. In the case discussed here body-part polysemy is the search for a *human body schema*, subsuming all senses modelled on it, which, at the same time, functions as a sanctioning model for relevant meaning extensions.

In the next section of the paper a theory of meaning approximation and re-conceptualization (Lewandowska-Tomaszczyk 2010) will be briefly presented and possible re-conceptualization patterns presented on the examples drawn from English Wordnet materials. In the sections to follow polysemic extensions within one conceptual domain (metonymy) as well as possible metaphoric mapping, followed by the complex phenomena of metaphonymy and portmanteau forms referring to body part terms will be discussed and exemplified in various languages. In Sections 6 and 7 the phenomenon of displacement will be exemplified across a selection of languages and cultures, with an account of the typology of polysemic embodied extension basis presented in Section 8. The final part involves a discussion of the body-part polysemy status in the current discussion within philosophy of mind and language.

2. Intralingual and interlingual polysemic displacement and meaning reconceptualization

The basic sense of the English form *body* referring to the human body gets extended to meanings of other lexical forms which display a (partial) mapping similarity with the original. At the same time, areas of what I call *meaning displacement* (Lewandowska-Tomaszczyk 1987) can be observed both when analysed in one language in the form of *synonymy* chains (Lewandowska-Tomaszczyk 1990) or when a contrastive linguistic analysis is performed across different language systems. An example of a part of the schema involving cross-linguistic displaced senses of ‘go’ in English when contrasted with Polish displacement senses is presented in Table 1 below.

Table 1. Displacement of senses in Eng. *go* and their Polish correspondences

Eng. <i>go</i> —[Eng. <i>go</i> (to school)> [Pol. <i>iść/chodzić</i> > ▶ [Eng. <i>walk</i> – [Pol. <i>iść pieszo</i> ‘go on foot’ <i>spacerować</i> ‘walk’ ... Eng. <i>go</i> (metaphoric) <i>it’s going well</i> > [Pol. <i>iść</i> (metaphoric) ‘ <i>idzie dobrze</i> ’ ... Eng. <i>go</i> (by bus)> [Pol. <i>jechać/jeździć</i> ‘move by a vehicle’> [Eng. <i>drive</i> (a car) - [Pol. <i>jechać</i> (<i>kierować</i>) (<i>samochodem</i>) / <i>prowadzić</i> (<i>samochód</i>) [Eng. <i>ride</i> (a horse a bicycle)> [Pol. <i>jechać na</i> (<i>koni</i> u, <i>rowerze</i>) ‘go on horse, bicycle; <i>jechać rowerem</i> ‘go by bicycle’ ...
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The notoriously polysemous English concept *go* has a number of different displacement routes in other languages, also in Polish. In each of the displacement cases the sanctioning concept in present-day English and Polish involves a human physical activity of body directional moving, while the original historical sources link it to the outward movement of deictic type – *release*, *depart* and *advance* as in PIE root *ghē⁻¹. In the English-to-Polish and Polish-to-English corresponding steps presented in Table 1 the expansions of the meanings of the item ‘go’ are not fully identical with the source form. Rather, they are similar and *displaced*. Similarity, which is the basis of all categorisation processes, forms a multi-peaked radial category space with a number of *tertia comparationis*, or points of reference, which serve as conditioning parameters in interaction. It was argued in Lewandowska-Tomaszczyk (2012) that, conceptually, similarity is a mapping of physical distance on a cline between the Speaker’s and Addressee’s conceptual spaces, containing

1. Cf. <https://www.etymonline.com/word/go>

objects, relations and events. The mapping is not a one-to-one phenomenon due to various linguistic, social, psychological and contextual reasons (for details see Lewandowska-Tomaszczyk 2010). Forms used in meaning extensions in one language as well as their cross-language equivalents are *re-conceptualized variants of one another*. The mapping domains can be different – parts of objects, activities or events mapped onto the same or a different domain can also be distinct in each case. All other semantic-cognitive parameters, particularly those connected with the the properties of object profiling, and event construal as performed by the conceptualizer (Langacker 1987, 1991), are also subject to change and modification both in the cases of mono-lingual synonymy and in cross-linguistic comparisons. The embodiment types in each case and in any language are thus also subject to the processes of re-conceptualization.

The form *body* in English takes a variety of basic sense extensions as identified in English *Wordnet* (<https://wordnet.princeton.edu/>), which is a large lexical database of English words. Words of basic categories (nouns, verbs, adjectives and adverbs) are grouped into sets of synonyms (*synsets*), interlinked by means of conceptual-semantic and lexical relations. In other words, Wordnet groups words together based on their common basic human body schema, but there are a number of differences – their sense *displacements* – that are also identified. The processes of embodiment extensions can be captured in terms of a number of distinct operations. The first four uses in the list uncover a basic set of oppositions of general schematization. They are identified when the *human body schema* (a), is extended, metonymically, to cover a group of people as in *the student body* or particles (b) or, through a particularizing process of thought (Lewandowska-Tomaszczyk 2017), used in an excluding sense to refer to a dead body (c), juxtaposed with a living person with a conscious self in his/her physical body. The body is also metaphorically perceived as a container for the conscious being or else extended to material mass, which is contrasted to other parts of the thing or to a metonymically related *torso*. *Torso* is either a metonym for the whole body or else used in an excluding sense to mean the trunk without the head and limbs. A still higher schematization type is presented in (d), which involves an extension transposed to any inanimate physical object, individuated from other objects.

(1) Wordnet *body*

- a. (n) body, organic structure (the entire physical structure of an organism (an animal, plant, or human being)) “he felt as if his whole body were on fire”
- b. (n) body (a group of persons associated by some common tie or occupation and regarded as an entity) “the whole body filed out of the auditorium”; “the student body”; “administrative body”

- c. (n) body, dead body (a natural object consisting of a dead animal or person) “they found the body in the lake”
- d. (n) body (an individual 3-dimensional object that has mass and that is distinguishable from other objects) “heavenly body”

Other instances of the form *body* used in English are in fact variants of the four main displacement schemas or their combinations:

Collective sense (b):

- (2) (n) body (a collection of particulars considered as a system) “a body of law”; “a body of doctrine”; “a body of precedents”

Combination sense, excluding (c) and transposing (d):

- (3) (n) torso, trunk, body (the body excluding the head and neck and limbs) “they moved their arms and legs and bodies”

Combination sense, collective (b) and excluding (c):

- (4) (n) consistency, consistence, substance, body (the property of holding together and retaining its shape) “*wool has more body than rayon*”; “*when the dough has enough consistency it is ready to bake*”
- (n) body (the central message of a communication) “*the body of the message was short*”
- (n) body (the main mass of a thing)

Transposed extension (to inanimate schemas) (d):

- (5) (n) soundbox, body (a resonating chamber in a musical instrument (as the body of a violin))
- (n) body (the external structure of a vehicle) “*the body of the car was badly rusted*”

English body part terms like *head* below, are used in an even larger variety of the displacement processes either as nouns, verbs or adjectives in the process of word-forming conversion or else form compound constructions such as *drumhead*, *pinhead*, *fountainhead*, *headspring*, etc. as in the examples below. The processes are either metaphorical, metonymic or both.

(6) Noun

- (n) head, caput (the upper part of the human body or the front part of the body in animals; contains the face and brains) “he stuck his head out the window”
- (n) head (a single domestic animal) “200 head of cattle”

- (n) mind, head, brain, psyche, nous (that which is responsible for one's thoughts, feelings, and conscious brain functions; the seat of the faculty of reason) "*his mind wandered*"; "*I couldn't get his words out of my head*"
- (n) head, chief, top dog (a person who is in charge) "*the head of the whole operation*"
- (n) head (the front of a military formation or procession) "*the head of the column advanced boldly*"; "*they were at the head of the attack*"
- (n) head (the pressure exerted by a fluid) "*a head of steam*"
- (n) head (the top of something) "*the head of the stairs*"; "*the head of the page*"; "*the head of the list*"
- (n) fountainhead, headspring, head (the source of water from which a stream arises) "*they tracked him back toward the head of the stream*"
- (n) head, head word ((grammar) the word in a grammatical constituent that plays the same grammatical role as the whole constituent)
- (n) head (the tip of an abscess (where the pus accumulates))
- (n) head (the length or height based on the size of a human or animal head) "*he is two heads taller than his little sister*"; "*his horse won by a head*"
- (n) capitulum, head (a dense cluster of flowers or foliage) "*a head of cauliflower*"; "*a head of lettuce*"
- (n) principal, school principal, head teacher, head (the educator who has executive authority for a school) "*she sent unruly pupils to see the principal*"
- (n) head (an individual person) "*tickets are \$5 per head*"
- (n) head (a user of (usually soft) drugs) "*the office was full of secret heads*"
- (n) promontory, headland, head, foreland (a natural elevation (especially a rocky one that juts out into the sea))
- (n) head (a rounded compact mass) "*the head of a comet*"
- (n) head (the foam or froth that accumulates at the top when you pour an effervescent liquid into a container) "*the beer had a large head of foam*"
- (n) forefront, head (the part in the front or nearest the viewer) "*he was in the forefront*"; "*he was at the head of the column*"
- (n) pass, head, straits (a difficult juncture) "*a pretty pass*"; "*matters came to a head yesterday*"
- (n) headway, head (forward movement) "*the ship made little headway against the gale*"
- (n) point, head (a V-shaped mark at one end of an arrow pointer) "*the point of the arrow was due north*"
- (n) question, head (the subject matter at issue) "*the question of disease merits serious discussion*"; "*under the head of minor Roman poets*"
- (n) heading, header, head (a line of text serving to indicate what the passage below it is about) "*the heading seemed to have little to do with the text*"

- (n) head (the rounded end of a bone that fits into a rounded cavity in another bone to form a joint) “*the head of the humerus*”
- (n) head (that part of a skeletal muscle that is away from the bone that it moves)
- (n) read/write head, head ((computer science) a tiny electromagnetic coil and metal pole used to write and read magnetic patterns on a disk)
- (n) head ((usually plural) the obverse side of a coin that usually bears the representation of a person’s head) “*call heads or tails!*”
- (n) head (the striking part of a tool) “*the head of the hammer*”
- (n) head ((nautical) a toilet on board a boat or ship)
- (n) head (a projection out from one end) “*the head of the nail!*”; “*a pinhead is the head of a pin*”
- (n) drumhead, head (a membrane that is stretched taut over a drum)
- (n) oral sex, head (oral stimulation of the genitals) “*they say he gives good head*”
- (7) Verb
- (v) head (to go or travel towards) “*where is she heading!*”; “*We were headed for the mountains*”
- (v) head, lead (be in charge of) “*Who is heading this project?*”
- (v) lead, head (travel in front of; go in advance of others) “*The procession was headed by John*”
- (v) head, head up (be the first or leading member of (a group) and excel) “*This student heads the class*”
- (v) steer, maneuver, manoeuver, manoeuvre, direct, point, head, guide, channelize, channelise (*direct the course!*; determine the direction of travelling)
- (v) head (take its rise) “*These rivers head from a mountain range in the Himalayas*”
- (v) head (be in the front of or on top of) “*The list was headed by the name of the president*”
- (v) head (form a head or come or grow to a head) “*The wheat headed early this year*”
- (v) head (remove the head of) “*head the fish*”

All the examples of usage of *head* in (7) are related to the concepts of *top* and/or *front*. The first examples (*where is she heading*, *Who is heading this project*, etc.) are instances of prototypical verbal uses of such senses, while a comparison between *The wheat headed early this year* and *head the fish* in particular presents a phenomenon I refer to as *antonymous synonymy* (Lewandowska-Tomaszczyk 2007), in which one of the forms denotes addition of some part or substance as in the former or else advancing some activity, while the latter carries an antonymous sense

of deletion. *To head the project* means *to lead, advance, move forward*, when the *wheat heads*, it *grows and forms* a new part (*head*) at the top, while *to head the fish* refers to *removing* the head of the fish. Such constructions are not unique to body part terms in English. *To top the cake* refers to putting something (typically cream) on the top of the cake, while *topping the trees* refers to cutting the tops of the trees.

Some of the instances on the other hand are anthropomorphic, humanizing metaphor of personification (Leech 1969), such as *the head of a pin*, in which a physical object is attributed human-like properties.

These intralinguistic meaning displacement processes demonstrate lexical semantic differences, though involving degrees of similarity in terms of a number of *tertia comparationis*, i.e., points of reference, whose dimensions oscillate around some common properties driven from the mapping of the lexical form on the original (physical) body schema.

3. Metonymy

Mapping within the same domain, of some part or a contiguous area, onto the whole object or, conversely, the whole object on some of its part(s), is the essence of the process of *metonymy*. Such mappings are frequent in the embodiment processes as in e.g., (6xxii).

The metonymy of mapping of the whole *head* for *hair* i.e., *whole for part* is frequent in various languages:

- (8) a. Pol. *(o)strzyć głowę* ‘to trim one’s hair’
 b. Ladakhi [Tibetic] (Tashi 2010)
o brakt as ‘to cut one’s hair’ lit. *to cut the head*

Such metonymic processes are often the basis of *metonymic lexicalization*. Mixtepec-Mixtec Sa’an Savi ‘rain language’ spoken in Oaxaca, Mexico (Bowers 2016) provides examples of compound constructions in which body part terms combine with other content words to form new concepts (nominal and verbal), extended to denote other body parts, objects, and spatial terms, for example:

- (9) FACE; HAND
 a. ‘eyes’ bikò nùù [cloud+face]
 b. ‘fog’ jnùù [(f)+face] ‘bring down from’
 c. ndá?à [hand] ‘to get married’
 d. nùù ndá?à [face+hand] ‘palm’
 e. jíní ndá?à [head+hand] ‘finger’
 f. sàtà ndá?à [back+hand] ‘back of the hand’

- g. ndáʔà kwáʔà [hand+(kua'a)] (1)'right hand' (2) 'east'
 h. ndáʔà satʃi [hand+(sachi)] (1)'left hand' (2)'west'
 i. nũú itú [face+field] 'cornfield'

4. Metonymic grammaticalization displacement chains

Some of the body-part polysemic displacement types undergo metonymic change during the process of *grammaticalization*, documenting various grammaticalization paths. Such processes can be shown to be supported by cognitively backed motivational conditioning. While *eye* in Bambara grammaticalized along the coherently linked temporal deictic marker *before* through a chain of semantic changes (Hilpert 2017): *eye* → *face* → *front* → *before*, the form signifying *back* in Khwe developed a secondary sense as *behind* and *after*:

- (10) à nà-na né nyé (Heine and Kuteva 2002: 129) 3SG come-PAST 1SG before
 'She arrived before me.'
 (11) Khwe (Kilian-Hatz 2003), *back* > secondary senses such as 'behind' and 'after'

If grammaticalization is subject to cross-linguistic variation in terms of its typology and diachronic routes, based on criteria beyond genetic relatedness and geographical closeness (Bisang 2001), *conceptual changes* in body-part grammaticalization almost invariably lead to the development of the new senses across languages, which are cognitively more universally inter-related in terms of polysemic chains. In English the sense of *before* and *behind*² – and their equivalents *z przodu/przed* and *z tyłu/za* in Polish, are etymologically derived from the physical concepts of *front* and *back* 'Pol. *przód* – *tył*' and *przed* 'before' – *po* or *za* (Proto Slavic 'from behind' Brückner 1927). In world languages such as Mixtepec-Mixtec, Oaxaca, Mexico (Bowers 2017), body part term extensions are more varied and used also in non-spatial metaphorical senses:

- (12) Non-Spatial Extensions: Possessive BPT > Pronouns & General Reference
 (12i) nánì we-táʔà-ya nũú-ù
 be_elder PL-sibling-TPC face1SG
 'my siblings are elder than me'

2. Old English *beforan* "in front of, in former times; in the presence of, in front of in time or position," from Proto-Germanic *bi- "by" (see *by*) + *forana "from the front," adverbial derivative of *fora (from PIE root *per- (1) "forward," hence "in front of, before"). Compare Old Frisian *bifara*, Old Saxon *biforan*, Old High German *bifora*, German *bevor*. (<https://www.etymonline.com>)

5. Metaphoricity – polysemous extensions into other domains

5.1. Bi-directionality of body part names polysemies

Body part names can both be a subject and an object of cross-domain metaphorical mappings. Body-part Source domains serve either to label other domain members for numerous, typically abstract extensions in the process named *concrete metaphors* by Leech (1969: 158) or else they are themselves Target domains, which are called with the names originating in numerous non-body part physical domains.

- (13) a. BODY PARTS as Sources giving labels, to other physical domains (examples in (6))
 - b. BODY PARTS as Targets, named metaphorically after numerous domains
- (14) Target domain: FACE, Source domains: *map*, *mug*
 - a. *map* With a map like that, you could really go somewhere
 - b. *mug* What a gorgeous mug!
- (15) Target domain: HEAD, Source domains: *potato*, *attic*
 - a. *potato* I got a nasty bump on my potato
 - b. *attic* She's just got nothing in the attic
- (16) Target domain: HANDS, Source domains (dehumanizing): reification, animation
Get your hooks/grabbers/paws off my newspaper!

5.1. Metaphonymy

Metaphonymy (the term proposed by Goossens in [1990] 2002) is a combination of metonymy and metaphor as in (6): *I couldn't get his words out of my head*. The term 'head' metonymically denotes memory, general remembering as keeping something 'in the head', while the whole activity involves metaphorical mapping of attempts to recall 'his words' onto the physical inability to get concrete objects out of the container (*my head*). Other uses from English and other languages (e.g., Hausa below) also exemplify such processes both with reference to *head* and other body parts:

- (17) Eng. *close-lipped* 'having the lips closed' → 'silent/saying little'
(cf. Goossens [1990]:333)
- (18) Hausa *Ya aure min kai* 'He makes me silly shy' (lit. 'He tied my head')
(Almajir 2013: 96)

- (19) Polish *Wejdą mi na głowę* ‘They will dominate me’ lit. ‘they will climb on the top of my head’
- (20) Polish *Trzymać język za zębami* ‘Not to reveal a secret’, lit. ‘To keep one’s tongue behind the teeth’
- (21) Polish *Mam to w głowie* ‘I know/remember this’ lit. ‘I have it in (my) head’.

The main interrelationship between Eng. *head* and Polish cluster members involves either the metonymy relationship, metaphoricality or else a combination of both in terms of metaphonymy. Their meaning is prototypically related to the mapping of the cognitive processes of importance and significance with respect to social and other functions of individuals onto the *head* schema (Examples (18), (19), (21)). Head is perceived as the locus of reason and rationality and, metonymically, it refers to people who are considered leaders (chairmen, managers, directors, persons responsible for something, etc.) in terms of respective activity frames. The metaphoricality of an event representation in this property transfer is completed by the elements of metonymy (*head* for the person), interpreted as “a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same idealized cognitive model” (Radden and Kövecses 1999: 21).

5.2. Complex blended portmanteau forms

In creative, novel uses, particularly those referring to cases of intended ambiguity, some linguistic units can be combined in different ways to generate new blended forms and serve as source domains in meaning construction of a novel, hybridised sense. One such example is the use of a new lexical form *shuit* in James Joyce’s *Finnegan’s Wake*. A number of source domains are invoked in this case, which combine into a hybrid, experiential cluster of concepts. The domains refer to clothing, shooting and excreting.

- (16) When you’re in the buckly *shuit* Rosensharonals near did for you.

In a paper analyzing Joyce’s lexical *portmanteau* forms, Derek Attridge calls the meaning of *shuit* a “nonce-constallation” (2009: 10–19). The form invokes items of clothing: *suit*, *shirt*, *shoes*, building the form’s blended sense. The compound *Rosensharonals* contributes sexual connotations originating from the *Rose of Sharon* and the *Song of Solomon*’s, while indecent intertextual anecdotes, which appear in Joyce’s text, unpack *shuit* further into *shoot* and *shit*, adding new content to the conceptually integrated sense of the form *shuit*. The complex blend is an intriguing embodied construction built on the incoming intertextual reminiscences and reflections.

6. Interlinguistic conceptual displacement

Joyce's language is also an adequate introduction to a discussion regarding the exploitation of resources from more than one language. Apart from the polysemic embodiment instances based on the lexis from one language (for details on polysemy mechanisms and typology see Lewandowska-Tomaszczyk 2007), another category of displacement processes refers to cross-linguistic correspondences and equivalence, which will be exemplified on *parallel* (i.e., *translated*) Polish-to-English and English-to-Polish texts and *comparable* constructions generated from monolingual corpora – the British National Corpus and the National Corpus of Polish. The equivalent patterns are generated by a dedicated tool called *Paralela*, based a English-Polish parallel corpus, which currently contains over 580 million translational segments and is available online at <http://paralela.clarin-pl.eu>. A typical translational segment in this corpus is a short span of text, such as a sentence or short paragraph, which has either been acquired from a translation memory or aligned specifically for the purposes of the project. The exact composition of the corpus is described in Pęzik (2016), where examples of the bilingual query syntax can also be found. The syntax can be used to retrieve Polish-English sentential equivalents matching certain lexico-grammatical criteria. Eng. *head* corresponds to a number of Polish cluster equivalents, which display shifts in the conceptualization of their referents. Some of these correspondences are exemplified in (17) and (18) below;

- (17) Nouns: Eng. *head* > Pol. *głowa* (part of body), *głowa* (państwa, kościoła, społeczności, etc.) 'head of state, church, community, etc.' *łeb*, *szef(owa)* 'boss', *przewodniczący/a* 'chair person', *przywódca* 'leader', *kierujący/a* 'leading person', *osoba odpowiedzialna* 'person responsible', *kierownik/czka* 'manager', *dowódca* 'chief', *dyrektor* 'director', etc.

Polish verbalised derivatives presented in (18) also contain the core semantic element of leading, intending, focusing, concentrating, while the phraseology identifies interesting displacement shifts and relevant re-conceptualization processes, either in terms of metaphoricity connected with the top orientation (*head up*), involving elements of courage and pride, imposing an image of *head on*, with its semantic elements of facing the direction, initial contact and eventually collision, transferred to challenge and conflict or else *on its head*, pointing to this physically unnatural position and metaphorical disorder and confusion. Obvious semantic differences, contributing to the construal re-conceptualized portrait of the object or scene are also frequent in this survey. Other instances such as those engaging other metaphors in Polish when contrasted with English are also identified as *hit the nail on the head* rendered as Pol. *trafiać w samo sedno problemu* lit. 'hit the very centre of the problem'.

- (18) Verbs: kierować się 'to direct oneself', zmierzać 'to intend', koncentrować się 'concentrate'

Phraseology: *to keep one's head up* 'z podniesioną głową', *put something into one's head* 'wkładać coś komuś do głowy; kierować', (*jasny*) *umysł* '(clear) head', *like a hole in the head* 'jak dziura w moście', *off the top of one's head* 'bez przemyślenia; prosto z głowy', *head offices* 'główna siedziba/siedziba główna', *something is rearing/rears its (ugly) head* 'podnosi głowę', *whatever comes into your head* 'co tylko przyjdzie do głowy', *we take something head on* 'wziąć byka za rogi', *head on* 'prosto, na wprost, bezpośrednio podejmować wyzwanie', *meet a challenge head on* 'sprostać czemuś', *to look at something head on* 'spoglądać na coś pod kątem prostym', *do not have something in one's head* 'nie znać, nie przypominać sobie', *not be in a position to turn logic on its head* 'nie być w stanie porzucić logicznego myślenia', *per head* 'na głowę (mieszkańca)', *hit the nail on the head* 'trafić w samo sedno problemu', *the world is standing on its/the head* 'świat staje na głowie', *to keep a cool head* 'zachować zimną krew (blood)', *bury one's head in the sand* 'schować głowę w piasek', *bury head in something* 'ukrywać się w [...] a head start 'wprowadzenie, rozpoczęcie', *at the head of* 'na początku', *from head to toe* 'od stóp do głów'

Polysemy studies envisage the conceptual process of what Langacker calls (1987, 1991) 'partial schematization' between the sanctioning and target structures. From a contrastive linguistic perspective pertinent cross-linguistic differences, quite subtle sometimes, are identified in the schematization. Although most of the English and Polish *head*-phraseology examples quoted above are based on a similar source and target domain framing, some will resort to distinct source domains as in: *like a hole in the head* 'jak dziura w moście' lit. Eng. 'like a hole in the bridge'. Other cases as e.g., the phrase Polish *prosto/na wprost* lit. 'straight on', a translational equivalent to Eng. *head on*, exploit non-metaphorical conceptualization of direction. In other examples different metaphorising source domains are exploited (e.g., Eng. *to take something head on*, Pol. *wziąć byka za rogi* lit. 'to catch (take) a bull by its horns'). Such conceptualization differences can also pertain to differences in the frequency of various forms between languages. The phrase *z zimną krwią* 'in cold blood' will be more conventionalized and more frequent than 'with cold head' in Polish. However, the latter cannot be eliminated from the pool of Polish phraseology. Some culture-related distinctions are also noted in such cases with reference to cross-linguistic contrasts. In other Slavic languages as e.g. in Bulgarian, as reported by Bagasheva (2017), who compares figurative language involving *mouth*, *lips*, *teeth* and *tongue* in English and Bulgarian, the concept of *communication* in English as embodied by the *mouth* is conceptualized as socially and individually regulated self-reflected activity, while in Bulgarian it

implies a fairly unselfconscious interactive behavior. This analysis corresponds to the culture-based typology regarding Bulgaria as a more collectivistic, and the UK – an individualistic culture, as categorised in terms of Geert Hofstede's (1980) *cultural dimensions* profiles.

7. Cultural conceptualizations and re-conceptualizations

Culture-specific considerations play a basic role in researching body-part meaning reconceptualization chains cross-linguistically. Not all polysemic chains are synchronically recognizable by contemporary language users. One of the examples of such unrecognized polysemy cases refers to the English form *pupil* (Lewandowska-Tomaszczyk 2007; Szczeklik 2007: 57). To identify a relatedness between the Eng. *pupil* as in *the pupil of one's eye* and a *pupil*, referring to a younger school student, a diachronic cultural-linguistic study needs to be performed. As quoted in Paradowski (1950), ancient Greeks placed the soul inside the human body in the form of a small doll, called *kore* (Gr. *girl, doll/pupil of the eye*), visible through the pupil of an eye, i.e., the only opening through which one can observe the brain – vision nerves. The Greek form *kore* translated into Latin corresponds to the forms *pupa*, *pupilla*, which diversified into the form retaining the original sense, while it also developed a new meaning – a small figure of a human being (*doll, a younger child*).

Besides the concepts of *body* and *head*, the richest symbols among body parts, there are some others, less widely recognized as the concepts crucial for the understanding and interpretation not only of close developmental links among cultures but also diachronic change in language systems. For instance, the concept of *knee* can be considered one of the basic symbols in the European cultural and linguistic development. A comprehensive survey of cultural categories of modern symbols and their names can be found in *The Book of Symbols*, a multi-authored work, edited by Ami Ronneberg and Kathleen Martin (2010). The volume offers encyclopedic descriptions of the cultural sources and meaning modulation of many lexical forms and their historical development. The ancients considered the fluid in the knee the *sap of life*, synonymous with *offspring*. Knees were regarded the essential *seat of paternity and generation, vitality and strength* (Onians, 1991). Mookerjee (2010: 1082) accounts for this fact noting that “knee is the strongest joint in the body, the flexible hinge that allows us to sit on our heels as if on a pedestal”. The original Lat. *genus* developed into cognate English forms *knee* and *gene*, while in Slavic, the forms *žena/zona* ‘woman/wife’ originated in a parallel way. Through the diachronic development of the broad concept of knee as a life force, numerous customs and traditions such as kneeling in various religious and submissive contexts are more readily interpreted and understood. Original

historical meanings and cultural contexts of the development of body part terms provide *a conceptual foundation for speakers* of relevant languages “to represent their cognitive, emotional, socio-cultural, and linguistic experiences [...] and be a clear example of how language can serve as a ‘memory bank’ for cultural conceptualizations that have prevailed at different stages in the history of a speech community.” (Sharifian 2017: 5, Chapter 1.).

8. Typology of polysemic embodied extension basis

The examples discussed above constitute adequate material to propose a typology of polysemy of embodied extensions. First of all, perceptual properties, e.g., visual, referring to shape, size, distance, can constitute a point of reference, i.e., serve as a *tertium comparationis* of an extended sense, as e.g., in *pinhead*. Other frames of reference are of a functional character, e.g., with reference to people as in *headmaster*, or things (*header*). All such extensions as well as radial categories and their elements, containing metonymic, metaphoric or metaphonological mappings will also display an extended type of meaning re-conceptualization. Body part terms can also carry axiological or ideological markedness. While front body parts tend to carry positive connotations, the linguistic engagement of the lower/back part of the torso and associated activities may convey less positive senses and be used as the source domain of vulgarisms and abuse. In cross-linguistic contrasts, different construal prominence and distinct viewing arrangements are responsible for language-specific perspectives on a particular event, which involve distinct scenarios conveyed via body-part terminology usage. The English *to have one’s heart in one’s boot* versus the Polish *serce zmarło mi ze strachu* ‘heart died [for me] in fear’ or Shakespeare’s *wear one’s heart on one’s sleeve*³ and the corresponding Polish *mieć serce na dłoni* ‘have one’s heart on the palm of one’s hand’ are characterized by similar messages, but their conceptualization construal is not identical and the cultural and experiential origin – different.

9. Body schema and the Embodiment Hypothesis

As early as 1744 (1991), Giambattista Vico in his *New Science* proposed: “In all languages the greater part of the expressions relating to inanimate things are formed by metaphor from the human body and its parts, and from the human senses and passions” (discussed and quoted in Martins 2010: 480). More recently, in 1953, but

3. (1604) William Shakespeare *Othello*, act 1, scene 1, line 64.

in the same vein, Ludwig Wittgenstein wrote (1953 Pt II.: 178): “The human body is the best picture of the human soul”.

George Lakoff and Mark Johnson (1980) laid the foundations of a body part representational model of linguistic conceptual structure: “Bodily projections are especially clear instances of the way our bodies shape conceptual structure. Consider examples such as *in front of* and *in back of*. The most central senses of these terms have to do with the body. We have inherent front and backs. We see from the front, normally move in the direction the front faces, and interact with objects and other people at our fronts [...]. We project fronts and backs onto objects. What we understand as the front of a stationary artifact, like a TV or a computer or a stove, is the side we normally interact with using our fronts.” (Lakoff & Johnson, 1999: 34).

Although cognitive linguistics tends to resort to phenomenology to define the exact relationship between human experience and language use (Geeraerts 1993; Zlatev 2010), Lakoff and Johnson’s interpretation of the ‘bodily projections’ involves a certain controversy with Merleau-Ponty’s interpretation of the role of human body in shaping human experience. Merleau-Ponty’s (2012) *schéma corporel* (the English term ‘body image’ in *Phenomenology of Perception* is later changed into a *body schema*) is not a mere projection of the body schema, it rather corresponds to a body schema structure, understood not as an image but a *nonrepresentational construction we feel and experience*. As put by Brey (2012: 12–13, ft. 5): “Because there are invariants in the body schema that all human beings share, there are moreover features in the world that are recognized by every human being, and that are therefore ‘objective’ in the sense of being independent from any one person’s subjective experience.” The primary embodiment thesis – *Brain is Mind* – involves precisely two interpretations of *embodied cognition*, as formulated by Goldman (2014):

I. the *body itself* (and its various parts, brain in this case) plays a crucial role in cognition, a much more pervasive role than classical cognitivism recognizes.

II. it is *representations* of the body and its parts (i.e., brain *representation*) that are so pervasive and important to cognition.

The core assumption of cognitive science postulates that there exists an isomorphism between the format of conceptual *representation* and conceptual content. The representational concept of embodiment, enriched by *experiential philosophy and semantics* (Lakoff 1987), leads to a thesis which assumes the status of (body part) lexical meanings as stimulators and instructions to build both direct and more complex (displaced) mental models of objects and events (for a similar proposal see Pieter Seuren 1985).

Body and body parts are understood in the cognitive linguistics paradigm in terms of culturally rich Image Schemas, i.e., patterns of mental activity, emerging

as a consequence of their dynamic repeatedness and mapped on the same domain or different domains (object, emotion, evaluation, aesthetics) (Lakoff 1987, Langacker 1987, 1991). Such an interpretation of the relationship between experience and language is parallel to *simulated bodily experience*, discussed by Barsalou, (1999, 2008, 2008a) who proposes a direct (representational) relationship between language and physical bodily experiences via a system of the real world brain ‘re-enactments’ referred to as *simulations*. Lakoff and Johnson (1999) propose three types of embodiment: *neural embodiment*, *cognitive unconscious embodiment* (human cognitive adjustment) and, most relevant to the topic of the present discussion, *conscious experience phenomenological embodiment*, with image schemas considered to be preconceptual/prelinguistic structures, emerging from physical bodily movement. This assumption also supports the thesis of the directionality of metaphor – from a physical Source Domain – to abstract Target Domains. Both perceptual and mental processes are thus interrelated by the same physiological and neurophysiological processes. Perception and conception (i.e., perceiving and understanding) have a common *ception* denominator (Talmy 2000).

And yet, reducing the mental to the bodily may be a path to radical mental physicalism and reductionism in models in which meaning correlates – and perhaps meanings as such – are mere physical and neurophysiological processes. Langacker (2002: 281) then explicitly refers to his model as ‘maximalist, *non-reductionist* and bottom-up’ (my emphasis), i.e., developing from use to schematization. Langacker also considers the description of language as more adequate in functional rather than neurological terms. An attractive thesis in this direction is proposed by Andy Clark (2006: 370), who considers the role of language as providing “thought-enabling cognitive niche. [...], an animal-built physical structure that transforms one or more problem spaces in ways that (when successful) aid thinking and reasoning about some target domain or domains. These physical structures combine with appropriate culturally transmitted practices to enhance problem-solving, and (in the most dramatic cases) to make possible whole new forms of thought and reason.” Embodiment then emerges as a cultural-cognitive concept, in the sense of “understanding the role of an agent’s own body in its everyday, situated cognition” (Gibbs 2006: 1), or to put it differently, understanding the ways in which the human body influences our thinking and speaking. One needs a body in order to acquire the motor experiences and interpret actions performed by others (Casasanto and Katinka 2010). Lexical meanings are dynamic. They constitute an access node to more extended (associational, encyclopaedic) networks and are acquired by means of partial schematization in the process of similarity/contiguity judgments. With a different body, as Lakoff and Johnson (1980) diagnose, and Johnson (1987) further elaborates on, our concepts of rationality, emotion, morality and judgment would be different.

However, a moment of challenging reflection should be added here. Some data clearly argue against a *strong developmental reading* of the embodiment thesis (Sinha and Jensen de López 2000: 22–23), in which the human body would be hypothesized to be the schematic source for the development of all conceptualization schemas. Sinha and Jensen de López refer to the linguistic conceptualization of spatial relations but it would need further enquiry to investigate to what extent the human body schema is “a privileged source domain” for many other types of the linguistic conceptualization framework. And yet, even if what Sinha and Jensen de López argue for proved to be the case in further research studies, the Embodiment Hypothesis proposing that states of the body play an essential part in cognition and modify states of the mind (Wilson and Golonka 2013) is not likely to be eliminated.

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Body-part terms as a linguistic topic and the relevance of body-parts as tools

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The metaphoric function of body-part terms to denote entire things in other domains is a frequent phenomenon. Body-part terms, are, however, also used to refer to specific parts of inanimate items, a phenomenon which is more frequent in African than in European languages. The names of certain body-part terms are also used within the body domain as modifiers in compound denotations of other, smaller body-parts. There are only few examples where names of animal body-parts, parts of plants or of persons have this function. More frequently the names of artefacts, in particular tools, are used metaphorically as modifiers in compound body-part terms. Compound terms which contain names of part of plants constitute the nucleus. They are likewise rare and have not been found in African languages.

The study is based on data in German, English, French, Dutch, Sango and Zande, but there are also examples from other languages.

Keywords: instrumental functions, carrier functions, diminutives, body parts as conceptual sources, work as a conceptual source

1. Introduction

It is widely acknowledged that metaphorization of body-part terms is one of the basic means of forming and expressing concepts in other domains. These body-part terms can be used to talk about other things (Dingemanse 2009) that are more difficult to understand, describe and denote (Heine 2014: 17), a metaphorical transfer which results from cognition about the body (Heine et al. 1991: 2). It is, however, not the individual body as such, which is the basis of cognition, but the commonalities of our bodies and our perceptual and sensori-motor system which helps us to understand our bodies and the world around us (Lakoff & Johnson 1999: 6, 45).

The critical role of the body in human meaning and understanding was noticed a long time ago. Cognitive linguistics has made a special contribution in this regard by bringing into the foreground the linguistic evidence for the connection between human body and meaning. The emergence of cognitive linguistics began with the discovery that many phenomena cannot be described without making reference to the body. This is true with regard to color terms which do not exist without embodiment (Kay & McDaniel 1978), with regard to spatial relations which are expressed by reference to the body (Talmy 1983; Langacker 1987), with regard to temporal relations (Bohnemeyer 2002) and also with regard to expressions of emotions (Kövesces 2000). The evaluation of metaphorical behavior of body-part terms has laid the foundations of grammaticalization (Heine et al. 1991; Svorou 1994) and many grammatical terms are metaphorically derived from body-part terms and verbs of position and motion.

Our body-parts are part of the environments we live in and upon which conceptual systems are largely drawn (Lakoff & Johnson 1999: 6). These environments include the bodies of other people and of animals, celestial and geographical items, plants and parts of plants, as well as certain artefacts, i.e. the most familiar items in our environments. The above-mentioned transfer of concepts results from experiencing our own bodies and observing the bodies of other persons as well as those of animals in that environment. These experiences concern the shapes of bodies and given body-parts, their canonical positions and their spatial relation to the rest of the body and to each other when in rest and when in motion. The human body is a conceptual source in its sensorimotor qualities, but also in its activities, among which motion and working are the most important.

Besides motion, one of the most important activities which allows for survival is work, which is carried out directly by specific body-parts, usually the hands, or by tools. Ever since man has begun to produce tools for hunting, for cultivating, and for constructing living arrangements, the use of tools could be observed and experienced all the time. Body-parts, normally the hands, are used as tools to carry out manipulative work, or they hold tools with which they can do the work more easily. Head, back, arms and shoulders are used as carrier tools, with or without further auxiliary materials. The execution of work by hand can be observed by the one who does it as well as by others. Such working activities are in fact more easily observable than parts of the own body other than the limbs and the front of the trunk: To see one's own head or neck, e.g., requires a mirror and to see the back part of your own body requires a constellation of at least two mirrors. We observe the bodies of both people and animals in our environment more easily than our own body. Plants and artefacts are also better visible than our own body. All of these constitute metaphorical sources for denotations of body-parts, in particular for smaller and less visible body-parts.

Even though the human body is central to our daily existence and can be seen, touched and experienced through proprioception (Enfield et al. 2006: 138), it is not the only source of conceptualization. Much of what we know about those parts of our own bodies, which are not visible to ourselves, e.g. the nape, the back, the popliteal fossa, the ears, and the inner organs results from observations of other bodies and comparing these observations with the experience our own bodies.

In all situations where humans live, they experience their own bodies, observe those of their fellows and those of animals, they move around, they experience day and night, they live in (usually constructed) shelters, and they carry out physical work with or without tools. The role of the human and animal bodies as major cognitive sources of new concepts, including grammemes (Svorou 1994: 75f, Heine 1997: 38-41), and also that of minor sources such as geographical and cosmological items is well documented. Animal bodies, and plants as conceptual sources of concepts in other domains have also been investigated (Heine et al. 1991, Chapter 5). I claim that tools and other artefacts play an important role as conceptual sources for body-parts as well.

The concept of a tree and its stem, or a house and its walls may be assumed to be almost as basic as that of the human body. Work is as basic a concept as is eating and drinking, walking or sleeping. Artefacts may be results of production work, but they may also be tools with which work is carried out. Many names for tools or part of tools are used to from body-part terms. With regard to metaphorization and grammaticalization, they have until now been documented only in few examples, and the concept of work unlike that of motion has not been investigated with regard to grammaticalization.

The aim of the present paper is to investigate sources of body-part terms in some European and African languages with focus on artefacts, and tools in particular, as conceptual sources. They appear in simplex and complex terms and also in grammaticalizations.

The relevance of the use of body-parts as tools is not a new notion. Lehman (2016: 15f) discusses it under the term “instrumental functions” in correlation with “spatial functions”. With regard to Ewe, a language spoken in Ghana and Togo, Ameka (2012: 244) shows that in possessive constructions body-parts are encoded as alienable possession when the owner can use them like tools. Otherwise body-parts are encoded as inalienable possession

The paper is divided into four sections. Section 2 investigates origins and structures of simplex and compound body-part terms, and Section 3 discusses inanimate objects whose parts are labeled with body-part terms. Body-parts with tool functions are topic of Section 4, and conclusions are drawn in Section 5.

2. Origins and structures of simplex body-part terms

The names of the most salient body-parts, i.e. those which are vital and easily visible or the functions of which can be easily observed or sensed (lungs, heart, stomach) make part of the basic vocabulary which children learn without explanation but by pointing or physical experience. They belong to the most conservative domains of the lexicon (Heine et al. 1997: 132). Many of them are listed on the so-called ‘Swadesh-lists’ of 100 or 200 basic linguistic lexical items which were created for lexico-statistical comparisons (Swadesh 1955). In many languages such body-part terms consist of monosyllabic or disyllabic simplex forms, and Swadesh expected that they are neither morphologically nor semantically derived from other terms, nor borrowed from other languages.

Despite the close genetic relationship between German and English the respective terms in the lists do not all share the same historical source. The deviations result from semantic shift and replacement by other lexemes as will be discussed below (Section 2.1.) with regard to the terms for ‘head’. *Nase* and *nose*, however, are both part of inherited lexicon, despite the resemblance of the German word with the Latin equivalent *nasus* (Kluge 2002).

A comparison between the terms in Zande and Sango¹ (Table 1) show a greater similarity than might be expected on the basis of the genetic relationship. But in precolonial time both Zande and Ngbandi, the lexifier language of Sango, were vehicular languages whose areas of diffusion overlapped. With colonization Sango, which has retained the bulk of its lexicon from Ngbandi (Bouquiaux et al. 1978: 42f), became the only vehicular of Central African Republic, and all Zande living in this country master it. The similarity between the respective terms results most probably from prolonged contact. But here semantic shift and replacement also play a role as can be seen with regard to the term for ‘back’. In dictionaries of Zande the only entry for ‘back’ is *gi-se*². This word is, however, no longer used with this meaning, but it has been replaced by *ngɔngɔ-se*, a borrowing from Ngbandi (*ngɔngɔ*, Lekens 1955: 655) or from Swahili (*mgongo*). *Gi-se* has undergone grammaticalization, lost its lexical meaning and become a preposition, *gi* ‘behind’, which does not have a suffix. The form *gise* is used as an adverb, which has the meaning ‘behind, at the back,’ (Landi, pers. comm.).

1. I thank Germain Landi for discussing the expressions in Sango and Zande and for providing an example from Nzakara.

2. In their citation forms body-part terms have the suffix *-se*, which in context is usually replaced by a noun or a pronoun referring to the owner.

Table 1. Simplex inherited body-part terms

English	German	French	Swahili	Zande ^a	Sango ^b
<i>leg</i>	<i>Bein</i>	<i>jambe</i>	<i>mguu</i>	<i>ndu-e^c</i>	<i>gere</i>
<i>foot</i>	<i>Fuß</i>	<i>pied</i>	"	"	"
<i>arm</i>	<i>Arm</i>	<i>bras</i>	<i>mkono</i>	<i>be-se</i>	
<i>hand</i>	<i>Hand</i>	<i>main</i>	"	"	
<i>neck</i>	<i>Hals</i>	<i>cou</i>	<i>shingo</i>	<i>go-se</i>	<i>gɔ</i>
<i>belly</i>	<i>Bauch</i>	<i>ventre</i>	<i>tumbo</i>	<i>vu-se</i>	<i>ya</i>
<i>back</i>	<i>Rücken</i>	<i>dos</i>			
<i>head</i>			<i>kichwa</i>	<i>ri-se</i>	<i>li</i>
<i>nose</i>	<i>Nase</i>	<i>nez</i>	<i>pua</i>	<i>hō-se</i>	<i>hō</i>
<i>tooth</i>	<i>Zahn</i>	<i>dent</i>	<i>jino</i>	<i>rinde-se</i> ('tooth, blade, point')	

a. Zande is an Ubangian language spoken in the triangle Central African Republic, South Sudan and Democratic Republic of Congo.

b. Sango, also an Ubangian language, is the national official language of Central African Republic.

c. In *ndu-e*, the suffix *-se* is reduced to the vowel. When the word is used in a possessive construction, e.g. *ndu-re* (foot-1SG-my) 'my foot', this suffix is dropped.

2.1. Borrowed, derived and metaphorical terms for body-parts

Swadesh's assumption that the words on the list are neither borrowed nor derived applies to most terms for important body-parts, but Table 2 shows some exceptions. To begin with, the Sango terms for 'arm, hand', 'back' and 'tooth', e.g., are obviously borrowed from Lingala (Bouquiaux et al. 1978). This may be explained by the fact that modern Sango emerged as a contact language with a vehicular variant of Ngbandi³ as lexifier in intense contact with speakers of Lingala and Kikongo (Pasch in print), and contact with Lingala is given until today along the border between DR Congo and Central African Republic.

Even though "terms for body-parts belong to the most conservative domains of the lexicon", there are some body-part terms which are "derived from other domains of conceptualizations" (Heine et al. 1997: 132). And there are also a few loanwords. The polysemies of English *trunk* and the equivalent French *tronc* make it difficult to imagine a metaphorical transfer from the domain of body-parts to that of plants. Both terms refer on the one hand to the lower part of a tree above the ground, i.e. the stem or the main wooden axis, and on the other hand to the torso of a – normally – human body, i.e. the body without head and limbs. The

3. Ngbandi is an Ubangian language, spoken mostly in Democratic Republic of Congo and the border area of Central African Republic.

concept of a tree-stem is certainly more basic than that of a body-trunk, but this is not a proof, that the body was the target domain of metaphorical transfer and the fauna the source domain. We may as well assume that the term always had the vague meaning ‘bulky major part of a body with elongated and/or spherical extensions’, which covers the two readings ‘(tree)trunk’ and ‘(body)trunk’.

Table 2. Simplex borrowed, derived or metaphorical body-part terms

English	German	French	Swahili	Zande	Sango
‘head’	<i>Kopf</i>	<i>tête</i>			
‘arm, hand’					<i>maboko</i> (< Lingala <i>maboko</i> ‘arms, hands’)
‘tooth’					<i>pembe</i> (< Lingala <i>mpémbé</i> ‘ivory’)
‘back’			<i>mgongo</i>	<i>ngɔngɔ-se</i> ⁴	<i>ngongo</i>
<i>trunk</i>	<i>Rumpf</i>	<i>tronc</i>	<i>kiwiliwili</i> (= torso + limbs)	<i>kpoto-se</i> (= body, skin, surface)	<i>tere</i> (= ‘body’) <i>kate</i> (= ‘torso, chest’)

According to Lehmann derivations are not a frequent means of coining body-part terms, and he states that not a single body-part term is formed by an English derivation process (Lehmann 2016: 4). In French there are, however, several derived body-part terms, some built on the basis of French morphology, some are retained or borrowed from Latin. Frequent terms are *pommette* ‘cheekbone’ and *fontanelle* ‘fontanel’. The first is the diminutive form of *pomme* ‘apple’ (FEW p. 153) and the second a lexicalized diminutive which originated in medieval Latin *fontanella* ‘small fountain’ (CNRTL). Another derived term is *clavicules* ‘collar bones, clavicle’, which is borrowed from classical Latin *clavicula* ‘little key’ (CNRTL). A German example is *Knöchel*, ‘malleolus’ (< Latin ‘little hammer’), i.e. the bony prominence on each side of the human ankle. The similarity of the names for ‘back’ Zande and Sango with the Swahili equivalent, identical to the one in Lingala, makes it likely that the term was transferred from the Bantu to the Ubangian languages or in the other direction. The transfer of Swahili words into Zande, directly or via Lingala, has been documented (Pasch & Kumbatulu), but there is no evidence for a transfer in the opposite direction. Therefore we may assume a Bantu origin of the terms.

In Swahili the name for the trunk of the body, more specifically the body without head but with limbs, is *kiwiliwili*, the diminutive of *mwili* which refers to the whole body. Note that Swahili does not have a ‘concept’ of trunk as body without head and limbs. In Sango and Zande, there are no specific words for ‘trunk of the

4. *Ngɔngɔ-se* has also the notion ‘spine’.

body' (Landi, pers. comm., March 2019). In Sango *tere* is the name for the whole body may be used to refer to the trunk as well as *kate*, the term for 'chest'.

Heine (1997) notes that semantic extension of body-part terms is universal and hence, that 'we may expect this to be reflected in all languages' (Heine, 1997: 142). Dingemanse (2009: 2133ff), in agreement with Dimmendaal (1995: 9) states, however, that there are also many language specific patterns. More deviant from the universal pattern than Dingemanse's examples are the names for body-parts which result from metaphorical transfer from other domains. It is important to know that quite frequently names for artefacts constitute the conceptual source. This applies to names of big some big and vital body-parts, and more frequently to names of smaller body-parts.

The denotations for 'head' in several European languages are good examples to demonstrate that the human body has served both as source and as target for metaphorization. This is in agreement with Goschler's observation that "the notion of the directionality of metaphors is not as clear as it may seem at first sight", but that in particular in a diachronic perspective "interaction between domains can be found". The different terms for 'head', their metaphorical origins and their metaphorical meanings show that the body is not always the source, but it is frequently the target domain of metaphorical transfer (Goschler 2005: 48).

The French and Italian words for 'head', *tête* and *testa*, are used in its current meaning since the 18th century. Many linguists, e.g. Heine et al. (1997: 32), agree that Latin *testa* 'brick, potsherd, earthen mug' is the etymological source. The new term which accompanied the replacement of forms derived from *caput* allegedly resulted from a jocular metaphor, "a transfer of one or more physical accidents of shape or form from 'pot' to 'head'" (Cravens 1982: 53). There is, however, no solid linguistic evidence, to support the hypothesis that French *tête* 'head' is derived from Vulgar Latin *testa* 'pot': The meaning of 'drinking vessel' of *testa* which would have been semantically extended to 'skull' is not documented. There is likewise no good evidence for several other hypotheses concerning the etymology of *testa*. For lack of documentation Cravens (1982: 59) suggests that among several competing undocumented hypotheses the one should be accepted as a preliminary explanation "which is conspicuously of greater implementation in a number of languages." With regard to the development of *testa* and *tête* this is the jocular metaphor theory, based on the features of rotundity and hollowness.

A similar metaphor related to the feature hollowness is given with regard to German 'Kopf' which is most likely derived from Medieval Latin *cuppa* (*cūpa* in classical Latin) (Haarmann 1986: 198) and cognate with English *cup*. Since the 8th century it has been documented in old high German *choph*, in middle high German *kopf* in the meaning 'skull, drinking bowl' (Kluge 2002). Since medieval times the word with the new meaning 'head' spread only slowly, replacing more

and more the old word 'Haupt'. Its use stabilized in Dutch, *kop*, and 'German', *Kopf*, while Swedish *hufved*, Danish *hoved* and English *head* (Old English *hafud*) have retained the forms going back to Germanic **haubiþa-* (DWDS).

Proto-Indo-European **kaput* 'head' which became *caput* in Latin, got the notion protuberance of an organ or body-part in Late Latin, which has been retained in modern medical terminology. Here the convex surface of the source item was the model for the semantic transfer, while with *testa* > *tête* and *cup* the hollow (concave) interior surface was the model. **káput* has survived in English 'head' and German 'Haupt' (DWDS). In current language, the word *Haupt* has become obsolete (Haarmann 1986: 198). With reference to the body-part it is mostly heard in proverbial expressions, like *sein müdes Haupt zur Ruhe legen* 'to rest the weary head'. Far more frequently it is used as a modifier in compounds, slowly losing features of a noun and acquiring features of a prefix. Some German grammarians call it a Halbpräfix (semi-prefix, prefixoid) (Naumann 2000: 83).

People create new metaphors for 'head' more often than for most other body-parts. Most of these are related to its rotund shape, e.g. French *patate*, German *Rübe* ('turnip, beet') and *Birne* ('pear'), Low German *Kappes* ('head of cabbage'). They are mostly used in slang and often short lived. In some languages such metaphors stabilize, e.g. in Russian, where the equivalent of 'head of cabbage' is *kochan kapusty* (head cabbage), and in Albanian, where *kokë* 'head' is probably related to Vulgar Latin *coccum* 'berry', with which it shares the feature rotundity. According to Gaşiorowski it is itself a loanword from Greek *kókkos* which might refer to pomegranate seeds (Gaşiorowski 2017: 106). It is obvious that similarities between spherical bodies, tubers or fruit and the human skull have motivated metaphorical transfer in both directions ever since: while 'head' terms get the notion of (parts of artefacts and other inanimate items), terms for concave or spheric objects get the notion 'head'.

Another body-part the names of which in several languages result from metaphorical transfer of the domain of artefacts is *chest*. This word, originally a denotation for a big 'box' or 'casket', has two etymologies. The first is Proto-Germanic **kista* and PIE **kista* 'woven container', and the second is an early borrowing from Latin, *cista* 'chest, box'. In German and Dutch, *Kiste* and *kist* respectively do not denote the chest, but other vessels have served as cognitive sources. *Korb* 'basket' is the conceptual source of German *Brustkorb* (chest basket), and a kind of box (*kast*) that for Dutch *borstkas* (DWDS). Such metaphor is not given in French where all earlier forms of *poitrine* refer to the front part of the human thorax, occasionally also that of animals. Figuratively this term is used to denote the voice, and the female breasts, the respective part of clothes (CNRTL). French *coude* 'elbow' is a semantic transfer from 'bend, bow', which refers to the bent form of an item.

The trunk and the head are not the only body-parts, the names of which may come from the flora. Another one is French *pomme* ‘cheekbone’, verbally the diminutive of *pomme* ‘apple’. The convex shape is the shared feature between the source concept and the target.

Here we can be sure of a transfer from the plant domain to that of body-parts, but with regard to the next example this direction is not certain. *Palm*, the denotation for the ‘palm of the hand’ and also for a ‘palm-tree’, originates from PIE **pele-* ‘flat spread’ which is the source of Greek *palame* ‘open hand’. In Latin the word also has the notion of “palm tree”, and it was diffused to northern Europe, quite obviously in the two meanings (etymonline). Both words have two meanings which require separate lexicon entries.

Names of animal body-parts with reference to those of humans are not part of the standard lexicon, but they are used in figurative speech, as shown in Examples (1) and (2).

- (1) *s/he appeared with a mane like a horse*
 (2) *elle a laissé sécher sa crinière blonde à l’air*
 ‘she dried her blond mane in the air’

In German there are a number of conventionalized metaphoric expressions where certain human behaviors are described as behaviors of animals in which certain body-parts of animals are involved. (3) to (8). Only three of the English equivalents (5, 6, 7) and only one French equivalent (8) are likewise constructed with denotations of animal body-parts and describe animal behavior.

German

- (3) *in die Hufe kommen* (get in the hooves) ‘to get the skates on’
 (4) *sich auf die Hinterbeine setzen* (sit on the hind legs) ‘to finally make an effort and work hard’
 (5) *den Schwanz einziehen* (retract the tail) ‘to show the white feather’
 (6) *sich die Hörner abstoßen* (shed one’s horns) ‘pull in one’s horns’
 (7) *auf allen Vieren gehen* ‘to walk on all fours’

French

- (8) *marcher à quatre pattes* ‘to walk on all fours’

Most of such expressions are language specific (3,4,5), only few (6, 8) are conventionalized in several languages in calque translations or in a close translation (7). A similar use of animal body-part terms with reference to human beings is found in proverbs (9) and riddles (10) which just like the proverbial expression are commonly known and frequently used.

(9) German

Wasch mir den Pelz, aber mach mich nicht nass.

(wash my fur, but don't get me wet) 'Let me have my cake and eat it too.'

(10) French

Quel est l'être qui marche à quatre pattes le matin, qui marche à deux pattes le midi et qui marche à trois pattes le soir?

'Which creature walks on four paws in the morning, on two paws at noon and on three paws in the evening?'

In European languages, the names of many smaller, less visible or sensible body-parts are borrowed from Greek or Latin and make part of the learned words in the domain of medicine and biology. In English and French more of these terms are used in daily language than in German. A well-known example is *iris*, a name which is learnt as an etiquette by teenage years at the latest, and which is understood more easily than the explanations given in dictionaries, e.g.: "the opaque contractile diaphragm perforated by the pupil and forming the colored portion of the eye" (Merriam-Webster). The semantic transfer from the name of a 'messenger of the gods' to the 'rainbow' and to the 'colored portion of the eye' has obviously taken place already in Old Greek, from where the first and the third notion have been borrowed in several European languages. In German, the term *Iris* is quite commonly known, but the calque *Regenbogenhaut* (rainbow-skin) 'skin of the rainbow' is more frequently used.

The names of other body-parts have been coined by scholars using Greek and/or Latin lexemes and morphology. An example is *omoplate* 'shoulder blade' from Greek *ōmoplātē*, a compound made of *ōmos* (*omos*), 'shoulder' and *πλάτη* (*plātē*), 'something flat or broad'. Note that while in the German calque, *Schulterblatt*, the nucleus noun denotes a part of a plant, in the English calque, *shoulder blade*, it denotes an artefact.

2.2. Compound body-part terms

Many body-parts, in particular the less salient ones, have compound names. With regard to vital organs, compound terms are not frequent, but they do exist. In Zande there are two, the term for 'heart' as the place of affections and emotion

(Gore & Gore 1952: 102), *ngbaduse*, and the term for ‘eye, place of knowledge and attention’ *bangirise*.

Ngba, the first component of *ngbaduse*, is quite certainly the term for ‘mouth’ which metaphorically refers among other things to the ‘front side’ of animate or inanimate bodies. The second notion of *ngbaduse*, ‘chest’, i.e. ‘the front part of the thorax’, supports this hypothesis. The second component *du* is not used in current Zande, but it is the denotation for the ‘heart’ in Nzakara, a closely related language. The third component *-se* is the suffix found in the citation forms of body-part terms.

Nzakara *du* it refers to the physical heart as well as to the carrier of emotions which becomes clear in Example (11).

- (11) *du-e na-woka*
 heart-my PROG-hurt
 ‘I have (physical) heartaches’, ‘I am angry’

In Nzakara the compound *ngbadu*⁵ refers only to the ‘chest’. We may assume that some time ago, Zande shared the specific term for ‘heart’, **du*, which has become obsolete, and that the meaning of the compound *ngbaduse* was extended to refer also to the heart. The Zande denotation for the physical heart without any notion of morality or emotion is *ba-gunda-se*, of which the first syllable indicates ‘place’. The Nzakara etymon *gunda*, however, is used with reference to both the physical heart and the carrier of emotions. While in Zande *ngbaduse* is frequently heard in conversations, *bagundase* is not used very often.

The components of the term for ‘eye’, *bangirise* are less clear. It must be noted, that speakers of Zande normally cannot give the meanings of the single components. The word might be analysed either as *ba+ngi+ri+se* (place + ? + head + suffix) or *ba+ngiri+se*. The first analysis is unsatisfactory because the meaning of the central component *ngi* is not clear. The analysis as agent form appears more promising. The first component *ba* is the prefixed agent marker, and the second component *ngiri* might be a modification of the perfective form of the verb *ngera/ngere*⁶ ‘to look, to watch’. What is, however, not clear, why the original vowels /e/ were replaced by /i/, since there is no rule which says that in nominalized forms the vowels of the verbs are raised.

Note that the eye is also considered the carrier of knowledge, and when pieces of knowledge get lost, they are separated from the eye. There are two ways of forgetting things. Either the eye itself leaves virtually the respective piece of knowledge (12) or the latter virtually leaves the eye (13). The first expression

5. In Nzakara, body-part terms do not have the suffix *se*-.

6. Most verbs distinguish an imperfective and a perfective stem which are both part of lexicon entries.

indicates greater control over the respective item of knowledge than the second⁷ which might eventually be recalled.

(12) a. *bangi-re*⁸ *go ti ni* (I might eventually recall it)
 eye-my leave at ANAPH
 'I forgot it.'

(13) b. *Si go bangi-re* (there is no chance that I recall it)
 INAN.SUBJECT leave eye-my
 'I have forgotten it.'

Many languages have numerous compound terms for small and less vital body-parts. They consist normally of a body-part term as modifier and a nucleus noun which may be an item from other domains, but also from the domain of human body-parts (Table 3). The Zande equivalent for 'shoulder joint' given by Gore & Gore (1952: 231) is not used in other contexts, and speakers of Zande give one component of the term as equivalent for 'shoulder joint', which indicates that the compound term expresses more precision than in normally needed.

Table 3. Compound body-part terms with a body-part term as modifier

English	German	French	Zande	Sango
<i>cheekbone</i>	<i>Wangenknochen</i> (cheek-bone)			
<i>instep</i>	<i>Fußrücken</i> (foot-back)			
<i>knee</i>				<i>li-kuni</i> (head-thigh)
<i>back of the hand</i>	<i>Handrücken</i> (hand-back)	<i>dos de la main</i> (back of the hand)		
<i>shoulder-joint</i>	<i>Schultergelenk</i> (shoulder-joint)	<i>articulation de l'épaule</i> (joint of shoulder)	<i>kpurunga-be</i> ^a (shoulder. joint-arm)	
<i>fingers</i>				<i>li-ti</i> ^b / <i>maboko</i> (head-hand)
<i>tip of fingers</i>			<i>ngba wirinzaga</i> (mouth finger)	

a. *Kpurunga* is not used in other contexts and speakers of Zande give 'shoulder-joint' as equivalent.

b. In old texts in several compounds the Ngbandi word *ti* for 'hand' has been retained, but speakers of modern Sango use *maboko* in compounds.

7. Germain Landi gave me this explanation.

8. Sequences of syllables with /r/ tend to be avoided in Zande, hence **bangiri-se* → *bangi-re*.

As was already shown with regard to the term for ‘chest’, *ngba* ‘mouth’ is used in combination with other body-part terms to denote the front part of the respective body-parts (14), e.g. the tips of the fingers.

- (14) *mo zadi-he ni ngba-wirinzaga-ro*
 YOU.SG take-INAN.OBJECT COMM mouth-finger-your.PL
 ‘Hold it with the tips of your fingers.’

Animal body-part terms in the position of modifiers refer to the appearance of the respective body-parts, e.g. German *Hornhaut* (horn-skin) ‘horny skin, callus’ and *Lederhaut* ((leather-skin) ‘dermis, sclera’). Unfortunately, I could not find similar examples in African languages. In the position of the nucleus, i.e. in part-whole constructions, animal body-part terms refer to the shape of the respective body-parts. Well-known examples are *nasal wings* or *ala of the nose*, French *ails du nez*, and German *Nasenflügel* (nose-wings). In English there is monomorphemic *concha* ‘outer ear’, borrowed from Latin or Spanish where it means ‘shell’, and there is the German equivalent *Ohrmuschel* (ear shell).

Certain body-parts for which some languages distinguish terminologically between the human and the animal body-part term are not distinguished in this regard in Zande and Sango. The best-known examples are *hair* (*Haar* in German, *cheveux* in French) versus *fur* (*Fell* or *Pelz* in German and *fourrure* in French). All these readings are covered by Sango *kwa*. In Zande *mange* has the same range of meanings. In both languages the term for ‘skin’ may also refer to the surface of plants or inanimate things.

While English, French and German differentiate lexically between ‘hair’ and ‘skin’ of humans and those of animals, Sango and Zande do so by different possessive constructions. With regard to human beings, specific reference may be made to the respective body-parts that carry the hair, a differentiation which is normally not made with regard to animals, where hair and skin are specified only by the names of the respective animals.

Sango		Zande	
<i>kwa li</i> (hair head)	‘(human head-) hair’	<i>mangi-ri^a</i> (hair-head)	‘(human head-) hair’
<i>kwa-yanga</i> (hair-mouth)	‘beard’	<i>mangi-ngba</i> (hair-mouth)	‘beard’
<i>pɔɔ (ti) le</i> (skin POSS eye)	‘eyelid’	<i>mangi-bangilise</i> (hair-eye)	‘eye-lashes, eyebrows’
<i>pɔɔ yanga</i> (skin mouth)	‘lips’	<i>kpoto-ngba</i> (skin-mouth)	lips

(continued)

Sango		Zande	
<i>kwa ti tere</i> (hair POSS body)	'body hair'		
<i>kwa ti ndeke</i> (hair POSS bird)	'feather'	<i>mangi-zile</i> (hair-bird)	'feather'
<i>pɔɔ ti zē</i> (skin POSS leopard)	'leopard skin'	<i>mangi-ngba-ru</i> (hair-mouth-AN. POSS)	'whiskers'
<i>pɔɔ ti susu</i> (skin POSS fish)	'fish skin, scales'	<i>mangi-nya</i> (hair-animal)	'fur'
		<i>kpoto mbara</i> (skin-elephant)	'elephant skin'
<i>pɔɔ ti kēke</i> (skin POSS tree)	'bark of a tree'	<i>kpoto-sende</i> (skin-earth)	'(surface of the) earth'
		<i>kpoto-kpurungbu</i> (skin-bowl)	'exterior of the bowl'

a. In possessive constructions the second vowel /e/ of a noun with the structure *CiCe* is raised to /i/.

Dixon (2010: 171) observes that in the languages of the world a semantic shift of given items from the plant domain to that of body-parts is rare. The only body-part terms I could find, where such a metaphorical transfer has taken place, are German *Augapfel* (eye-ball), French *prunelle des yeux* (plum.DIM of.PL eyes) in Italian the equivalent *bulbo oculare* (bulb related.to.the.eye). *The apple of the eye* is not a body-part term, but a frequent metaphoric expression found in the texts of many songs. Unlike other body-part terms, *Augapfel* and *prunelle des yeux* have the notion of body-parts which are highly appreciated because they constitute the major means of orientation and they are part of the personality of the owner (15, 16). This high value has most probably the motivation for the expressions like *you are the apple of the eye*.

(15) *ich hüte das wie meinen Aug-äpfel*
I guard ART.NEUT.AKK like my.MASK.AKK eye-ball
'I take care of that as if it was the ball of my eye.'

(16) *tenir à quelque chose comme à la prunelle de ses yeux*
take.care.of something like at ART.F sloe of POSS.PL eyes
'Take care of something as if it was the ball of the eyes.'

It is noteworthy that the plant-terms do not constitute the modifier nouns, but the nucleus nouns. This is also the case in *Adam's apple*, and its calques in several European languages, e.g. French *pomme d'Adam*, German *Adamsäpfel*, Spanish

manzana de Adán and Portuguese *pomo-de-adão*. *Adam's apple* is one of only two widely spread body-part terms with a personal name as modifier. The origin of the term *Adam's apple* is unknown (Wahrig Herkunftswörterbuch). The second is *Achilles tendon*, which has likewise calques in different languages, French *tendon d'Achille*, Spanish *tendón de Aquiles*, Dutch *achilleshiel*, German *Achillessehne*. The name makes reference to the one vulnerable spot of Achilles, an ancient Greek hero. The Latin form, *tendo Achillis* was first used by Lorenz Heister (1983-1758) (etymonline).

More frequent are compound body-part terms in which the modifier noun refers to a geometrical shape or an inanimate object of a specific shape. Among these are *eyeball*, French *boule d'oeil*, *globe de l'oeil* or *globe oculaire*, *tiptoe*, German *Zehenspitze* (toe-tip), French *bout de l'orteil* (end of toe) or *pointe du pied* (tip of foot), German *Zungenspitze* (tongue-tip) 'tip of tongue', French *pointe de la langue*, German *Handfläche* (hand surface) 'palm', *Handkante* (hand edge) 'side of the hand', *ball-and-socket joint*, *spherical joint*, French *articulation sphérique*, German *Kugelgelenk*, (sphere-joint), *elbow*, German *Ellenbogen* (el-bow), Dutch *elleboog*, and in Dutch the *el* or *ulna* itself is called *ellepijp* (el-pipe). Finally, there is *kneepan*, German *Kniescheibe* (knee-disc), Dutch *knieschijf* (knee-disc), Zande *kpaka-mirarukususe* (flat.thing-tongue-knee) and Swahili *pia ya miguu* (cones of legs).

Fairly frequent are also compounds in which the nucleus nouns are names of artefacts, and it must be noted that Grimm & Grimm (1854-1961) already observed that body-parts are often named after domestic appliances and give *Brustkasten* 'rib cage, thorax' as a further example.⁹ Examples from European languages are *knee cap*, *blade*, German *Schlüsselbein* (key-bone) 'collar bone'; and *foot sole*, German *Fußsohle* (foot-sole). Note that '(shoe) sole' is derived from late Latin *sola* 'foot sole' (DWDS). Examples from Swahili are *pia ya miguu* (cones of legs) 'knee caps' and *kombe la bega* (bowl of shoulder) 'shoulder blade', and from Zande *giri rukuse* (cord navel) 'umbilical cord'. Some are taken from the domain of architecture such as *arch of the foot*, *the vertebral* or *spinal column* and its French and German equivalents *colonne vertébrale* (column vertebral) and *Wirbelsäule*.

2.3. Derivations denoting body-parts

Metaphorical body-part terms constitute not only sources of metaphorical extensions in other semantic domains for new concepts, but also in the domain of body-part terms, in particular for smaller, less vital and less visible body-parts. Like in European languages diminutive names of body-parts are not frequent in Zande and absent in Sango.

9. They do so in the entry for 'Kopf' in vol. 11, column 1747.

Zande diminutive forms marked by the word for ‘child’ *wiri* refer to body-parts which are extensions of other body-parts, like the fingers and toes, *wiri-nzaga*¹⁰ (child-barb) ‘fingers’, *wiri-ndue*,¹¹ (child-foot/leg) ‘toes’. It is used in a similar way to denote the smaller parts of complex artefacts, e.g. *wiri-nzoro* (child-bell) ‘tongue of a bell’, *wiri-sangu* (child-mortar) ‘pestle’ which are part of a whole, may be qualified as a semi-prefix.

In the two functions *wiri* differs from the diminutive marker in Ewe (Heine and Kuteva 2002: 65), which is also derived from the denotation for child, but which is used as a marker of small items. In combination with denotations for inanimate items *wiri* may, however, also be used as such a diminutive marker, e.g. *wiri-mbia* (child-rock) ‘stone’, *wiri-di* (child-river) ‘small river’.

In Sango *li* ‘head’ is used to coin terms for small body-parts which are extensions of other, bigger body-parts. It has acquired features of a prefix. *Li-gere* (head-leg) denotes the ‘toes’, and *li-ti* or *li-maboko* (head-hand) denotes the ‘fingers’. In *li-be* (head-heart) ‘chest’, *li* is used only in the notion ‘front part of an item’.

3. Body-parts of objects

Many inanimate objects have body-parts, but unlike animate beings, they are not perceived as whole bodies and have only a restricted selection of body-parts. A MOUNTAIN IS A PERSON insofar as it has a foot, and for some speakers and in some languages also a head, a shoulder and a trunk (Lakoff & Johnson 1980: 54). But it does not have the rest of human body-parts and it is not considered a living person. In the words of Perekhval'skaya, a mountain is not personified, it is not a person “with motivations, goals and actions, but an object whose body shares certain features with the human body (Perekhval'skaya 2015: 54).

Similarly defective is the model of the sky in Gbaya, an Ubangian language. According to Roulon-Doko (1996: 47f) *zu zân*, ‘head of the sky’ refers to the ‘East’ and *ndàyà zân* ‘buttocks of the sky’ refers to the West. But there is no trunk of a body between these two ends, and the sky is definitely not perceived as a person or a human body (Mietzner & Pasch 2007: 24f).

The multitude of body-parts ascribed to all kinds of objects in Ewe and other West African languages has made these a particularly rich field for research on grammaticalization (e.g. Heine 1997). In European languages objects are seen less often as having body-parts (Perekhval'skaya 2015: 54). But here too chairs and

10. *Wiri* is not combined with the word for ‘hand/arm’, *be*.

11. The suffix *-se* of body-part terms is reduced to the vowel in *ndu-e*. When the word is used in a possessive construction, *-e* is replaced by the actual possessor.

tables have *legs*, a sharp bend of a river is called a *knee of the river* or an *elbow of the river*, in French *coude du fleuve* (elbow of river) and in German the strong bend of Rhine river in Düsseldorf is called *Rheinknie* (Rhine-knee).

In most European language, the door of a house is, however, not referred to as the mouth of the house as is the case in Sango, *yanga-da* (mouth-house), and Zande, *ngba-dimo* (mouth-house), and the roof of a house is not called its 'head' as in Sango, *li-da* (head-house) and Zande, *li-dimo* (head-house). The source of a river is not perceived as its head, as is the case in Sango *li-ngu* (head-water), and Zande, *ri-di* (head-river). Even more untypical for European languages are Zande constructions where a surface is referred to as the 'head' on which something happens. This is done with regard to water as in *ri-ime* (head-water) 'surface of water', and with regard to dry ground as shown in Example (17).

- (17) *wa ka toro a-ndu ri sende.*
 like SUB spirit PERF-go head ground
 '[she came] like a fairy queen walking on the ground'

In Sango, surface of a body of water, of dry land or the sky is expressed by the term for 'eye', *le* (18). In combination with *zeme* 'knife', *li* refers to the cutting edge (19) as the frontmost part of a knife. When *yanga* 'mouth' is used to refer to the cutting edge the notion is that of its cutting function (20).

- (18) a. *le (ti) ngu*
 eye POSS eye
 'surface of water'
 b. *le (ti) yaka*
 eye POSS field
 surface of the field
 c. *le (ti) ndozu*
 eye POSS sky
 area of the sky
- (19) *mbi yo le ti zeme*
 1SG sharpen eye POSS knife
 'I sharpened the knife.'
- (20) *mbi sara yanga ti zeme*
 1SG make mouth POSS knife
 'I sharpened the knife.'

4. Body-parts with tool-functions

For Europeans the best known body-parts with a tool function are the ossicles, *malleus* or *hammer*, *incus* or *anvil*, *stapes* or *stirrup*, in German *Hammer*, *Amboss*, and *Steigbügel*, in French *le marteau*, *l'enclume* and *l'étrier*. Children learn about them in school, but they play hardly a role in daily communication. The function of body-parts as tools or instruments¹² plays a more important role in daily used lexicon than is often acknowledged. This will be outlined with a few examples from Ubangian languages.

It is true that the spatial and the instrumental notions may be blurred (Lehmann 2016: 16). This becomes obvious in descriptions of carrying loads on the head, on the shoulders or the backs of animals. With regard to Baka, a variant of Ngbandi, the explanation is more complex. Here, like in many other languages, *pɛ* or *pɛpɛ*, the back of the human body, is the conceptual source for BACK and 'thereafter' (Brisson & Boursier 1979: 393), but it is also the conceptual source for UP (Kilian-Hatz 1995: 117). In the rain-forest, where the Baka live, there are no animals which could carry loads on their back and which could serve as the zoomorphic model for 'back' = UP (Heine, Claudi, Hünemeyer 1991: 125), and the question arises, how the human back could become the source for UP as indicated in Example (21).

- (21) *lekè mesa, ʔòtɔ à pɛpɛ*
 prepare table put DIR (human) back
 'lay the table, put [the things] on top of it'

Baka women carry loads in baskets on their backs supported by straps across their foreheads. The heavier the loads, the more they tend to bend forward so that the cargo is on top of their back. But when they stand or walk carrying their babies on the back, they do not bend forward. I claim that it is in the carrier function of the back in combination with the posture of the person and the position of the cargo which made the human back a source of the concept UP. The examples from Lendu, a Central-Sudanic language, indicate that the carrier function of the head motivated the metaphor A PROBLEM IS A CARGO ON THE HEAD (22, 23).

12. Lehmann (2016) uses the term *instrument*. I prefer the term *tool* to highlight the relation to work and focus on expressions describing situations where work is actually or virtually carried out, leaving the instrumental functions of body-parts for locomotion and perception aside.

(22) Lendu¹³*kε-kuu ko-jó mbudha*

3SG-COP 1PL-head load

‘we are responsible for him [he is the load/problem on our head]’

(23) *kε-jó-na**lo-kuu-bó*

3SG-head-PREP problem-COP-much

‘he has many problems’

The head, the back and the shoulders are the major body-parts for carrying loads in such a way, that the loads are posited and kept on top of these body-parts. We may also carry things with our hands, but the hands are normally used as tools to take things, hold them and give them to somebody or put them somewhere (24).

(24) ... *kù ki di wili-gaza, ki zadi-he be-ko.*

3M SEQ take small-drum SEQ hold-INAN.OBJECT hand-3M

‘... and he took a little drum and carried it in his hand’

In many languages of the world possession is expressed by the term for ‘hand’. Grabbing hold of an item – really or virtually – means taking possession of it, and holding it in one’s hand means having it in one’s possession (Heine 1997: 53). The cultural goods of the Ambomu are now virtually in their hands, as they had seen them earlier in the hands of other peoples (25). These items are not necessarily taken up by hand and transferred to another hand, but they may also be pieces of immaterial culture.

(25) *Dungu a-he du be A-mbomu nga gu i a-bi kina be*

many PL-thing be hand PL-Mbomu COP DEF.3PL PERF-see just hand

kura a-boro kia

other PL-person different

‘Many things the Ambomu possess (in their territory) are what they have seen in the territories of other peoples.’

Taking things and putting them somewhere, is not the only work carried out by hands. Very often hands or other body-parts are used to produce or manipulate things. In descriptions of such activities these body-parts are usually not explicitly mentioned because their use is a semantic feature of the verbs (Lehmann 2016: 4). This applies to verbs describing actions carried out by hand, e.g., *write s.th. on the board*, *grind flour*, *hit the dog*, and to verbs carried out by foot, e.g. *tread the ground*,

13. I owe thanks to Jean Baptiste Grodya Musafiri for providing these examples (Kisangani, February 2016).

German *den Boden festtreten*, French *tasser la terre*, (compress the ground), *kick the ball*, German (*den Ball*) *schießen*,.

This applies also for some metaphorical expressions, *kick the bucket* and the corresponding German expression *den Löffel abgeben* (to surrender the spoon). An example from Sango is *mbi zi gere* (1SG seize legs) ‘I take to my heels’, an apology which a young man uttered when he was close to being chased away (Pasch & Landi 2018).

No involvement of the hand is understood in crane verbs, which describe signs or gestures made with different body-parts possessed by the subject of the verb, e.g., *open or close the eyes*, *raise the hands*, *turn the head*, *lift the foot* etc. It is important to note that these body-parts are obligatorily encoded as objects of the verb (Levin 1993: 221f), but when the whole body is involved, as in *turn around*, *bend down*, no reference is made to the body. The subject, if a healthy person, has sufficient control over the respective body-parts to have them carry out the actions themselves. In Zande and Sango similar constructions are used (26, 27).

(26) Sango

a. *mo zi le ti mo*

2SG open eye poss 2SG

‘open your eyes’

b. Zande

mu zara bangi-ro

you.SG open eye-your.SG

‘open your eyes’

(27) a. *yo maboko ti mo*

carry.high hand POSS 2SG

‘raise your hand’

b. *mu tumba be-ro ku ari*

you.SG raise hand-your.SG DIR up

‘raise your hand’

5. Conclusion

In all of the investigated language simplex terms for vital body-parts, even if on the Swadesh list, are not all inherited, but a few have been borrowed or they result from metaphorical transfer with etymological sources outside the domain of body-parts.

Compound terms which are primarily used for smaller body-parts have been coined on the basis of metaphorical transfer, and by derivation. In the investigated languages, the modifier nouns in compounds are taken from the domain of human

or animal body-parts, plants, personal names, or from the domain of artefacts, among which tools play an important role.

Abbreviations

AN	animate, non-human gender	GEN	genitive
ANAPH	anaphor	MASK	masculine gender
AKK	akkusative	NEUT	neuter gender
ART.F	feminine article	NOM	nominative
ART.NEUT	neutral article	PERF	perfective prefix
CNRTL	Centre National des Ressources Textuelles et Lexicales	PIE	Proto Indo-European
COMM	comitative	PL	plural
COP	copula	PERF	perfective
DEF.D	distal definite marker	POSS	possessive marker
DEF.P	proximal definite marker	PROG	progressive
DIR	directional	SEQ	sequential marker
DIM	diminutive	SUB	subordinating conjunction
DWDS	Das Wortauskunftssystem zur deutschen Sprache	2SG	second singular
FEM	feminine gender	3M	third singular masculine
FEW	Französisches Etymologisches Wörterbuch	3F	third singular feminine
INAN	inanimate gender	3PL	third plural

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Towards a semantic lexicon of body part terms

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This chapter focuses on recurring patterns of semantic extension of body part terms taking into account two major factors which lie at the heart of the phenomenon, one being the so-called *embodied cognition*, the other – *shared culture*. While these two factors lead to considerable resemblance among unrelated languages, they encounter the counterbalance of language-specific features resulting from non-shared culture and different language usage practices. The question posed is whether a systematic research program can examine polysemy of body part terms from a cross-linguistic perspective and what kinds of difficulties this kind of research would have to overcome.

Keywords: body part terms, embodiment, cognitive universals, polysemy, semantic change, semantic extension

1. Introduction

Body part terms are included in the basic lexicons of all languages (e.g. Brown 1976; Andersen 1978; Wierzbicka 2007) and they have been researched by linguists from various perspectives, including: semasiological and onomasiological lexical studies, grammaticalization, or “special” syntax. This chapter focuses on the human body and its parts recognized as a natural and always available source domain for target concepts within other domains, such as emotions, reasoning and knowledge, social interactions and values, grammaticalization, and the external domains of objects, plants, landmarks, etc. Although this aspect of research is relatively new, a considerable amount of work devoted to it has already been published, whether focusing on specific body parts in particular languages, or applying a comparative approach, see, among others, the contributions in: Majid et al. (2006), Sharifian et al. (2008), Maalej and Yu (2011), Brenzinger and Kraska-Szlenk (2014), and Kraska-Szlenk (2019a), as well as comparative and general works such as, Hilpert (2007), Yu (2009), Kraska-Szlenk (2014a,b). In addition,

body part terms have been a well-researched topic in grammaticalization (e.g. Heine 1997, 2014; Heine and Kuteva 2002).

The earlier analyses and cross-linguistic evidence demonstrate a remarkable convergence in body part terms' transfer and meaning extension, whether manifested as synchronic polysemy, or as diachronic semantic change. Regularities of this kind are in fact fairly expected as they stem from universal embodiment and cognitive processes, as well as shared culture. The evidence of body part terms' extensions points to the regularity of semantic change, that is, the high predictability of directions it takes.¹ This constitutes an important contribution to the understanding of emergent cognitive and linguistic universals, adds to research on principles of diachronic change, and helps to hypothesize on language origin and evolution through conceptualizations based on embodied experience. Regularity of semantic change interacts with certain "typological parameters", as well as with culture-specific traditions and truly unique strategies of meaning extension. My purpose in this chapter is to discuss whether a systematic comparison of body part terms' semantic extensions in multiple languages presents a worthwhile research program with the goal of constructing a cross-linguistic database, or a multilingual *semantic lexicon* of such words. A project of this kind provides numerous options for research on various topics, such as, to name just a few, how (ir)regular semantic change is, which concepts tend to have an embodied character, and how similar or different are semantic networks in different languages?

In the remaining parts of this chapter, Section 2 is devoted to the issue of embodiment and its relevance to the study of body part terms, Section 3 provides a brief survey of typical cross-linguistic metaphors and metonymies with the body as the source domain, Sections 4 and 5 are devoted to the issue of cross-linguistic equivalence in body part terms and their extensions, respectively. The conclusion summarizes the results and points to further research questions.

2. Embodied cognition and linguistic embodiment

In cognitive and behavioral sciences, embodiment is integrated into a view of *grounded (situated) cognition* which asserts that knowledge has a perceptual basis and multimodal² brain representation, resulting from experience with people's own bodies and the surrounding world. Although early work in this vein developed already in the 1980s or even the 1970s, the turn of the century appeared to

1. Cf. the discussion in Kraska-Szlenk 2014a and 2014b, Chapter 10, and *passim*.

2. Or *amodal*, that is, more symbolic and schematic, see e.g. Barsalou (1999).

be the beginning of a real boom of research on multiple topics supporting the tenets of the theory (cf. Barsalou 2010). Various modalities, such as motor, sensory and proprioceptive systems cooperate to create memories of experience which can be reactivated through simulations in the brain's modal systems when needed. For example, instances of the experience of sitting on a chair create a multimodal representation of how the chair looks, feels, etc., and whenever a category of 'chair' is needed, the previously stored representations are reactivated and simulated by the brain (cf. Barsalou 2008: 618–19).

Likewise, the feedback of other modalities is important in language processing and has a concrete effect of positive influence exerted on neural simulation. Numerous behavioral studies demonstrate that a linguistic stimulus of action verbs or action description co-activates the motor systems. Bergen et al. (2010) present evidence from English and Cantonese (based on the verbs *smile*, *punch*, and *kick*) showing that this co-activation can have a form of interference, when it influences the word – image matching tasks. Co-activation effects are particularly strong in the case of emotional language. An interesting experiment conducted by Siakaluk et al. (2011) reveals that insult words of the embodied structure (e.g. *bonehead*, *numbskull* or *pinhead*) feel more offensive than other insults (e.g. *idiot*). Embodied cognition has also been researched in the domain of metaphor. As Johansson Falck and Gibbs say: “Bodily processes appear to enhance the construction of simulation activities to speed up metaphor processing, an idea that is completely contrary to the traditional notion that bodily processes and physical meanings are to be ignored or rejected in understanding verbal metaphors” (2012: 253). In their own analysis which couples a psycholinguistic survey with corpus data, they show that the metaphorical uses of the English words *path* and *road* vary and depend on the physical experience associated with designates of these two lexemes (Johansson Falck and Gibbs 2012).

As for language structure, the observation that there is a systematic link between the human body and the shape of linguistic expressions was formulated in the pivotal publication by George Lakoff and Mark Johnson (Lakoff and Johnson 1980) and was later developed by these authors (Lakoff and Johnson 1999, Johnson 1987, Lakoff 1987) and others (e.g. Csordas 1994; Kövecses 2000, 2005; Gibbs 2006). Linguistic work on embodiment focuses on conceptualization, as explicitly stated by Lakoff and Johnson: “*embodiment hypothesis is the claim that human physical, cognitive, and social embodiment ground our conceptual and linguistic systems*” (1999: 27). Within this area, particular emphasis goes to the study of metaphor as an instrument of conceptualization. Both, the metaphor, which plays an *explanatory* role in conceptualization, as well as metonymy with its *referential* function, are important cognitive mechanisms which extend various concepts from the human body domain.

What I refer to as *linguistic embodiment* is a range of language structures which take the human body domain and bodily functions as a conceptual source of meaning. Linguistic embodiment can be understood as an epiphenomenon of embodied conceptualization reflected through language structures. However, as Yu (this volume) demonstrates, it is not only that, because linguistic expressions exert a certain power over conceptualization, too. Ultimately, the relation between embodiment, conceptualization and language is more complex and goes both ways: from embodied conceptualization to linguistic structures, and from embodied patterns reflected in linguistic usage and learnt through language acquisition to emergent conceptualizations of these patterns.³ The embodiment of language is thus supported by two kinds of evidence: part of it comes from experimental verification within neuroscience and cognitive psychology, the other one – from language structure itself.

3. Cross-linguistic tendencies in extension of body part terms

Body part terms are quite obviously “embodied” in the sense that their processing co-activates brain simulations of the modalities associated with our bodies. When we say, hear, read or write a lexeme ‘hand’, previous linguistic experiences associated with this word (its meaning, syntax, contextual uses, etc.) underlie simulations of our brain’s activity at this moment, which guarantees that a present understanding of ‘hand’ conforms to its earlier uses, processed by our brain in the form of schematic knowledge. At the same time, however, co-activation of other modalities “retrieves” from our memory the movements of our hand associated with performing various activities, feelings of warm/cold/pain, memories of touching and feeling smooth/harsh surfaces, and many other accumulated bodily experiences. This is an important fact which makes body part terms a very special kind of lexis, because their processing is facilitated not only by frequency criteria as in the case of all other vocabulary, but also by an additional factor of embodiment. For the purpose of this chapter, it has the consequence that major, clearly delineated external body part terms (e.g. ‘head’, ‘face’, ‘eye(s)’, ‘hand’, ‘arm’, ‘leg’), as

3. The bidirectionality between language usage and mental representations characterizes language in all of its aspects, including phonological and morphological representations which are built “from bottom up” on the basis of usage criteria, such as frequency and “local analogies”, but at the same time provide generalized mental schemas for on-line language production of existing forms, as well as newly created ones (cf. Bybee 2007; Kraska-Szlenk 2007; Dąbrowska 2008; Langacker 2009, among others).

well as some internal organs (e.g. ‘heart’, ‘stomach’⁴) often become source domains for other concepts. This is an expected behavior and indeed the accumulated data of various languages demonstrates that major body part terms are highly polysemous and that many of their extended senses are cross-linguistically common (cf. Kraska-Szlenk 2014a, b). This section brings to attention such tendencies, including cases of synchronic semantic extension (polysemy), as well as diachronic change in which the source body part meaning is either no longer present or a phonological split has taken place between the source form of a body part term and an extended form. The latter case is typical of changes observed in grammaticalization, since grammaticalized forms are often characterized by form reduction.

The human body serves as a template for animals’ bodies,⁵ even if some animals have body parts which differ significantly from those of people. For example, Swahili *mkono* ‘hand/arm’ (pl. *mikono*) can designate ‘tentacle(s)’ of the octopus, or the elephant’s ‘trunk’; many languages extend ‘mouth’ for ‘beak’, ‘leg(s)’ for ‘paw(s)’, or human ‘hair’ for animals’ hair.

The conceptualization of objects and their parts *via* the body domain is likewise very common. In some cases, the mapping is very consistent and involves multiple body-object pairings, as in the well-known example of Apache (Basso 1967: 472) with as many as nineteen terms mapped from the human/animal body on a domain of an automobile, e.g. ‘shoulder’ – ‘front fender’, ‘hand/arm’ – ‘front wheel’, ‘chin/jaw’ – ‘front bumper’. Partial metaphorical mapping from the human body domain is found in the case of various objects and their parts whose shape and sometimes other qualities (size, position) resemble those of human body parts, cf. English *leg of the table*, *arm of the chair*, *head of the cabbage*, *eye of the needle*, *heart of the city*. Similar extensions abound in the world’s languages, while mapping on other external domains seems to be more culture-specific. For example, extensive mapping of body parts on landmarks is strongly associated with Australian culture (Sharifian 2011: 57), cf. Thaayorre *ngok pungk* ‘(ocean) waves’ lit. ‘water knee’, *raak koo-miing* ‘surface of the ground’ lit. ‘place face’ (Gaby 2006: 218). Another example of culture-specific conceptualizations is provided by

4. As illustrated further in this section, the liver represents another internal organ which in some languages becomes an important source domain in conceptualization. Unlike in the case of the heart and the stomach which can be experienced through their functions and leave memory traces, the liver cannot be experienced as such and is perhaps exceptional in this respect.

5. Semantic change may also go the other way. Typical situations when people’s body parts are designated by terms denoting parts of animals’ bodies are in pejorative or joking contexts, as in the case of Polish *łapa* ‘paw’ for ‘hand’, *łeb* ‘(animal’s) head’ for ‘(human) head’, or *dziób* ‘beak’ for ‘mouth’. In Polish (and in other Slavic languages), one such term, namely, *noga* underwent a permanent semantic change from the meaning of ‘claw’ to ‘foot/leg’, replacing the original term *piech*, still found in some derivatives, e.g. *na piechotę* ‘on foot’.

names of foods which often draw on the body domain in the most peculiar ways, cf. Polish: *uszka (w barszczu)* ‘dumplings (in borsch)’ lit. ‘ears-dim.’, *paluszki* ‘bread sticks’ lit. ‘fingers-dim.’, or *cycki teściowej* ‘(kind of) cake’, lit. ‘tits of mother-in-law’.

Grammaticalization represents a well described abstract domain of very consistent metaphoric mapping from the human body domain (cf. Heine 1997; Heine 2014, Heine et al. 1991, Svorou 1994, among others). Several grammatical domains have been thoroughly described in the literature as possible targets of such body parts’ transfer, as briefly summarized below.

The conceptualization of spatial relations *via* the bodily domain constitutes the most common case, with a possible further extension onto the time domain, cf. English *back* in all these three possible meanings, as in: *my back hurts*, *the back garden (I stepped back)*, *two years back*. In multiple languages, similar developments affect other body part terms, e.g. ‘face’ > ‘ahead’, ‘(in) front (of)’ > ‘before’, ‘head’ > ‘top’, ‘above’, ‘up’ > ‘in the future’, ‘stomach’ > ‘within’, ‘inside’, ‘in’ (cf. Heine and Kuteva 2002; Kraska-Szlenk 2014a: 20).

The grammaticalization of body part terms towards the concept of ‘self’ and reflexive markers is particularly common in Africa, although not limited to this continent (Heine 2014: 20, 2019: 25, Schladt 2000: 108). Typically, the terms ‘body’ and ‘head’, and sporadically other body part terms are utilized as source domains in this grammaticalization process, cf. Efik (Atlantic, Niger-Congo) *ídém* ‘body’, Logba (Atlantic, Niger-Congo) *iyó* ‘skin, body’, or Gurdun̄ (Chadic, Afroasiatic) *àni* (or *àaŋ*) ‘hand’ and *gaŋ* ‘head’ – all possible to be used as reflexive markers (Heine 2014: 21–22).

Numerals represent yet another grammatical domain, with the lexeme ‘hand’ extended as ‘five’ and used as a base for deriving other numerals, including ‘two hands’ for the number ‘ten’, while ‘body’ or ‘person’ may be used to designate the number ‘twenty’, cf. Api (Austronesian) *luna* ‘hand; five’, *lua luna* ‘two hands; ten’ (Heine 1997: 21).

In many languages (especially, Australian, Southeast Asian, Southern American, cf. Aikhenvald 2000), body part terms may serve as a source domain to develop classifiers. For example, in Palikur (Arawak), two out of eleven numeral classifiers have this kind of origin: *uku/wok* ‘hand’ and *biyu/biy* ‘mouth’; in Xamatateuri (Yanomami), *ko* ‘heart’ can serve as a classifier for round objects (Aikhenvald 2000: 355). The meanings of classifiers vary according to a lesser/greater advancement on a grammaticalization path: from the identical meaning of the classifier and X body part term, through a broader X-shaped meaning of the classifier until a nontransparent meaning of the classifier which can be traced to ‘body part’ in a diachronic reconstruction (cf. Aikhenvald 2000: 355, Zariquiey 2019: 356). The final stage of classifiers’ grammaticalization may also involve their further phonological reduction to body-part prefixes, cf. Kakataibo (Panoan):

mëkën ‘hand’, *më-xaka* ‘skin located on the hand’, *më-táxka* ‘to beat somebody on the hand’ (Zariquiey 2019: 358).

The above examples can be viewed as typical metaphoric mapping⁶ onto domains that are clearly separated from the domain of a person’s body. Many other extensions are grounded by metonymic links between adjacent domains. Due to the fact that metonymies may chain together and may also co-occur with metaphors, in some instances the ultimate target domain seems to be quite distant from the source domain of the human body, as in the case of abstract notions and values illustrated below.

In many languages ‘heart’ is conceptualized as a metaphoric container for emotions. This conceptualization typically combines with a number of metaphors, e.g. the ontological metaphor EMOTIONS ARE THINGS, but also with metonymies. Taking *moyo* ‘heart’ in Swahili as an Example (Kraska-Szlenk 2014b), we can distinguish a metonymy HEART FOR EMOTIONS (an instantiation of CONTAINER FOR CONTENTS), which leads to another metonymy: HEART FOR A FEELING PERSON, based on a connection between emotions and a person experiencing them. This constructed meaning can be further modified in context, distinguishing a person experiencing a temporary affect or a more permanent feeling, or the ‘inner self’ of a person, sometimes juxtaposed against ‘self’. The initial metonymy HEART FOR EMOTIONS in Swahili also develops another branch of metonymic meanings, when *moyo* stands for specific emotions (GENERAL FOR SPECIFIC), such as ‘compassion’, ‘love’, ‘enthusiasm’ or ‘courage’, depending on the context.

While emotions metaphorically reside within the body, visible body parts are used to conceptualize emotional displays on the outside, cf. *happy/sad eyes*, *hair rising*. A true “mirror” of emotions is naturally the face, which indeed physically changes according to a person’s mood or a temporarily felt affect. This is captured by the metonymy FACE (FACIAL MANIFESTATIONS) FOR EMOTIONS. In addition, the face is, as Yu says: “the most important identity mark of who we are, both physically and socially” (2001: 1). The previously mentioned metonymy FACE (FACIAL MANIFESTATIONS) FOR EMOTIONS together with the metonymy FACE FOR PERSON underlie common conceptualizations of ‘face’ as ‘social face’ which constitutes an important value in the society, such as a person’s honor or prestige. The conceptualization of ‘social face’ *via* the physical ‘face’ is found in many languages (cf. Kraska-Szlenk 2014a: 30, 2014b: 58), cf. the English expression *to lose face*, but is particularly well entrenched in Chinese (Yu 2001, this volume) and in the languages of Southeast Asia (e.g. Thai, Ukosakul 2003).

6. Strictly speaking, a detailed analysis of grammaticalization may involve metonymic steps, too (cf. Heine 1997).

It can be argued that embodied conceptualizations and meaning extension in the domains vital for human societies and associated with high levels of emotions are particularly invited as linguistic expressions because of the co-activation of the bodily motor system. Modern languages have developed lexicons of abstract notions with many near-synonyms for the concepts of ‘honor’, ‘shame’, ‘courage’, ‘wisdom’, etc. But it is only the expression *he has no face*, and not *he has no shame/honor*, etc., that can make the brain of the speaker as well as the listener to bring back (metaphorically speaking) the memories and experience of the reddened hot face lowered down in the feeling of shame or embarrassment. This seems to be the reason why embodied expressions of this kind tend to be preserved or emerge spontaneously in spite of existing abstract words in world languages’ lexicons,⁷ especially if a given concept or value is important in the society. In addition, embodied language is very expressive, as we can easily see by looking at embodied constructions in various languages extended by commonly occurring metaphors and metonymies, e.g. English: *he is my flesh and blood* (the metaphor KINSHIP RELATION IS BODY (PART) SHARING), Polish *mam cię w ręku* lit. ‘I have you in [my] hand’, i.e. ‘I have power over you’ (the chained metonymy HAND FOR HOLDING FOR POSSESSION FOR POWER), or Swahili *alikula/nyonya jasho la wananchi* lit. ‘(s)he ate/sucked the sweat of the citizens’, i.e. ‘(s)he exploited the citizens’ (the chained metonymy SWEAT FOR HARD PHYSICAL WORK FOR WORK↔S RESULT FOR PROFIT).⁸

When semantic extensions of body part terms are compared in different languages, it can be observed that even though similar constructed meanings are extended in two different languages, their entrenchment, or “weight”, may be different. The comparison can be facilitated by taking frequency criteria into account, such as the token frequency of a particular extended sense, its relative frequency with respect to other senses of the body part term, a number of different constructions which express a given sense, a number of collocations, and possibly other statistical measures. This makes it possible to capture similarities and differences among languages not only in a qualitative manner, but also quantitatively; see, Kraska-Szlenk (2005) for Polish and Swahili ‘heart’ and ‘hand/arm’, Siahaan (2011) for German and Indonesian ‘head’ and ‘eye’, or Yu (this volume) for Chinese and English ‘heart’ and ‘face’. Such studies are important not only for the purpose of lexical analyses of body part terms and their polysemy, but also for the research on *cultural models* reflected in language (cf. Sharifian 2011; Yu, this volume).

7. For example, according to the Swahili dictionary of synonyms, as many as 13 near-synonyms can be used for ‘honor’ and 14 for ‘shame’, but *uso* ‘face’ is also used in these meanings (cf. Kraska-Szlenk 2014b: 130).

8. See Kraska-Szlenk 2014a and 2014b, Chapter 7, for discussion of these and other metaphoric and metonymic extensions in the domain of social interaction and values.

We can also observe alternative embodied conceptualizations within a certain range of “parameters”. As already mentioned, the heart may be conceptualized as a figurative container for emotions, as in English, Swahili or Thai, but two other inner organs can equally play this role, namely, the stomach, as in Japanese or Thaayorre, or the liver, as in Indonesian or Dogon. Many Indo-European and other languages use the metaphor KNOWING IS SEEING (Sweetser 1990) with the implication that the eyes are construed as figurative instruments for acquiring knowledge and the head as a ‘container’ for its figurative storage and manipulation. But the metaphor KNOWING IS HEARING represents a competing pattern, with the ears in the instrumental function and possibly that of a ‘container’, too, as best described for the Australian Aboriginal languages (Evans and Wilkins 2000).⁹ As these examples illustrate, body part terms can be investigated as a source in cultural conceptualizations whether looked upon from the perspective of individual languages or multiple languages related genetically or areally. In the same vein, Geeraerts and Grondelaers (1995) show a strong connection between the beliefs in humors in medieval Europe and the conceptualization of emotions and personality traits *via* the body. To add one more example, Gaşiorowski (2017) demonstrates that the well-entrenched conceptualization of ‘head’ as a container in the Indo-European languages has led to an interesting instability of the term ‘head’ and its frequent replacement with metaphorical expressions denoting containers, such as ‘cup’, ‘bowl’, etc.

However, it should also be kept in mind that the same metaphors and metonymies can occur in different languages, not only because of the universal embodiment and natural metonymic links between certain body parts and more abstract concepts, or because of genetic inheritance or areal influence, but also because of a great amount of shared culture. Kinship relations, knowledge, work, the “social face” – these are important concerns for every society and its members and it is no wonder that they find their embodied manifestation in the languages of the world. These conceptualizations are juxtaposed against truly culture-specific ones which underlie unique types of expressions. It would be a challenge to examine how much of body part terms’ semantic development follows “universal” paths with their “parameters” and how much of it is conditioned by individual conceptualization patterns and reflected in language idiomatic expressions (as e.g. English *to cost an arm and a leg*). The existing corpus-based studies suggest that “universal” semantic extensions are far more numerous than the culture-specific ones when it comes to their phraseology and text frequency, but more studies are needed to corroborate that claim.

9. Cross-linguistic patterns of mapping from the body domain onto the domain of reasoning and knowledge are discussed in Kraska-Szlenk 2014b, Chapter 3, with a synopsis in Kraska-Szlenk 2014a.

4. Body part terms and cross-linguistic equivalence

A tacit assumption underlying the discussion in the previous section has been that various senses extend from the *basic* meaning of a given body part term and that this meaning is well-understood. In fact, however, body part lexemes vary a lot when it comes to their corporeal meanings and the issue of their cross-linguistic equivalence is far from trivial. A considerable number of works have been devoted to the issue of body part terminology in various languages asking questions whether the linguistic partition of the human body into named parts and parts of parts corresponds one to another or not, and whether there are universal terms which occur in all languages (e.g. Brown 1976; Andersen 1978; Koptjevskaja-Tamm (2008); Majid et al. 2006; Wierzbicka 2007).¹⁰

For the purpose of this chapter it is important to acknowledge that major body part terms occur in the vast majority of languages, if not in all – which goes beyond practical verification. They typically have simplex, monomorphemic forms and are highly polysemous. Less salient specific parts and parts of parts of the body, which have lower frequency, tend to be coded by compounds, descriptive terms, or by metaphorical expressions.

Some figurative naming strategies can be distinguished as co-occurring patterns. For example, Brown and Witkowski (1981) mention similar cross-linguistic sources for ‘pupil of the eye’. Among 69 languages with an identified label for ‘pupil of the eye’ (out of a total of 118 surveyed languages) the most common pattern involves a descriptive term similar to that in English, where *pupil* etymologically traces to ‘young student’. As many as 25 languages (36.2%) in the data use terms denoting young persons, such as ‘baby’, ‘child’, ‘son’, ‘young girl’, etc. Most of the remaining 44 languages in Brown and Witkowski’s survey also demonstrate figurative labels, with ‘seed’ (or ‘kernel’, ‘berry’, ‘acorn’) being the second most popular pattern (11 languages), and occasional other expressions, e.g. ‘star/candle of the eye’, ‘beetle of the eye’, ‘stone of the eye’.

It is also very common to name smaller parts using the terminology of more conspicuous parts. Many languages use this strategy in compounding, as in the examples in (1), whose structure consists of one body part being a modifier of another body part, as in (1a), but it is also common to find more than one modifier, as in (1b–c).

10. The discussion of different views on the issue of the “linguistic” partonomy of the body can be found in Kraska-Szlenk 2014b, Chapter 3.

- | | | | |
|--------|--|---|----------------------|
| (1) a. | Uyghur
<i>baf-barmaq</i>
head-finger
'thumb' | <i>put-barmaq</i>
foot-finger
'toe' | (Pattillo 2019: 129) |
| b. | Thai
<i>hũa-mâeae-muu</i>
head-mother-hand
'thumb' | <i>níw-hũa-mâeae-tháaw</i>
finger-head-mother-foot
'big toe' | (Pattillo 2019: 128) |
| c. | Dene Sùline
<i>se-tthí-tth'ené</i>
1SG-head-bone
'my skull' | <i>be-tth'u-tthi-la</i>
3SG-breast-head-hand/tip
'his/her nipple' | (Rice 2014: 90; 77) |

Diversified strategies that languages use to coin more complex body part terminology go together with the general structure and typological features of a particular language, as can be illustrated by the following terms for bones in Polish and English. Polish, which has rich nominal morphology, uses derivation and, specifically, diminutive forms of nouns denoting various objects, while English turns to compounding, cf. *mostek* 'breastbone' lit. 'bridge-dim.', *łopatka* 'shoulder blade' lit. 'shovel-dim.', *rzepka* 'kneecap' lit. 'turnip-dim.' (Kraska-Szlenk 2014b: 13)

For the purpose of this chapter, the above mentioned differences among languages become important when it comes to comparing semantic networks of major body part terms, which may occur as modifiers in some languages, but not in others. Should the uses of 'head' in examples as in (1) be included in the semantic network of this lexeme, or rather should they be treated as derivatives of 'head' (although possibly of the same phonological form)? I will return to this issue in the next section.

It has been observed that while different languages have terms which correspond in their use to English words like *head*, *face*, *eye*, *arm*, *leg*, etc. in their corporeal meanings, this correspondence is not always exact. It often happens that one language may use two different terms for clearly delineated body parts, as for example, in the case of English *hand* and *arm*, while another language may use one term to designate both of these concepts, as Polish *ręka* or Swahili *mkono*. In fact, this and similar cases of polysemy, illustrated in (2), are quite common and result from PART FOR PROXIMATE PART or PART FOR WHOLE metonymies. Among the world's languages, the 'hand/arm' (typically accompanied by 'foot/leg') and 'eye/face' cases turn out as most common and dispersed across various geographical areas and linguistic groups. In a sample of 617 languages screened by Brown (2013b) for 'hand/arm', 228 (c. 37%) showed one lexeme, and in Brown and Witkowski's (1983) survey based on 118 languages, the 'eye/face' lexeme was found in 49 cases (c. 42%) of the sample. For comparison, 'finger/hand' polysemy was found only

in 72 (c. 14%) out of 593 sample languages (Brown 2013a). It should be noted, however, that stating the problem in terms of “one or two lexemes” somewhat simplifies the picture, because languages that exhibit such polysemies may have more specific lexemes which can be used in variation (cf. Kraska-Szlenk 2014b, Chapter 3, for discussion of this and related issues).

(2) ‘hand’ for ‘arm’	Polish <i>ręka</i>
‘foot’ for ‘leg’	Polish <i>noga</i>
‘eye’ for ‘face’	Huastec <i>wal</i> (Brown and Witkowski 1983)
‘mouth’ for ‘face’	Punjabi <i>mūū</i> (Majid 2006)
‘breast’ for ‘chest’	Polish <i>piers</i>
‘chest’ for ‘body’	Dene Sųline <i>zi</i> (Rice 2014: 89)
‘trunk’ for ‘body’	English <i>body</i>

Both metonymies PART FOR PROXIMATE PART and PART FOR WHOLE are observed in synchronic polysemy, but they may trigger a permanent semantic change, as illustrated by the following two examples from Polish.

The Proto-Slavic lexeme for ‘back of the neck, nape’ is reconstructed as **tylō* and this original meaning is still preserved in many modern languages, cf. Czech *tyl*, Slovak *tylo*, or Bulgarian *til* (Derksen 2008: 503). The cognate word in Polish *tył* started to “move down” along the back area until it reached the buttocks. In modern Polish, *tył* occurs only in the grammaticalized meaning of ‘back part (of something)’ and in the prepositional phrase *z tyłu* ‘behind, at the back’, but its diminutive form *tyłek* is still used as ‘buttocks’. The original meaning of ‘nape’ is taken over by a different lexeme *kark* of unknown etymology.¹¹

The SPECIFIC FOR GENERIC metonymy is exemplified by Polish *palec* which originally meant ‘thumb’, but now denotes any finger. Its old meaning is preserved in the expression *sam jak palec* ‘alone like a finger’ which is semantically opaque in the modern language, since fingers have the “company” of other fingers, unlike the thumb, relegated to solitude in its separated position.

The above examples of synchronic polysemy and diachronic changes demonstrate how dynamic and unstable the corporeal meanings of body part terms are. The same power of metonymy constantly modifying the scope and boundaries of a lexeme can be noticed in everyday uses of all body part terms and their specific meanings constructed in context. If we say *I have a scratch on my hand*, a very small part of the hand’s surface is meant as a designate of this lexeme, as opposed to the context such as, *I am wearing gloves on my hands*. What if our gloves are long enough to cover a part of the arms, too? The previous sentence would still

11. According to Bańkowski (2000: 633), it might be cognate with Indo-European words such as, Czech *krk* ‘neck’, Ukrainian *karkōši* ‘shoulders’ or Sanskrit *krk*, *karkōši*, *kṛkata-/k’kati* ‘neck bone’.

sound appropriate in normal life situations, even though the lexeme *hand* stepped into the territory of the lexeme *arm*. Perhaps one of the most typical examples of overlapping between adjacent domains is that of the head and the hair which gives rise to the widespread metonymic chain: HEAD FOR SCALP FOR HAIR. Even though languages may have two distinct terms for ‘head’ and ‘hair’, the expressions such as ‘washing (cutting, combing) head’ with ‘hair’ as their reference are very common (cf. Kraska-Szlenk 2019b: 142 for cross-linguistic examples and references).

Overwhelming metonymy which underlies the contextual uses of body part terms makes it sometimes difficult or quite impossible to point out their discrete boundaries or provide their “definitions”. This, however, does not present a problem under a cognitive linguistics approach, because each body part category always shows a clear prototypical center. The prototype can serve as a base for extending other meanings, the corporeal ones, as well as figurative ones. I have argued elsewhere (Kraska-Szlenk 2014b: 18–19) that the most general meaning of the body part as a whole works well as a base for constructing a semantic network and also for cross-linguistic comparative purposes.¹² Approximate equivalents of body part terms are also established on the bases of linguistic usage. The English term *head* and the Polish term *głowa* can be assumed to be equivalents and instantiations of the body part term ‘head’, because there exist many contexts in which these respective terms are used in reference to the same part of the human body, while there exist very few contexts in which they do not correspond. A usage-based approach and the proper recognition of metonymy help to capture not only one-to-two correspondence in cases such as Polish *ręka* and English *hand* and *arm*, but a range of other correspondences and finer distinctions among non-prototypical uses of words, such as, for example, Polish *głowa* standing for ‘hair’.

In conclusion, prototypical basic meanings of major body part terms in multiple languages may be fairly treated as equivalents, even though their different metonymical uses seem to contradict this claim on the surface.

5. Equivalence of extended senses

Likewise, usage-based methodology can be applied, when extended senses of body part terms in various languages are examined in search of approximate equivalents. For example, many languages exhibit the metonymy HEAD FOR PERSON which results in using the term ‘head’ in the constructed meaning of ‘person’ in similar contexts in many languages. In general, however, the question of semantic

12. This meaning is also given in dictionaries as the first one and seems to be assumed as ‘basic’ by researchers on body part terms and their extensions.

equivalence of extended senses is more complex than in the case of corporeal meanings of body part terms. Extended domains are less tangible than the solid domain of the body: they are often abstract and culturally biased. Extended meanings are also challenging to describe and compare, because semantic change may have gradual character; therefore, distinct senses are sometimes difficult to discriminate and discretize. An additional problem relates to the granularity of analysis in distinguishing semantic nuances which is best observed when rich data of electronic corpora are examined (cf. Kraska-Szlenk 2014b: 85–89). These are problems of a practical nature which a researcher faces when looking at the data and which have to be decided one way or another. For example, in some cases it suffices to provide a coarse, schematic analysis in order to determine that a certain metaphor or metonymy is revealed in two or more languages, as it has been exemplified in this chapter; in other cases and for other purposes, it might be more appropriate to investigate the details of linguistic embodied expressions and their frequencies (cf. Yu, this volume). Leaving aside the above problems, I would like to focus on another challenging issue in this section.

In analyzing body part terms from a comparative perspective, it would be impossible not to observe a striking regularity, namely, that a particular extended meaning coded by a body part term alone in one language happens to be coded as a morphological derivative of the body part term in another language, or, as a compound including a respective body part term in yet another language. These three strategies can be used in one language, too, as exemplified by the English lexeme *head* and its derivatives in (3).

- (3) a. semantic derivation only
 head (of lettuce), head (of the department)
 b. morphological derivation
 header, heading
 c. compounding
 headline, pinhead

Distinctions of the kind illustrated above have an impact on the semantic networks of body part terms themselves, because in the first case, the extended meaning will be included into the overall polysemous representation, while in the latter case, it will not be included, judged as a different word. In the case of compounds, it will or will not be included, depending on the character of the compound, or orthographic conventions, cf. (3c) and the earlier mentioned English examples, such as *breastbone* or *kneecap* versus *shoulder blade*. Each of all these three cases will affect the body part term's text frequency and relative frequencies of its particular senses. The abovementioned differences often follow from general structural properties of the languages in question: analytic languages show preference for

compounds or semantic derivation, while languages with rich morphology use their derivational capacities in coding autonomous meanings by complex words. The examples from Swahili and Polish in (4) illustrate a case of perfect semantic equivalence, accompanied by such structural differences.¹³ While Swahili derives new meanings of *kichwa* ‘head’ and *mkono* ‘hand/arm’ by semantic extension only and an optional modifier, the same meanings are rendered in Polish by adding derivational suffixes, and in some cases also by prefixes, to the root, *głow* and *ręć*, respectively (different phonological variants of the roots are given in bold in (4) and in later examples).

- | | | | |
|--------|-----------------------------|-------------------------------|-----------------------|
| (4) a. | <i>kichwa</i> | głow -a | ‘head’ |
| | <i>kichwa</i> (cha kebeji) | głow -k-a (kapusty) | ‘head (of cabbage)’ |
| | <i>kichwa</i> (cha habari) | na- głow -ek | ‘headline’ |
| | <i>kichwa</i> (cha nyuklia) | głow -ic-a (nuklearna) | ‘nuclear head’ |
| b. | <i>mkono</i> | ręć -a | ‘hand/arm’ |
| | <i>mkono</i> (wa sufuria) | rącz -k-a’ | ‘handle (of a pan)’ |
| | <i>mkono</i> (wa shati) | ręć -aw | ‘sleeve (of a shirt)’ |
| | (kazi ya) <i>mkono</i> | ręcz -n-a (praca) | ‘manual (work), adj.’ |

Given the fact that similar correlations characterize multiple languages, a comparative lexicon of body part terms could perhaps extend its scope and include derivatives, as well. In this case, however, it would have to expand to a large size, because lexical and morphological derivatives amount to great numbers. While some of them may have semantic equivalents based on corresponding body parts in other languages, others do not have to, especially those which are truly idiomatic or culture-specific. The examples below include a far from exhaustive list of Swahili expressions with the lexeme *mkono* ‘hand/arm’ which do not have corresponding embodied equivalents in Polish. In (5a) *mkono* occurs as a head noun in the genitive construction; depending on the context, the modifier is obligatory or optional. In (5b), *mkono* is used as a modifier in the noun phrase; alternatively, the modifier occurs with the locative suffix, as *mkononi*, or takes the plural form *mikono*. Example (5c) provide a few examples of phrasal verbs, with their literal translations in brackets. In all the examples *mkono* is translated as ‘hand’ or ‘arm’, whichever seems more appropriate.

- | | | |
|--------|--|--------------------|
| (5) a. | <i>mkono wa tembo</i> (arm of elephant) | ‘elephant’s trunk’ |
| | <i>mkono wa kampuni</i> (arm of company) | ‘company branch’ |

13. Such pairings can be given for many languages which differ typologically and my choice of Swahili and Polish is triggered only by the fact that these are the languages I have researched (cf. also Janda’s 2011 concept of *metonymy in word-formation*, illustrated by the data of English and Czech).

	mkono wa kiti (arm of chair)	'arm of the chair'
	mkono wa kitasa (hand of lock)	'doorknob'
	mkono wa ndizi (hand of bananas)	'bunch of bananas'
	mkono wa birika (handle of the tea-pot)	'miser'
	mkono wa msiba (hand of mourning)	'condolences'
	mkono wa sikukuu (hand of holiday)	'holiday greetings'
b.	saa ya mkono (watch of hand)	'wrist watch'
	kitambaa cha mkono (cloth of hand)	'handkerchief'
	taa ya mkono (light of hand)	'torch'
	mpira wa mikono (ball of hands)	'handball'
	simu ya mkononi (telephone in hand)	'mobile phone'
	kioo cha mkononi (mirror in hand)	'hand-mirror'
c.	kumpa mkono (give someone hand)	'to help someone'
	kumwunga mkono (join someone hand)	'to support someone'
	kutia mkono (put hand)	'to sign'
	kuacha mkono (abandon hand)	'to die'

Polish derivatives of *ręka* 'hand/arm' which do not have Swahili equivalents of *mkono*-form are likewise numerous. A portion of them is included in (6), with nouns in (6a), and verbs in (6b).

(6) a.	<i>ręcz-nik</i>	'towel'
	<i>pod-ręcz-nik</i>	'handbook'
	<i>za-ręcz-yny</i>	'engagement'
	<i>rącz-nik</i>	'castor oil plant'
	<i>na-ręcz-e</i>	'armful'
b.	<i>w-ręcz-y-ć</i>	'to hand'
	<i>po-ręcz-y-ć</i>	'to guarantee'
	<i>wy-ręcz-y-ć</i> (kogoś)	'to do instead of someone (as help)'
	<i>za-ręcz-y-ć</i> (się)	'to get engaged'

A reader might have noticed, that even though there is no equivalence between Swahili and Polish in cases of (5) and (6), the English translation of some of the examples is based on the lexeme *hand* or *arm*, indicating that a possible equivalence exists in Swahili-English and Polish-English pairings. This suggests that listing all of the derivatives (including compounds) in a comparative lexicon of body part terms might be useful in order to investigate possible cross-linguistic similarities in this respect. On the other hand, not including derivatives while analyzing body parts' semantics, clearly reduces the scope of possible research questions and generalizations too much.

If body part terms are studied together with their derivatives, a further research question follows: which extended meanings tend to become more

autonomous than others by using morphological derivation or compounding, and which tend to be only semantically differentiated from the base body part term? In Polish, for example, the base noun *głowa* ‘head’ is used figuratively as ‘chief’ (e.g. *głowa państwa* ‘head of state’), but derived forms, *główka* or *głowica*, are used for round-shaped objects (e.g. *główka salaty* ‘head of lettuce’, *głowica nuklearna* ‘nuclear head’). Does it mean that metaphor-based extensions exert more pressure towards autonomous phonological forms, while those extended by metonymy do not? Or do distinct behaviors respect finer semantic distinctions, similarly to those observed in the area of the phonology-morphology interface and the operation of analogy?¹⁴ The ranking in (7) reflects a gradual semantic distance from the closest to the lowest (based on my own intuition as a native speaker of Polish) among words sharing the root with the noun *ręka* ‘hand/arm’, some of which appeared earlier in (6). I leave it for further research whether hierarchies of this kind might become useful for comparative studies of body part terms.

(7) base noun:	<i>ręka</i> (Nom. sg)
declension:	<i>rękę</i> (Acc. sg)
number:	<i>ręce</i> (Nom. pl)
diminutives:	<i>rączka</i> (Nom. sg)
other transparent derivatives:	<i>wręczyć</i> ‘to hand’
less transparent derivatives:	<i>rękaw</i> ‘sleeve’
non-transparent derivatives:	<i>rącznik</i> ‘castor oil plant’

Concluding remarks and further research questions

In this chapter, I have focused on body part terms as source domains to extend other concepts. I have entertained the possibility of constructing a cross-linguistic semantic lexicon which could, in addition to body part terms, contain their derivatives. The crucial points of the discussion have concentrated on the issue of cross-linguistic equivalence, understood as a partition of the human body into named parts and parts of parts, as well as the problem of equivalence regarding extended senses. In this respect, I have pointed out some problems related to typological differences among languages and their preferences for coding concepts by

14. The closer the semantic relationship between the two concepts, the closer the pressure for the same form (the so-called Humboldt Universal), and conversely, the further apart the two forms are semantically, the better tolerance for their differentiated phonological forms. This principle plays an important role in analogy; for example, forms within a declensional paradigm are more susceptible to analogy than derivatives, or verbal paradigms are less susceptible to analogy than nominal declensional paradigms (cf. Kraska-Szlenk 2007).

forms structured in a particular way which suggests that an insightful discussion of the polysemy of body part terms should make some reference to an onomasiological perspective, as well. Throughout this chapter, I made an assumption that the line of research advocated here can be useful for linguistic studies in general and for cognitively-oriented approaches in particular. It might be worthwhile in conclusion to pinpoint major advantages of systematic, comparative research on body part terms.

Cognitive scientists and linguists have two great benefits while doing research on body part terms. The first one relates to the fact that the “body” lexicon is as much “embodied” as it could possibly be, the second one is granted by the ubiquity of this type of vocabulary throughout the languages of the world. These two facts invite comparative work on a thorough examination of conceptualizations based on the human body. In addition, major body part terms belong to a basic level, high frequency lexicon denoting concrete, salient concepts. These are precisely the type of words which naturally tend to become polysemous. In this way, linguists receive an enormous assortment of data – feasibly from all the languages of the world – to investigate how semantic change starts from synchronic polysemy and possibly develops into permanent diachronic change.

It has been suggested in this chapter that certain tendencies of body part terms’ extension are regular, that is, they occur in language after language alongside similar paths. This claim, however, has to be verified by empirical studies conducted on the basis of the data from multiple languages in a long-term research program. Perhaps studies on grammaticalization can be brought to attention and serve as a model to follow. Treating Antoine Meillet’s early 20th century research as a symbolic beginning of linguists’ work on semantic change in grammaticalization, we have been witnessing over one century of systematic research in this field. It is only through such long-term and multi-faceted research programs that various aspects of the theory, as well as typological and areal generalizations could be formulated and presented as linguistic tendencies or even universals (cf. Heine 1997; Narrog and Heine 2011, 2019, among others). One of the important truths which research on grammaticalization has revealed is that semantic change is fairly regular or even predictable when source lexical items and their target grammaticalized meanings are compared. A similar program can lead to insightful outcomes when the source domain of body part terms is examined on the basis of the extensive corpus of data.

While a cross-linguistic approach to the examination of body part terms can contribute to the understanding of “regular” semantic change, it is likewise invaluable for the study of “irregular” change which is due to uncommon cultural conceptualizations observed in individual languages or their clusters. These two aspects of investigation, with a focus on regularities or irregularities in

conceptualizations and semantic change, become two natural goals of research which is restricted only by source concepts of body part terms and not by a range of unlimited target concepts.

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Body part terms in musical discourse

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This chapter is a corpus-based, cross-linguistic study of musical terms related to body parts in several European languages (Latin and seven modern European languages of different origin: Croatian, German, Italian, English, French, Russian and Polish). Special focus is placed on the role of embodiment, conceptualization and etymology in term formation processes. This rarely researched aspect of musical terminology includes three major thematic areas of musical discourse where body part terms seem to play an important role: organological terminology (terms denoting musical instruments and their parts), terminologies of the theories of musical form (terms denoting various types of musical forms as wholes and their individual parts) and notational terminology (terms denoting Western notational symbols and their parts). While organological and notational terms related to body parts seem to be easily and univocally determinable, the boundaries of the elements of musical form (such as the head, the body, or the tail of a theme or a musical piece) tend to be the subject of interpretation. Similarities between equivalent terms in the examined European languages, together with the restricted collocations in which they occur, reveal the underlying cross-cultural conceptualization processes and shed light on linguistic borrowing. This study, which is a part of a larger terminological project (<http://www.muza.unizg.hr/conmusterm/english/>), has no direct precedents in musicological literature and provides new avenues for further research.

Keywords: body part terms, conceptualization, music, musical instruments, musical form, notation

1. Introduction

The mapping from the human body as the source domain onto various concrete and abstract target domains is pervasive in everyday life. Furthermore, it is historically one of the earliest examples of conceptualization, deeply grounded in bodily experience. Therefore, it is not surprising to find examples of such conceptualization in

musical discourses worldwide, music being one of the universally present fields of human activity. The human body is considered “an ideal source domain, since, for us, it is clearly delineated and (we believe) we know it well” (Kövecses 2010: 18). Therefore, it allows an array of conceptual mappings onto various target domains: from simple ones that show a clear similarity in shape and/or structure, which is the case with various musical instruments and elements of musical notation, those that address different cultural concepts (Kraska-Szlenk 2014: 55), to those that correspond to abstract complex systems (see Kövecses 2010: 157-158), which is the case with body part terms used in the analysis of musical form.

Despite their relative frequency and universality in general and specialized use in most European languages, body part terms in musical discourse are only rarely the subject of either musicological or linguistic dispute, perhaps due to their ostensibly self-evident nature. Most musicological studies on embodiment deal with conceptual metaphors related to the perception, conceptualization and cognition of musical time and pitch, while other types of expressions related to the body seem to be absent from scholarly discourse.

This paper deals with the most common occurrences of body part terms in professional texts on music in several European languages. The starting point was a database of approximately 2,000 Croatian terms extracted from contemporary texts covering various basic areas of modern musicology.¹ The examined collection of musical terms revealed several dozens of metaphorical expressions related to the human or animal body. In modern European languages those terms can be roughly divided into three main categories:

1. Organological terminology (terms denoting musical instruments and their parts)
2. Terminologies of the theories of musical form (terms denoting various types of musical forms as wholes and their individual parts)
3. Notational terminology (terms denoting Western notational symbols and their parts)

The next step in the study involved a critical examination of historical sources dating from classical antiquity onwards in order to detect the conceptual origins and diachronic transformations of the most frequent representative musical terms. The origins of the three categories can be traced back to the earliest mediaeval written documents on music whose purpose was mainly to educate music professionals of the period. With this circumstance in mind, one can easily relate these categories

1. This paper is a part of a larger project involving the research, classification and standardization of basic contemporary Croatian musical terminology, *Conmusterm* (2014–2018), financially supported by the Croatian Science Foundation. All terms are taken from the project's database.

to the three main domains of musical activity: *musica theorica* ‘theoretical music’ (music theory), *musica practica* ‘practical music’ (music performance) and *musica poetica* ‘poetical music’ (musical composition), as systematized by Nikolaus Listenius (1533 and 1537). Although the three *musicae* as domain labels appeared considerably later than most musical terms related to body parts, their respective concepts are in harmony with the above suggested division, with organological terminology belonging to the realm of *musica practica*, the terminology denoting formal aspects of musical works to *musica theorica*, and notational terminology to *musica poetica*.

2. Body part terms in organology

The first and most concrete thematic area is organology (the study of musical instruments), a subdomain of systematic musicology which frequently deals with metaphorical labels. Many musical instruments and their types were named after the whole or part of the human or animal body. Some metonymies related to protoinstruments dating from prehistoric times (e.g. all kinds of horns or antique *tibia*) reflect the conceptual metaphor THE SUBSTANCE GOES INTO THE OBJECT (Lakoff and Johnson 1980: 73). Those instruments were made of solid parts of animal bodily remains and were thus named after the material they were made of. One of the most prominent examples, present in many old cultures, was the *horn*.

The etymology of terms denoting the horn in Latin and modern Romance and Germanic languages can be traced back to the Proto-Indo-European root **k^{rn}-o*, which reflects the same conceptual metaphor (the root **kr* indicating material ‘bone’) of which the horn is made; de Vaan 2008: 136–137). Although there was an earlier Greek equivalent *keras*, which shared the original meaning with its Latin counterpart, most contemporary terms for the horn as a musical instrument show similarity with the Latin word *cornu* ‘horn’. Many Slavic languages recognize the use of borrowed terms sharing the same origin,² but the standard terms for both body parts and musical instruments are derivatives of another etymon, the Proto-Slavic body part term **rǫgъ* (‘horn’; Gluhak 1993: 530), as shown in Table 1.

Numerous examples of conceptual mappings in organology reflect the conceptual metaphor AN INSTRUMENT IS A COMPANION (Lakoff and Johnson

2. For example, contemporary Croatian musical terminology recognizes three variants of the musical term. Apart from the standard, recommended term *rog*, which is also the most frequently used one, there are two synonymous foreign-rooted colloquial terms, *horna* (> Ger. *Horn*) and *korna* (> It. *cornu*). They are the result of long-term language contacts with Italy and German speaking countries.

Table 1. Equivalents of the Latin term *cornu* ‘horn’ in selected modern European languages

language	Latin	English	Croatian	German	French	Italian	Russian	Polish
term	<i>cornu</i>	<i>horn</i>	<i>rog</i> ^a	<i>Horn</i>	<i>cor</i>	<i>corno</i>	<i>por</i>	<i>rog</i>

a. In contemporary usage *rog* is the recommended and most frequent term; however, two synonymous foreign-rooted terms, *horna* (> Ger, *Horn*) and *korna* (> It. *corno*), are in parallel use.

1980: 134–135),³ or the COMPANION metaphor for short, which can often be recognized in the very shape of an instrument. Anthropomorphic musical instruments⁴ are found in many ancient cultures. They are still present in the traditional music of several African tribes as well as in some European folk traditions. This suggests that the COMPANION metaphor has a long and rich history, probably originating in rituals and religious ceremonies whereby an instrument ought to have certain functional features of “powerful spiritual beings” with intentionally incorporated gendered meanings (Doubleday 2008: 10), or a spiritual practitioner or a medicine man, as described by Aluede (2006). Some European traditions share the same feature: an ancient plucked string instrument, *saz*, which is still widespread in use in Turkey, for instance. Being a national instrument, in Azerbaijan and Bosnia it also underwent personification (in figurative speech and especially in poetry it can even “cry” and “laugh”, just like its player), and the corresponding terminology includes the body (*gövde*), neck/arm (*kol*), breast (*göğüş*), cheek (*yanak*), and seven ears (*kulak*; all from Bates 2012: 34).

As a sort of extended self as defined by Belk, who claims that “having possession can contribute to our capabilities for doing and being” (Belk 1988: 145), a musical instrument becomes an integral part of a musician’s body and identity. Rault emphasizes the COMPANION metaphor in her interpretation of the relationship between the possessor and the possessed: “A harmonious relationship exists between the human body and the instrument, for the one cannot operate without the other. Without his instrument, a musician may be likened to an amputee or a rider without his horse. Both are made up of body⁵ and soul and together they become like two human beings whose identities merge in the playing” (Rault 2000: 80).

3. Lakoff and Johnson give the example *Domenico is going on tour with his priceless Stradivarius* (1980: 134) to show that the preposition *with* indicates both INSTRUMENTALITY and ACCOMPANIMENT. The name of the instrument maker is used metonymically for the instrument itself, whose personification is emphasized through the attribution of a personal name.

4. Several interesting photographs of anthropomorphic musical instruments are available at the Europeana site https://www.europeana.eu/portal/en/exhibitions/explore-the-world-of-musical-instruments/instruments-and-creatures#ve-anchor-section_5992-js (accessed 14 November 2017).

5. See footnote 6.

A ubiquitous example of this conceptual mapping is the term *corpus*⁶ ‘body’ which can either denote the main, resonant part of a musical instrument (the ‘trunk’ of its body) or the instrument as a whole. Although it was already in use in classical antiquity, *corpus* was confirmed as an organological term in written discourse on music as late as the 13th century (de Moravia 1963: XXVIII). Before that, organology was barely present in written documents. Building musical instruments and performing music were not the typical subjects of music scholarship; the trade was transmitted orally, most master instrument builders were illiterate and there was no need for writing down this body of knowledge. Johannes Tinctoris is considered to be the first author of a dictionary of musical terms, *Terminorum musicae diffinitorium* (Tinctoris 1494; compiled before 1475), in which he avoided discussion on organology and focused on the collection of terms from *musica theorica*. However, in his earlier treatise *De inventione et usu musicae* (Tinctoris early 1480s), which was devoted to the other *musicae* (namely *poetica* ‘poetical’ and *instrumentalis* ‘instrumental’), Tinctoris was among the first theorists to mention an array of body part-inspired organological terms for various parts of musical instruments. Furthermore, he explained the structure of musical instruments such as the *lyra* in terms of the human anatomy, a practice followed by many of his contemporaries. Just as in the discourse on music in modern European languages the terms for parts of musical instruments which are related to the body occur in metaphorical, restricted collocations. For example, the *venter* ‘belly’ can be round, flat or inflated, just like an animal belly; the *collum* ‘neck’ is either long or short and on top of a *collum* there is a *caput* ‘head’ (Cochlaeus 1514).

One of the instruments that shares its origins with the medieval *lyra* is the contemporary violin. Figure 1 shows that there are a number of body part terms related to the violin: besides the *body* itself, sometimes also called the *belly* just like Tinctoris’s *venter*, there is the *neck*, the *waist* and the *tailpiece* (at the end of the *bridge*, which is called the *horse* in some languages, hence the tailpiece). The bow has a *head* (which is sometimes also called the *tip*) like most wind instruments, e.g. the flute whose body consists of three parts: the *head*, the *body* (the central part, synonymous with the whole) and the *foot*.

The following examples show that the terms for the parts of the violin in the selected European languages are still strongly influenced by zoomorphism (Table 2). The instrument as a whole as well as its resonant part is usually simply named the *body*. The equivalent terms and synonyms in all the examined languages are loan words (e.g. Cro. *korpus*, Ger. *Korpus*, Rus. *копныс*, Pol. *korpus*) or loan translations

6. The Latin term *corpus*, as well as its modern European equivalents, reflects a high level of polysemy in discourses on music, even within the subcategories. Some further meanings will be discussed in the paragraph on body part terms in the analysis of musical forms.

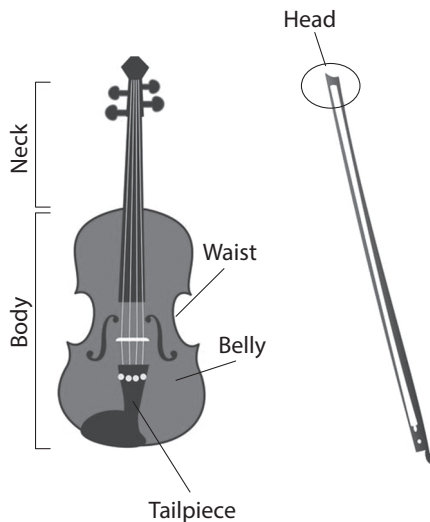


Figure 1. Contemporary English terms for the parts of the violin and the bow

of the Latin term *corpus* ‘body’ (Eng. *body*, Cro. *tijelo*, Rus. *мело*). The English equivalent *belly* represents a synecdoche, where a representative part (the *belly*, in a narrow sense, denoting the convex front part of the instrument) stands for the whole (the entire central resonant part). The individual terms for the other parts of the instrument reflect further analogous conceptual mappings.

The contemporary terms for the parts of the violin show certain differences among the examined European languages. Besides Russian and Polish, English contains the largest number of terms for the parts of the violin related to the body, including the rare *tailpiece* (analogous with the Italian *pezzo di coda*) which has been replaced by the more technical expressions in other languages. A certain similarity in the occurrence of metaphorical expressions can be observed between Croatian and German (Croatian musical terminology was mostly formed by borrowing from German), as well as between pairs of closely related languages such as French and Italian or Russian and Polish. With the exception of the Italian term *pezzo di coda* and the (rarely used) French term *taille*⁷ (‘waist’), the only fixed figurative “body part” terms which have remained in use in Romance languages considered in this text are the equivalents of the *soundpost* (Fr. *âme*, It. *anima*) denoting the soul of the instrument. These are also found in Slavic languages (Cro. *duša*, Rus. *душка*, Pol. *dusza*).

The German equivalent of *soundpost* (*Stimme* ‘voice’) is especially interesting as it evokes Aristotle’s explanation of the conceptual mappings between the human

7. The French term *taille* is today more frequently used for the size of string instruments than as an equivalent of the English term *waist bout*.

Table 2. Terms denoting the parts of the violin, their synonyms and equivalents in selected modern European languages (body part-related terms are given in bold)

lan- guage	English	Croa- tian	German	French	Italian	Russian	Polish
term	<i>body</i> / <i>belly</i>	<i>tijelo</i> / <i>korpus</i> 'body'	<i>Korpus</i> 'body'	<i>corps</i> 'body'	<i>corpo</i> 'body' / <i>casa</i> <i>armonica</i> 'har- monic case'	<i>корпус</i> / <i>тело</i> 'body'	<i>korpus</i> 'body'
	<i>neck</i>	<i>vrat</i> 'neck'	<i>Hals</i> 'neck'	<i>manche</i> 'hand- grip'	<i>manico</i> 'hand- grip'	<i>шея</i> 'neck'	<i>szyjka</i> 'neck'
	<i>waist</i> <i>bout</i> / <i>center</i> <i>bout</i>	<i>c-utor</i> 'C-bout'	<i>Mittel-</i> / <i>C-Bügel</i> 'middle- / 'C-bout'	<i>énchan- crure C</i> 'C-bout' / <i>taille</i> ¹⁰ 'waist'	<i>angolo</i> 'angle'	<i>талия</i> 'waist' ^a	<i>wcięcia</i> <i>boczne</i> 'side bout' / <i>talía</i> 'waist'
	<i>tail- piece</i>	<i>žičnjak</i> 'string- er'	<i>Saitenhalter</i> 'string holder'	<i>cordier</i> 'stringer'	<i>pezzo</i> <i>di coda</i> 'tailpiece'	<i>струно- держатель</i> 'string holder' / <i>подгрифок</i> 'undergrip'	<i>strunociąg</i> / <i>strunnik</i> 'stringer'
	<i>sound- post</i>	<i>duša</i> 'soul'	<i>Stimme</i> 'voice' / <i>Stimmstock</i> 'voice stick'	<i>âme</i> 'soul'	<i>anima</i> 'soul'	<i>душка</i> 'little soul'	<i>dusza</i> 'soul'

a. Cf. Fr. *taille* ('waist', 'figure', <https://lexicography.online/etymology/т/талия>, accessed 24 April 2018).

and his voice and a musical instrument and its sound, where the voice represents a characteristic feature of ensouled beings, a sound with meaning: "Voice is a kind of sound characteristic of what has soul in it; nothing that is without soul utters voice, it being only by a metaphor that we speak of the voice of the flute or the lyre or generally of what (being without soul) possesses the power of producing a succession of notes which differ in length and pitch and timbre [...] Not every sound, as we said, made by an animal is voice [...]; what produces the impact must have soul in it and must be accompanied by an act of imagination, for voice is a sound with a meaning" (Aristotle 2014: 420, 5–10 and 30–33, pp 1465–1466). The *psihi* ('soul'), a contemporary Greek term for the soundpost of a pear-shaped lyra (Banks 2001), a traditional instrument of ancient origin, confirms that this conceptual mapping may have a tradition dating back to classical antiquity. The *lyra* itself displays an

array of zoomorphic terms which can be related either to the SUBSTANCE GOES INTO THE OBJECT metaphor (*kafki* ‘skull’, indicating the material that the corpus is originally made of) or to some other types of conceptual mappings from the body onto an object (e.g. *matia* ‘eyes’, denoting soundholes; a feature of ensouled beings, the voice exits through the soundhole, evoking the ancient metaphor “the eyes is the mirror of the soul” (*oculus animi index*), which indicates the existence of the instrument as a living companion; all parts of the *lyra* from Banks 2001).

A phenomenon shared by various world traditions, zoomorphic and anthropomorphic terminology for musical instruments and their parts remains the most frequent category of musical terms related to body parts in discourses on music. The following categories, terminology of musical forms and notational terminology, have received considerably less attention in written discourses on music regardless of the period.

3. Body part terms in theories of musical form

The second category includes various terms denoting different types of musical forms as wholes and their individual parts. So far musicology in general has somehow managed to avoid an in-depth discussion of mapping anatomical labels onto elements of music. Most theorists focus on two predominant models, similar to the division offered by Zbikowski (2002):

1. Conceptual mapping from the domain of language onto the domain of music, first from grammar, secondly from rhetoric
2. Organistic models, which map features from principally vegetative domains onto inorganic or artificial domains

Zbikowski, together with the majority of cognitive scientists, begins his discussions either with the late Baroque period theories, including treatises on musical rhetorics and syntax by Mattheson or Riepel (2002: 292–299, the first mapping category), or with the late 18th century approaches (cf. 2002: 300, the second mapping category). However, there was a third important model of conceptual mapping in music analysis which preceded both of those approaches: the one projecting the picture of man onto his artefacts that can be traced back to the Middle Ages and the earliest notion of a formal analysis of melody.

As early as ca 900 in *Tractatus de modis* (Johnson and Erickson 2012: 16) an anonymous author labelled the whole of a melody (Lat. *cantilena*) a *cantilenaе corpus* (‘the body of the melody’) which consisted of parts or members (*membra*). The extreme *membra* of the corpus were named according to their position in the melody: *caput* (‘head’) at the beginning and *cauda* (‘tail’) at its end. This

terminology is still in widespread use today, especially in textbooks for vocal counterpoint (e.g. Lučić 1997). The contemporary theory of melody and musical forms has yet not invented a more appropriate set of terms, particularly in the theory of fugue and other polyphonic forms where the head, body and tail of the subject represent basic concepts.

Caput (which later transformed into its Vulgar Latin and later Italian form *capo*) means either the beginning of a motif, theme or even the introduction of a musical piece regardless of its style, displaying some anthropomorphic features. *Cauda* is another polysemous term, which deserves a diachronically sensitive approach because of its varied historical meanings.

In the beginning the term only meant the final member of a melody. Around 1100 in Aquitanian polyphony *cauda* was limited to the final melismatic part of a melody. Later it was incorporated into the theories of *conductus* and *antiphona* (Hiley and Payne 2014). In the 13th century the term started to include variational, improvisational connotations. An anonymous German author mentioned *tractus sive cauda* in his treatise *De expositione musicæ* (1279) as a variation at the end of a melodic *figura*. During the 13th and 14th centuries especially among the composers of the School of Notre Dame *cauda* was a term denoting the final, melismatic portion of a *conductus*. This is similar to the definition in Perseus and Petrus's 13th century treatise *Summa musicæ*, where *cauda* means the final melisma in *antiphonae* (Hiley and Payne 2014). In the 14th century writings by Johannes de Muris one can find all these meanings (de Muris 1963: XVIII).

The principle was by no means limited to sacred music: it was equally used to determine the structure of melodies in secular forms. The most representative example is the labelling of one of the earliest Western musical forms, the tripartite AAB form, also known as the bar form. It is a sort of mapping of the structure of a certain type of Minnesängers poetry (13th and 14th c.), mostly canzonas, onto the musical flow. Each stanza of a canzona-formed *minnesang* had an AAB structure and the last piece was labelled *cauda* (Brunner 2001). It carried similar features as contemporaneous *caudas* in church music, namely the variational and improvisational nature, which resulted in ornate melismatic passages.

A prototypical example is *Palästinalied*, composed between 1217 and 1221 by the most popular *minnesinger* Walther von der Vogelweide. It is his only *minnesang* which has been completely preserved (both text and music) until today. The layout of the song shows its tripartite structure: A A B (*Stollen – Stollen – Abgesang*), or in Latin body part terms *pes* ('foot') – *pes* – *cauda* ('tail'). The *cauda* displays more of a melismatic, variational character than the preceding *pes*, analogous to the definitions of this piece among the members of the School of Notre Dame or the one in de Muris' *Summa musicæ*.

Palästinalied

Walther von der Vogelweide

pes = Stollen

Aufgesang; Stollen 1. - Nû al rêst leb' ich mir wer- de
Stollen 2. daz hê-re lant und ouch die wer- er- de

cauda = Abgesang

sit dem min sîn- dic der ou- ge- siht dem man vil der ê- ren giht

Abgesang Mirst ge- sche- hen, des ich ie bat

ich bin ko- men an die stat,
dá got mensch- li- chen trat.

Figure 2. Walther von der Vogelweide: *Palästinalied*. Source: Wikimedia Commons (<https://commons.wikimedia.org/wiki/File:Palestinalied.jpg>)

The term *cauda* later remained in its Vulgar Latin form equisnant with the Italian *coda*. While *cauda* began as an internal elaboration of a given structure, *coda* emancipates itself from its mother structure and became independent of the body of the overall musical form. A contemporary definition of the coda from *The Oxford Companion to Music* emphasizes this feature: “An addition to a standard form or design, occurring after the main structure of a piece or melody has been completed with a cadence in the home key” (Temperley 2011).

The coda may include various forms of internal organization depending on the style and genre. The newer term is far more polysemous than its Latin predecessor. In terminology management this means that its definition should be restricted to include only the main feature of the concept – and it means literally the final part of a musical form. Therefore, the term seems to be returning to its original meaning – the 10th century *cauda* which was simply the final member of a whole.

4. Body part terms in Western notation practice

The third area of music where body part terms are present is notation. Again, *caput* (‘head’) and *cauda* (‘tail’) seem to represent crucial concepts. From the very beginnings of mensural notation the size and shape of the *caput*, the position of the *cauda* and the optional *flagellum* (‘little whip’) helped to determine the duration of each note and their mutual relations, e.g. in establishing the system called *mensural notation*. The concept came to being around mid 13th century and Franco of Cologne is usually credited with the invention although authorship has not been univocally determined (Hughes 2001). The treatise by Hieronymus

de Moravia (1963: XXV) contains the same notational theory together with a set of body part related terms as shown in Figure 3.⁸

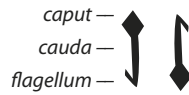


Figure 3. The shape of *semiminima*⁹ with Latin zoomorphic labels for its parts

Further development of Western musical notation did not bring any substantial changes in this respect. Most modern European languages inherited Latin conceptual schemas, as shown in Table 3. Contemporary Croatian standard notation terminology includes many body part terms (such as head, neck, tail, rib etc.), some of which are not so widespread in other European languages.

Table 3. Terms denoting some notation elements, their synonyms and equivalents in selected contemporary European languages (body part related terms are given in bold)

lan- guage	Eng- lish	Croatian	German	French	Italian	Russian	Polish
term	(note) head	<i>notna</i> glava 'note head'	'note head'	<i>tête de note</i> 'note head'	<i>testa</i> 'head'	<i>головка</i> 'little head'	<i>główka nuty</i> 'note head'
	<i>stem</i> ^a	<i>notni vrat</i> 'note neck'	<i>Notenhals</i> 'note neck'	<i>hampe</i> 'pole, stem'	<i>gambo</i> 'stem' <i>/ plica</i> 'fold'	<i>утиль</i> 'handle'	<i>pałeczka</i> 'little stick' / <i>ogonek</i> 'little tail'
	<i>flag</i>	<i>rep(ić)</i> '(little) tail' <i>/ zastavica</i> 'little flag'	<i>Fähnchen</i> 'little flag'	<i>crochet</i> 'hook'	<i>coda</i> 'tail'	<i>хвост</i> 'tail' <i>/ флажок</i> 'little flag'	<i>chorągiewka</i> 'little flag'
	<i>beam</i>	<i>rebrow</i> 'rib' / <i>crtaw</i> 'line'	<i>Balken</i> 'beam'	<i>barre</i> 'bar' / <i>ligature</i> 'tie'	<i>tratto</i> 'line'	<i>ребро</i> 'rib'	<i>wiązanie</i> 'binder' <i>/ belka</i> 'beam' / <i>daszek</i> 'roof'

a. Although not a body part term in a strict sense the English term *stem* is an example of biomorphic mapping, similar to its French equivalent *hampe*, the Italian *gambo* and the Russian *утиль* (> Ger. *Stiel* 'handle', also 'stem' as in the compound *Pflanzenstiel* 'herbal stem').

As shown in the examples in Table 3 which are listed in order of appearance in music history, the terms for the oldest element of Western musical notation – the

8. Hieronymus himself denied authorship to Franco in a later collection of texts (Hughes 2001).

9. *Semiminima* is a note value in mensural notation. In contemporary transcriptions it is usually replaced by a crochet.

note head – share the same conceptual background in all the selected languages. The absence of other synonymous terms confirms the strength of the underlying metaphorical concept. Among the more recent notational concepts the number of synonyms tends to increase while the domination of body part related terms loses its initial strength. Germanic and Romance languages abandoned most body metaphors, whereas Croatian seems to have preserved all basic metaphorical expressions. A vertical observation of equivalent zoomorphic terms reveals a conceptual similarity between the selected languages with the exception of the Polish term *ogonek* ('little tail'), which reflects the meaning of the original Latin name for an extension of a neumatic sign (*cauda*). This is not the case with the other selected European languages, where equivalents of the "little tail" (Cro. *repić*, It. *coda*, Rus. *хвост*) denote the *flag* of a note (> Lat. *flagellum*, 'little flag'). Local expressions for the *flag*, however, exist synonymously with "little tails" in all three languages. This is shown in Figure 4.

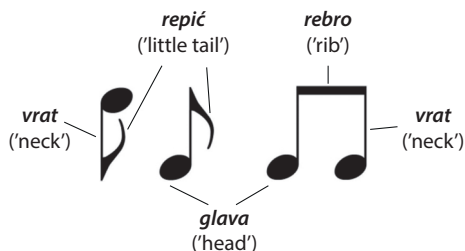


Figure 4. Modern Western notational symbols with Croatian body part terms and their English translations

The Latin musical notation term *flagellum* ('little whip') shows a striking similarity with its modern English equivalent *flag*, which shares its meaning with four other modern European languages (Cro. *zastavica*, Ger. *Fähnchen*, Rus. *флажок* and Pol. *chorągiewka* 'little flag'). Although etymological dictionaries typically do not point to a direct relationship between the Latin *flagellum* and the English *flag* (e.g. Partridge 2006: 216), we believe that the two ought to be somehow linked together, indicating a part loosely hanging from something. The analogy with the contemporary meaning of the term *flagellum* in biology¹⁰ supports this view. Equivalent Croatian, German, Russian and Polish terms also show conceptual similarity with the Latin-rooted biological term (see Table 3).

The basic elements of musical notation in many modern European languages preserve medieval body part concepts. This once again bears witness to the fact

10. 'A long, thin part similar to a tail, used for movement by some cells, bacteria, and other very small organisms', <https://dictionary.cambridge.org/dictionary/english/flagellum>, accessed 17 November 2017).

that our cognition and understanding of the world is deeply rooted in the mechanisms of the embodiment of language.

5. Conclusion

In spite of the fact that many European languages abound in musical terms related to body parts, there is a considerable lack of scholarly discussion on the topic. Regarding the three main areas where such sets of terms appear, most sources relate to organological terminology. It is perhaps due to the fact that this area represents a mutual point of interest of many different disciplines, including anthropology and ethnomusicology and not only musicology or linguistics in a narrow sense. The second and third thematic areas – theories of musical forms and musical notation – have not attracted nearly as much research interest as the previous one.

The world of musical instruments reveals an astonishing number of conceptual mappings which may have origins in the mystical personalization of their powers, as found in various traditions worldwide. Two basic conceptual metaphors – the *SUBSTANCE GOES INTO THE OBJECT* and the *COMPANION* metaphor – seem to be the governing principles for the formation of organological terms related to body parts in European languages. These musical universals could probably be traced back to remote past, if only there were accessible lexical sources for such an investigation.

Western European written musicological sources show that all significant parts of musical instruments bear (or once bore) metaphorical names rather than the ones describing their functional or structural roles. Although written texts presumably only reflect the previously existing oral practice, medieval Latin treatises may present the origins of body part terms in other European languages since Latin was the language of written music theory until well into the 16th century.¹¹ However, in some modern languages (e.g. Croatian, German and the selected Romance languages) there is a preference for less figurative expressions, while English, Russian and Polish terminologies have preserved a more significant share of organological terms related to body parts.

The simple formal mappings of body part terms in the theories of musical form and notation have remained present in most languages. The historical body-related labels for elements of musical forms are still present in the terms *head*, *body*

11. In some European countries, e.g. Croatia, Latin was the language of written music theory and (together with German) of music education until deep into the 19th century. Most Croatian music theory terms were developed by direct translation from Latin or German after Croatian became the official language of public communication in 1848. Many structural similarities are obviously the result of this directly traceable linguistic borrowing.

and *tail* of a musical theme, and the *head* and *tail* (coda) are frequently transposed to all levels of musical form. However, this topic has not received much research attention so far.

Although musical semiography has greatly expanded in the last few decades, most authors deal with contemporary notational systems and idiosyncratic sets of signs. One of the reasons for this could be the general availability of contemporary compositional theories and comprehensive interpretations. By contrast, research of the origins of Western notation requires more philological competence and archaeological wittiness. However, many questions remain unanswered due to the limited amount of surviving sources.

The richness of conceptual analogies with the human or animal body still provides many opportunities for further interdisciplinary research. The underlying conceptual background for the formation of body part terms in musical form and notation should be investigated more thoroughly; other possible avenues for research include comparative studies in historical linguistics, the history of music theory and musical palaeography. Although it is the best studied field of the three considered in this chapter, the study of musical instruments contains mostly narrow, specialized topics, lacking a synthetic review which could offer more universally applicable conclusions. Further contrastive analyses of equivalent terms could reveal certain regularities and shed light on the paths of the underlying conceptual and lexical borrowings. We hope this chapter could present a small step in this direction.

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PART 2

Grammaticalization Studies

'Body' and the relationship between verb and participants

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Heine and Kuteva (2004) list 'reflexive', 'middle', and 'reciprocal' as functions grammaticalized from the noun 'body' across languages. The present study, based on data from Pero (West Chadic), demonstrates the grammaticalization of one additional function, namely that of indicating that the object of the verb does not undergo a change in form, place, existential status (emergence or disappearance), or internal state. Most of the natural data indicates that the object in question is either a human or a story character with human attributes. The existence of this function in turn allows us to explain when third person object pronouns are used in Pero and when they are not used. The use of object pronouns is the outcome of the coding of semantic relations between the verbal predicate and arguments.

Keywords: middle, reflexive, coreference, non-affected object, 'body'

1. The aim of the study

The main aim of this study is to demonstrate the grammaticalization of the noun *cíg* 'body' in Pero into a semantic function that has not been described for this language or for other Chadic languages, and possibly not for non-Chadic languages. The by-product of this analysis is an explanation, for Pero, of a question that remains open for many languages, viz. when pronouns are overtly marked and when they are not (Hagège 1986; Frajzyngier 1997; Frajzyngier 2010).

The study is organized as follows: In Section 2 I present the relevant data from Pero, a West Chadic language (Frajzyngier 1989). In Section 3 I demonstrate the use of the form *cíg*¹ 'body' to code co-referentiality of arguments within a clause

1. The underlying form *cíg* undergoes several phonological changes as described in Frajzyngier 1989. One change is the voicing of the initial affricate to [j] whenever the preceding word ends

(‘reflexivity’). In Section 4 I present hypotheses regarding the function of the form *cíg* ‘body’ in coding relations between the predicate and noun phrases. In particular, I consider the function of the form *cíg* itself (Section 4.1), the role of verbs (Section 4.2), and the role of the nouns (Section 4.3), and I settle on an overarching hypothesis (Section 4.4). Section 5 provides support for the hypothesis from the behavior of object pronouns, where it is demonstrated that the motivation for the deployment of pronouns is not solely within the system of reference (Frajzyngier 2018). Section (6) presents brief information on the use of the noun corresponding to ‘body’ to code semantic relations between the predicate and nouns in Mina (Central Chadic) and Lele (East Chadic). Section (7) contains conclusions and implications.²

2. The problem

Pero (West Chadic, Frajzyngier 1989³) has constructions consisting of the noun *cíg* ‘body’ preceding a noun, a possessive pronoun, a definite marker, or the reciprocal marker. The grammatical role of such a noun phrase is often the object. The examples below were produced with the form *cíg* as the first option:

in a consonant, a rule in Pero that affects all underlying voiceless constituents. Another change involves devoicing of the velar stop *g* when it is geminated, again one of the phonological rules in the language. The gemination in turn is a feature of the addition of the definite suffix /i/ added to nouns ending in a consonant (Frajzyngier 1989: 132). When the noun *cíg* is followed by a form that begins with a consonant, an epenthetic vowel is inserted to break up the disallowed consonant cluster. The value of the epenthetic vowel is determined by the type of consonant that follows *cíg* and by the first vowel in the form that follows *cíg*. Hence the form *cíg* may end in the vowel [i], or [u], or [o]. As a result of all of these possible changes, the representation of the noun *cíg* in this study may have different forms.

2. I am grateful to speakers of Pero, Lele, and Mina who over the years taught me whatever little I learned about their languages. Errors of fact and interpretation are solely my own responsibility. I am grateful to Iwona Kraska-Szlenk and Izabella Will, the organizers of the Warsaw conference *Body Part Terms in Linguistic Usage: A Comparative and Typological Perspective*, for providing me an opportunity to present a version of this study. I am grateful to Iwona Kraska-Szlenk for her careful reading of the previous version of this study and most useful comments. I am also grateful to Erin Shay for her critical comments on the content of the first version. Her criticism prompted me to rethink the main hypotheses and argumentations. Whatever errors remain are of my own doing.

3. The present study deals with issues that were left under-analyzed in Frajzyngier 1989. The data in the present study are drawn from Frajzyngier 1989 as well as from field notes gathered mainly in 1974-5, when I was on the faculty of the Department of Nigerian Languages, Ahmadu Bayero College (now University) in Kano (Nigeria). Unfortunately, while working on this study in 2018, I did not have an opportunity to pursue some of the questions with native speakers of Pero.

- (1) *nì-wù-kò cíg-i mànná-nò ni n-múnù-n lándàa* (elicited)
 1SG-see-COMPL body-DEF wife-1SG 1SG SEQ-give-AAM dress
 ‘when I saw my wife, I gave her a dress’⁴

In the following example, the form *cíg* was given as the first option. There is an alternative form, whereby the third person feminine object pronoun *tò* is directly suffixed to the verbal piece with the verb *wè* ‘see’. As explained later in this study, this option may well be the effect of language contact with either Hausa or English. The use of the form *cíg* cannot be explained by language contact. AAM ‘additional argument marker’ in (2) indicates that the proposition has one more argument whose presence is not necessarily predictable from the properties of the verb. For the verb *kápù* ‘tell’ it could be either the addressee or the thing said.

- (2) *ni-mà-wù-kò cígú-tò ni-tà-kápù-n* (elicited)
 1SG-COND- see-COMPL body-3F 1SG-FUT-tell-AAM
 ‘If I see her, I will tell her.’

The object *cíg* plus a pronoun coreferential with the subject codes co-referentiality of the subject and object. Omission of the form *cíg* here is not allowed:

- (3) *mà-bít-kò cígó-mà* (elicited)
 2PL -hit-COMPL body-2PL
 ‘you (pl) hit yourselves’ lit. ‘you (pl) hit your bodies’

The function of *cíg* is not limited to the object of the clause. In the following example, the noun *cíg* is an object of a preposition and it is followed by the reciprocal marker *jábi*:

- (4) *mò-kár-yù bíyàṅ ti cíg jábi-m*
 OPT-PROHIB-make trouble PREP body each other-NEG
 ‘Let them not make trouble to each other.’

In the following example, the noun *cíg* with definite marker appears to represent the subject:

- (5) *mùndòm cíg-i cùk-kò kà wát-tù* (elicited)
 perhaps body-DEF loose-COMPL ASSC come-VENT
 ‘Perhaps he/she has forgotten to come.’

The evidence that the form *cíg* is a noun meaning ‘body’ is provided by utterances where *cíg* is the only component of the noun phrase, as in the following example:

4. When an example is elicited it is marked as such. Natural discourse examples are unmarked.

- (6) *kúndùl-mò cùrán-cù wè káarò cíg*
 kundul-DEM work-3PL.POSS thing testing body
 ‘Kunduls [specific kind of deities]–their work is to cure the body.’

The question that needs to be answered is why Pero deploys the form *cíg* in the constructions above while other languages use just nouns or pronouns to code referentially identical meanings. The term ‘referentially identical meaning’ designates a state of reality that can be inferred from the utterance. The referentially identical English translations above, as well as translations of the above examples into French, Spanish, Russian, and Polish, do not involve equivalents of the noun ‘body’. This issue is important, as one of the aims of linguistics is to explain the similarities and differences across languages. There are two possible explanations concerning the use of *cíg* in Pero: One is that the meaning of the nouns and verbs in the Pero examples differ from the meaning of their equivalents in Western Indo-European languages, and the other is that sentences with *cíg* ‘body’ in Pero have a meaning that is not conveyed by the translations.

3. Co-referentiality of arguments within the clause in Pero

The use of the noun *cíg* ‘body’ to code co-referentiality of arguments within the clause (sometimes referred to as ‘reflexive’) in Pero is the least controversial part. In many languages co-referentiality of the subject and object or the subject and other arguments is coded by the use of some part of the body, such as the equivalents of ‘head’ in Hebrew, ‘soul’ or ‘spirit’ in Arabic, and others (see Heine and Kuteva 2004). In Pero, the construction coding co-referentiality of arguments within the clause involves the noun *cíg* as the object, followed by possessive pronouns coding person, gender, and number of the subject. (The vowel *ó* in the form *cígó* is a fully predictable product of phonological changes involving two underlying consonants in a cluster.)

- (7) *mìn-bít-kò cígó-mù* (elicited)
 1PL -hit-COMPL body-1PL
 ‘we hit ourselves’ lit. ‘we hit our bodies’
nì-céktò-kò cígú-nò
 1SG-stand-compl body-1SG
 ‘I stood up’
- (8) *mà wán-nà-n mìnà wát-t-ì píppónò cígì-cú dóè*
 TEMP come-VENT:PRF-AAM home come-VENT:SEQ wash:PL body-3PL all
 ‘When they come home [with the animals] they come and wash themselves’

The third person pronominal subject in Pero is unmarked in large variety of clauses. The possessive subject pronoun following the object *cíg* indicates whether the third person subject is masculine, feminine, or plural (no gender distinction is encoded in the plural in Pero):

- (9) *bít-kò cígí-cù* (lit. ‘hit their bodies’) (elicited)
 hit-COMPL body-3PL
 ‘[they] hit themselves’
tè-rúk’ò cígí-nì (elicited)
 FUT-hide body-3M
 ‘he will hide himself’

Coding the co-referentiality of arguments within a clause through the form *cíg* plus a possessive pronoun in Pero is thus just one more illustration of the formal means used to code co-referentiality within the clause across languages.

4. Other grammatical function of the noun *cíg* ‘body’

The function of the form *cíg* in Pero is not limited to coding the co-referentiality of arguments within a clause. In considering the answer to the question about other functions of the form *cíg* I shall consider two hypotheses: One is that the use of the form *cíg* is somehow conditioned by the lexical properties of predicates or arguments, and the other is that *cíg* marks a function that is encoded in the grammatical system of the language. The two hypotheses are not mutually exclusive. The study demonstrates that the syntactic properties of verbs are the outcome of the function encoded in the language.

4.1 Hypothesis 1: Classes of verbs

There is a significant trend in current linguistics to assume that the lexical properties of lexical items, and in particular the lexical properties of verbs, determine syntax, i.e. the forms of phrases and clauses. In answer to the question of which properties of verbs are responsible, it is tacitly assumed, and often illustrated, that the determining factors are the events and states to which the verbs refer. Thus, we see cognitive verbs, verbs of perception, and verbs of movement behaving as a class across related and unrelated languages. Similarly, we see some nouns, e.g. animates, human, toponyms, proper nouns, etc., behaving as a class across unrelated languages. The explanation for why some classes exist in some languages but not in others is still missing. In what follows, I will examine first which verbs take objects marked by *cíg* and then which nouns are marked by the noun *cíg* ‘body’. I then attempt to see what these verbs and nouns have in common.

Verbs that take the object marked by *cíg* include: *mójó* ‘embrace’, *báanò* ‘look for’, *wè* ‘see’, *bínà* ‘wash’, *tékùlò* ‘clean’, *káwò* ‘gather’, *ípù* ‘grab, held, catch’. Seen from the point of view of the usual suspects in semantic classes, these verbs have nothing in common, as they include verbs of perception, verbs of cleaning, verbs of searching, and others. I would like to propose, however, that one of the common characteristics of these verbs is that the activities they describe do not induce change in the integrity of the object, change in the substance of the object, change in the existential status of the object such as emergence or disappearance of the object, nor do they involve movement of the object. From this observation one can hypothesize that the function of the noun *cíg* may be to indicate just this: That the object of the verb does not alter its form, substance, or place.

The evidence for the proposed hypothesis consists of (a) the contrast between the deployment of the form *cíg* and its absence; (b) the contrast between the deployment of the form *cíg* and the deployment of other markers that can occupy the same position as the form *cíg*; and (c) the most important piece of evidence, namely the deployment of the form *cíg* with the third person possessive pronoun. Here are examples and evidence.

4.2 Contrast between the form *cíg*, its absence, and other morphemes in the same position

The data gathered seldom contain the same verb followed by the same object with or without the form *cíg*. Therefore, the argumentation relies on contrasting examples with verbs that differ with respect to the feature that the hypothesis deems responsible for the presence of the form *cíg*, viz. the absence of the change of the shape, the place, and the existential status of the object versus the presence of these features.

The verb *mójó*, whose closest English equivalent is ‘embrace’, does not imply the change of shape of the person embraced:

- (10) *nì-mójó-kò* *cígó-tò* (elicited)
 1SG-embrace-COMPL body-3F
 ‘I embraced her’

The verb *tékùlò* ‘clean’ with the noun *cíg* ‘body’ does not change the shape of the object:

- (11) *tékùlò cígì dígè* (elicited)
 clean body pot
 ‘clean the pot!’

Compare the action that does change the shape or the integrity of the object. The object is not marked by the form *cíg*:

- (12) *tóddé dígè* (elicited)
 break/crack pot
 ‘break/crack the pot!’

The verb *báanò* ‘look at, test’ refers to an event that cannot change the shape of the object. The object is marked by the noun *cíg* ‘body’:

- (13) *mà-káw-kò-n cádí wù káarí-káarí-mò báanò cíg-ì*
 TEMP-gather-COMPL-AAM material for testing-testing-DEM look body-DEF
nínnya cì-à-kùmá-ì tò-món-nì
 man REL-NEG-listen-DEF PREP-?-3SG
 ‘When [he] has gathered these materials for the testing of the body [he is ready] to test person who is not well.’

Rubbing oil and other objects into a deity does not change the form or the shape of the deity:

- (14) *mà gbúr-kò kàn mór n-cákù-n tí cíg kúndùl*
 TEMP mix-COMPL ASSC oil SEQ-rub-AAM PREP body kundul
 ‘When [they] mixed [it] with oil [they] will rub [it] into the body of kundul.’

Washing a person does not change the form of the person.

- (15) *bínà cígì lów-ì* (elicited)
 ‘wash body child-DEF
 ‘wash the child!’

Gathering chairs does not change the form of the chairs:

- (16) *káwò cíg jòk* (this is an elicited example and may
 gather body chair likely represent a red herring)
 ‘gather all the chairs!’

The evidence that the form *cíg* is a grammatical marker rather than a mechanical outcome of the use of certain verbs is provided by the fact that the same verb can have an object without the marker *cíg*. Whether the marker is used or not makes a difference in meaning. Compare the following two clauses with the same verb, *ípù*. In one clause the verb could be interpreted as meaning ‘catch, grab, hold’, but in the other it could only mean ‘catch’, the meaning which was the target of elicitation. The verb undergoes a number of phonological changes in various contexts. (The pre-pronominal marker occurs after the completive suffix and before direct object pronouns.)

- (21) *kád-náapù cíg mánnà-n mól-kò-m*
 PROH-touch body wife-GEN brother-2M-NEG
 (and many similar clauses in the narrative prohibiting immoral behavior)
 ‘You should not touch your brother’s wife’

A reader may question whether the expression *cíg mánnà* ‘body wife’ should not be interpreted as simply coding the possessive construction ‘wife’s body’. Such an interpretation, however, would not be correct. Pero has two types of modification of a noun by another noun. When the modifier is a non-human noun, simple juxtaposition of the two nouns conveys modification: *cígì múnà* ‘wall of the house’ lit. ‘the body of the house’, *cígù tójè* ‘body of a horse’. When the modifier is [+human] the genitive construction marker *nò*, with the variant *-n*, is suffixed to the head noun: *cígú-nò dáabà* ‘the body of Daaba’. Similarly, in the following example, there is no genitive marker between the noun *cíg* and the noun *kpáttìn* ‘men’:

- (22) *fwóri má-m-pónà tókkò cíg kpáttìn*
 sun TEMP-SEQ-rise heat up body men
 ‘The Sun, when it rises, heats up men’

The fact that animate, and usually human, nouns are preceded by the marker *cíg* may be indicative of the empathy of the speaker toward human beings or to animals that are protagonists of stories.

4.4 An overarching hypothesis

The overarching hypothesis for the present study is that the system of semantic relations between the verb and object in Pero includes affectedness of the object, in the sense that the object moves, undergoes a change of form or substance, comes into being, or disappears. This is the default semantic relationship between the verb and object. Third person pronominal objects are not overtly marked in constructions describing such events. The hypothesis is that Pero has also encoded other semantic relations, one of which is to indicate that the object does not change its form, does not move, and does not undergo existential change. Such objects are mainly represented by human nouns and are preceded by the form *cíg* ‘body’. Some verbs in Pero, such as verbs corresponding to ‘see’, ‘show’, ‘wash’, ‘clean’, and a few others, take their objects marked by *cíg* ‘body’.

An interesting piece of evidence for the proposed semantic relations encoded in Pero is provided by verbs that describe events outside of the two semantic relations. The verb *míddò* ‘stir’ requires its object to be preceded by the form *yà*, for which I have no separate lexical meaning:

- (23) *ní-tà-míddò yà-bwé* (elicited)
 1SG-FUT-stir ?-gruel
 ‘I will stir the gruel’
yà-bwé mídd-áni (elicited)
 ?-gruel stir-NOMIN
 ‘the gruel is stirred’

The verb *kèró* ‘search for’ requires its object to be preceded by the noun *púdí* ‘place’:

- (24) *nì-kèró-kò púdí-tò* (i.e. the place where she is)
 1SG-search-COMPL place-3F
 ‘I looked for her’ lit. ‘I searched her place.’

One additional piece of evidence for the proposed semantic relations coded in Pero is provided by the overt coding of the third person object pronouns, as shown below.

5. Marking the pronominal object as evidence for the non-affectedness function of the form *cíg*

The coding of the pronominal object by the form *cíg* ‘body’ provides a crucial piece of evidence for the hypothesis that the form *cíg* is a grammatical marker and that it codes a function distinct from the grammatical relations between the predicate and noun phrases. Before we can consider the evidence, it is necessary to discuss how Pero codes pronominal subjects and objects.

First and second person pronominal subjects are marked by subject pronouns preceding the verb or by tense markers that precede the verb.

First person singular subject:

- (25) *kínnímà cí-nì-tà-káp-áani kà tóom kúndùl*
 deity REL-1SG-FUT-talk-NOMIN ASSC front kundul
 ‘The deity about whom I am going to talk first is kundul.’

Second person singular subject:

- (26) *dóojù kà cùgùt nì-mùn-jì kà-n-wát-tù*
 tomorrow ASSC morning 1SG-want-HABIT 2M-SEQ-COME-VENT
kà-n-wát-tù yì káari tì miná-nò
 2M-SEQ-COME-VENT make test PREP house-1SG
 ‘I want you to come and perform a test at my house tomorrow morning.’

The first and second person objects are marked by object pronouns following the verb:

- (27) *bír-k-é-nù* *nín-cínu* (elicited)
 beat-COMPL:PRE:PRO-1SG SUBJ-3PL
 ‘they beat me’

Even though Pero distinguishes gender and number in the third person subject pronouns, the third person subject can be morphologically unmarked in pragmatically neutral clauses. The following fragment illustrates the morphologically unmarked third person singular masculine subject. The subject of the first clause in the example is nominal: *bàtúurè* ‘white man’. The second clause has no overt coding of the subject, even though its subject appears to be different from the subject of the first clause. The subject of the third clause is also different from the subject of the preceding clause, and it is still not overtly marked. Object pronouns are unmarked in the same way in which subject pronouns are unmarked. In the following fragment, the object of the verb *yù* ‘call’ is unmarked, and so is the object of the verb *múnù* ‘give’. Participants not overtly marked are enclosed in square brackets in the free translation line:

- (28) *bàtúurè n-yù-tù n-wát-tù múnù-n ànini bèlòw*
 white man SEQ-call-VENT SEQ-come-VENT give-AAM anini two
 ‘The white man₁ called [the chief]₂ and when [he]₂ came, [he]₁ gave [him]₂
 two anini (a small coin).’

Neither the subject nor the direct or the indirect third person object pronoun has to be overtly marked. All of these arguments are part of the proposition in the following example, and none of them is overtly marked in the clause:

- (29) *n-cáarò-ì n-múnù-n n-àdd-ínà*
 SEQ-cut-SEQ SEQ-give-AAM SEQ-eat-NOM
 ‘[They] cut [part of the liver] and give [it] [to him] and [he] eats [it].’

The verbs *kúbú* ‘taste’, *díikò* ‘fetch’, *yù* ‘call’, *cáadò* ‘take’, and *múnù* ‘give’ can be deployed in the clause without any object following them:

- (30) *mà-kúbú-kò n-díikò mándì n-yù-tù nínnyà-mò mù-tà-cáadò*
 TEMP-taste-COMPL SEQ-fetch again SEQ-call-VENT man-DEM REL-FUT-take
kúndúl-ì n-múnù-n n-cù
 kundul-DEF SEQ-give-AAM SEQ-drink
 ‘When [he] tasted [it], [he] will fetch [it (wine)] again and call the man who
 will acquire a kundul and will give [him] [it (wine)] and [he] will drink [it].’

- (31) *mà-múmmún-kò-n n-ádd-ínà*
 TEMP-give-PL-COMPL-AAM SEQ-eat-COMPL:VENT
 ‘When [they] were given [it] they ate.’

Given that the third person object can be unmarked, it is necessary to explain when it is marked. The explanation provided stems from the presented hypothesis, namely that the third person pronominal object is marked when it is a participant that does not undergo a change in form, place, or existential status, such as emergence or disappearance. The lack of change in shape or form is a function that must be overtly coded in Pero. Hence object pronouns are deployed not only qua objects but also as indicators that the pronominal object was not affected in any of the senses described above. Moreover, these objects in natural discourse gathered are always human. The only way to code this is through the noun *cíg* plus possessive pronouns. Here are the example and the evidence.

Recall from the section on the properties of nouns that the verb ‘touch’ has the human object marked by the noun *cíg*. The following example provides evidence that the form *cíg* (*cíkki* after the addition of the definite marker) can serve as an anaphoric pronoun for a human participant:

- (32) *mánnà mól-kò mún-kad-nápù cíkki-m*
 wife brother-2SG OP-PROH-touch body-DEF-NEG
 (repeated in the narrative more than three times in slightly different variations)
 ‘Your brother’s wife, you should not touch her!’

- (33) *ni-mà-wù-kò cígú-tò ni-tà-kápù-n* (elicited)
 1SG-TEMP-see-COMPL body-3F 1SG-FUT-tell-AAM
 ‘if I see her I will tell her’
mùnòm cíg-i cùk-kò kà wát-tù
 perhaps body-DEF loose-COMPL ASSC come-VENT
 ‘Perhaps he/she has forgotten to come.’

The form *cíg* codes the resumptive subject in relative clauses:

- (34) *mà mún-nà-n tù-kúndúl-ì mà mée-nà mà cún-kò*
 TEMP give-COMPL-AAM PREP-kundul TEMP return-COMPL TEMP pass a day
gbónòh nínnyà-mò-ì mù-cíg-ì à-báni-m píďà-ì
 three man-DEM-DEF REL-body-DEF NEG-well-NEG sickness-DEF
tà-kpáďď-áani
 FUT-end-NOMIN
 ‘When [he] gave it to kundul, and when [he] returns after three days, this man, who is not well, his sickness will end.’

There are instances of the third person pronominal object suffixed to a verb that does not indicate a change in the form of the object, its existential status, or its place. These occur only in elicited examples:

- (35) *wé-k-ée-ni* *nín-tè* (elicited)
 see-COMPL-PRE.PRO-3M SUBJ-3F
 ‘she saw him’

Since I did not have an opportunity to explore the conditions under which such a clause might be used in natural discourse, I prefer not to draw any conclusions from this example. Another open question is whether the elicited examples reflect the fact that the elicitation was conducted in English or Hausa, languages in which the language assistants were fluent, and the fact that in both of those languages object pronouns follow the verb. In Hausa, object pronouns are suffixed to the verb.

The last example notwithstanding, the natural data for Pero indicate that with verbs that do not indicate a change in the form, place, or existential status of the verb, the third person object pronoun must occur, and moreover it must be marked by the form *cíg* ‘body’. This marking indicates the semantic relation of non-affectedness between the verb and the third person object pronoun.

5.1 Conclusions about Pero

It has been demonstrated that the grammatical system of Pero encodes the semantic relation of non-affected object, whereby non-affectedness implies: no change in the form, shape, internal structure, place, or existential status of the object. Such objects are marked by the noun *cíg* ‘body’ preceding the object. Unlike third person pronominal objects of verbs that indicate a change in shape, place, or existential status, the pronominal objects of verbs that do not induce such changes have to be overtly marked, and they are marked by the same form *cíg* ‘body’.

6. Body in Mina and Lele

In the present section I discuss data from two other Chadic languages, Mina (Central Chadic) and Lele (East Chadic). Both languages have forms consisting of nouns corresponding to ‘body’ plus possessive pronouns. These constructions, however, have functions distinct from the functions of the similar construction in Pero.

6.1 Mina

In Mina (Central Chadic, Frajzyngier, Johnston with Edwards 2005), the noun *ksám* ‘body’ codes the internal affectedness of an argument represented by a subject or object pronoun:

- (36) *á gór kə nd-á-k ksám skù*
 3SG try INF go-GO-1SG body NEG
 ‘It will not touch me’ (e.g. about an arrow) lit. ‘it will not touch me body’
- à zá hà tàbál ksám kímí*
 3SG COMP 2SG tire body why
 ‘He said to him, “Why do you tire yourself?”’

The form *ksám* followed by a possessive pronoun is deployed to code coreferentiality of the subject and object:

- (37) *séy báy dzà á dzà ksám-ngàn ká*
 so chief kill 3SG kill body-3SG POS
 ‘So the chief killed himself’
- (38) *ázà tòk ká kàh ksám-tòkóh skù syì ká dàl-á-η á vàngáy*
 go 1PL INF bury body-1PL NEG COM INF do-GO-3SG PRED how
 ‘[Since the blacksmith is dead] we have to bury each other, otherwise, how can we go about it?’

The importance of the data in Mina is that the noun *ksám* ‘body’ codes the internal affectedness of the object. This function is compatible with the other function of the noun *ksám*, that of coding coreferentiality of arguments within the clause.

6.2 Lele

In Lele (East Chadic, Frajzyngier 2001), the noun ‘body’ followed by a possessive pronoun appears to indicate the internal state of the arguments represented by the pronoun:

- (39) *na-du è go mónge kusu-ro kúsinyo pinyà na-du hab kirè dé lay*
 HYP-3F go REF bend body-3F ground even HYP-3F find way NEG also
 ‘When she wants to bend forward, she does not find a way to do so’
 (Garrigues-Cresswell & Weibege 1981: 16–17)
- (40) *dàw-gé kusi-gè jèn wàl-gé dangá ná kur wèlè-ì*
 gather-3PL body-3PL stay cut-3PL calabash ASSC day lie down:VN-3M
wèlè-ì.
 lie down:VN-3M
 ‘They [women] gather and spend all day lying down and carving calabashes’
 (Garrigues-Cresswell & Weibege 1981: 16–17)
- (41) *ba gi-dé kusu-m wèl kúni*
 COM 2M-leave body-2M lie down home
 ‘And you lie down at home’ (Garrigues-Cresswell & Weibege 1981: 16–17)

The notion of swearing also involves the noun ‘body’:

- (42) *nè dàŋ dé na gí gèy piyã ná ŋ je wále kus-iŋ*
 COP 1SG NEG HYP 2SG want even ASSC 1SG IMPF swear:FUT body-1SG
 ‘It is not me; if you want, I will swear.’
dá wala kusu-m bàb dé
 leave:IMP swear:IMP body-2M all NEG
 ‘Do not swear for nothing.’

The internal state of arguments, as coded by the noun ‘body’ in Lele, belongs to the domain of coding relations between the predicate and participants. In Lele, however, the specific semantic relation is different from the one coded in Pero.

7. Conclusions

The nouns corresponding to ‘body’ in three Chadic languages have been grammaticalized to code the relationships between the predicate and noun phrases. The functions coded by these nouns, are not, however, the same across languages. In Pero, the noun ‘body’ followed by the definite marker, a possessive pronoun, or another noun, indicates that the argument, most often human or animate, did not change its shape, did not move, and did not change its existential status. In Mina, the noun ‘body’ codes the internal affectedness of the object. In Lele, the noun ‘body’ codes the change of posture of the argument and possibly the internal state.

The coding of the semantic relations between the predicate and noun phrases allows us to explain why in Pero the third person object pronouns are sometimes omitted and sometimes overtly coded. The study demonstrates that although pronouns are a coding means in the system of reference, their deployment is conditioned also by other domains.

List of abbreviations

AAM	additional argument marker	INF	infinitive
ASSC	associative	PL	plural
COM	comment	POS	point of view of the subject
COMP	complementizer	PRE:PR	pre-pronominal marker
COMPL	completive	PRED	predicator
DEF	definite	PREP	preposition
F	feminine	REL	relative
FUT	future	REP	reported speech

GEN	genitive	SEQ	sequential
GO	goal	SG	singular
HYP	hypothetical	SUBJECT	subject
IMP	imperative	TEMP	temporal
IMPF	imperfective		

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On the grammatical uses of the ‘head’ in Wolof

From reflexivity to intensifying uses

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In Wolof (Atlantic, Niger-Congo), the grammatical uses of the word for HEAD (*bopp*) with a possessive modifier range from direct and indirect reflexive pronoun to adnominal intensifier through an intermediary genitival reflexive. This study analyzes the semantic continuity between those different uses, and the various ways they are conditioned by their contexts. With direct and indirect (or oblique) reflexives, the reflexive anaphora has scope over two different semantic roles (agent vs. patient or beneficiary) of the same referent. Being restrictively used for typically other-directed processes, those reflexive constructions imply that alternative (more expected) agents are discarded, producing an emphasis on self-affectedness or self-benefit. This ‘centering’ effect on the actual participant is even clearer with the genitive reflexive and the adnominal intensifier due to their adnominal function. In those constructions, the reflexive anaphora creates a re-identification of the referent in the same role, producing an intensive effect by centering on the identity of the referent, discarding again alternative participants. Altogether, the various reflexive constructions in Wolof, emphasizing the agentivity, responsibility or identity of the referent, point to a metonymical use of the HEAD for the PERSON or INDIVIDUAL, which is in accordance with its various lexical uses.

Keywords: reflexives, intensifiers, semantic continuity, anaphora, metonymy, head, grammaticalization, Wolof, African languages

1. Introduction

Numerous studies on grammaticalization have shown that the semantics of a lexical unit shapes its grammaticalized uses. In Tupuri (Adamawa, Cameroun), for instance, two terms can be used as prepositions with the meaning ‘in, inside’: one

(*nĕn*) comes from the noun ‘eye’, the other one (*bĭl*), from the noun ‘belly’ (Rueland 1998). The same spatial value seems to have been abstracted from the two lexical units. However, the constraints on their grammatical uses reveal that the two terms are not synonymous and rely on two different image-schema abstracted from their lexical meanings (Robert, 2005: 13): in the case of ‘eye’, the interior is a compact domain, while in the case of the ‘belly’ it is hollow. Therefore, ‘eye’ will be used to say ‘inside the forest’ (compact domain) whereas ‘belly’ is impossible for this; conversely, ‘belly’ will be used to say ‘in a hole’ (hollow interior), where ‘eye’ is not possible. This semantic conditioning is in accordance with the semantic continuum between grammar and the lexicon postulated by Cognitive grammar (e.g. Langacker 1991, Svorou 2002). In the functional theories on grammaticalization, this semantic continuity is analyzed as a Principle of (semantic) Persistence, visible at incipient or intermediary stages of grammaticalization by authors advocating a gradual nature of grammaticalization (e.g. Hopper, 1991: 28).

It is from this perspective that this chapter studies¹ the grammaticalized uses of the word for ‘head’ (*bopp*) in Wolof, an Atlantic language mainly spoken in Senegal, both as a contribution to understanding the conceptualization of ‘head’ in this language, and as a typologically oriented study of the grammaticalization of this notion. According to the *World lexicon of grammaticalization* (Heine & Kuteva, 2001: 167–9), there are two major semantic domains for the grammaticalization of the body part noun for HEAD: the spatial domain with locative prepositions for FRONT or UP markers, and the domain of diathesis with the following grammaticalization chain: HEAD > REFLEXIVE > MIDDLE. In Wolof, the grammatical uses of the noun *bopp* ‘head’ do not exactly contradict these patterns but do not clearly exemplify them either. Part of the grammaticalized uses of this term do pertain to the domain of diathesis but first, while *bopp* is used as a reflexive marker, it coexists with a competing middle marker; second, rather than evolving into a middle marker, *bopp* has developed other kinds of uses along another well-known path for the grammaticalization of HEAD, viz. as an intensifier (Heine & Kuteva, 2001: 168). However, when mentioned in the literature, these two types of use are never explicitly correlated, be it in a grammaticalization chain or in a semantic analysis. Furthermore, in Wolof, both types of uses, as a reflexive marker and as an intensifier, have been extended to less typical contexts. It is worth noting that in all its grammatical uses *bopp* is used with an inflecting possessive modifier. For convenience, the term ‘his head’ will be used in this study as a generic reference to the *bopp*-phrase with a possessive modifier.

1. The data come from a corpus study of various texts, completed by elicitation. For details, see section on Corpus and data references.

This chapter is structured as follows. After a quick presentation of *bopp*'s lexical uses and the reasons why it did not grammaticalize into a locative marker (Section 2), the next sections are dedicated to the grammaticalized uses of the *bopp*-phrase. Those fall in two main types. In the first type (Section 3), the *bopp*-phrase ('his head') functions as a reflexive marker, filling in the syntactic slot of a nominal object in a prototypical reflexive construction (3.1), but also as an oblique reflexive (3.2.) or as a genitive reflexive (3.3). In the second type of uses (Section 4), the *bopp*-phrase appears in a prepositional phrase ('in his head') and functions as an intensifier modifying a noun or a pronoun. The various senses of this prepositional phrase are presented in 4.1, 4.2 and 4.3. The last Section (4.4) analyzes the semantic continuity between those various senses and its limits.

Through the study of the grammaticalized uses, this chapter will analyze the semantic continuity and discontinuity attested across the different uses, as well as their semantic conditioning and syntactic constraints, and bring to light the semantic persistence of the body part term in the grammatical uses as well as the underlying conceptualization of the HEAD in Wolof.

2. The noun *bopp* 'head' and why it did not grammaticalize into a locative marker

In its nominal use, *bopp* B² is generally used to refer to a body part as in (1). Only a few extended (metaphorical) uses have been found for referring to a specific part of an object, in genitival noun phrases (2).

(1) *Sama bopp dafa-y metti* [D 2003]
 POSS.1SG head FOC.V.3SG-IPFV ache
 'I have a headache' (lit. my head is aching)

(2) *bopp-u gaal* [D 2003]
 head-GEN.SG dugout
 'bow of a dugout'
bopp-u lal
 head-GEN.SG bed
 'bedhead'

2. Wolof is a noun class language with a functional but simplified system: the membership of a noun in a class is visible only in nominal agreement, and agreement morphemes consist of a single consonant, as indicated here in capitals (B), fusing with the agreeing morphemes. For the sake of simplicity, the agreement morphemes in the various determiners or pronouns (such as the definite article, the demonstratives or the relative pronouns) are not glossed. For more details about the grammar of Wolof, see Robert (in press).

Bopp is not used in the paradigm of (compound) locative prepositions. Those are formed with the general locative preposition (*ci*) combining with various body parts or spatial nouns, as listed in Table 1. This means that, in Wolof, the HEAD is not conceptualized as an inherent dimension or orientation (*FRONT) or as a part of the body with an upper position (*UP/TOP). In contrast to other body parts, its relative location is not viewed as a salient feature.

Table 1. The paradigm of locative prepositional phrases (and adverbs) in Wolof

	LOCATIVE PREPOSITION	+	NOUN		MEANING OF PREPOSITION
FRONT	<i>ci</i>		<i>kanam</i>	‘face’	= ‘in front (of X)’
UP/TOP	<i>ci</i>		<i>kaw</i>	‘summit, top’	= ‘on, on the top (of X)’
BEHIND	<i>ci</i>		<i>ginnaaw</i>	‘back’	= ‘behind (X)’
BESIDE	<i>ci</i>		<i>wet</i>	‘side, flank’	= ‘beside (X)’

Therefore, the metonymic use of *bopp* in (3) below is probably to be interpreted as referring to the head as the seat of decisional power rather than to the top of a hierarchy. Accordingly, in the few uses, mentioned in (2), where it refers to a part of an object, the “head” of the object is also its *active* part: the bedhead is the place where people put a lamp or other facilities to be used in bed and, even more clearly, the bow of a dugout is not the upper part but the leading part of the (horizontal) boat that guides it. Along the same lines, *bopp* is commonly used to refer to the head as the seat of consciousness or of personal judgment, as in (4) and (5).

- (3) *ñi nga xam ne ñoom la Yalla teg ci boppu*
 REL.PL AOR.2SG KNOW COMP PRO.3SG FOC.CMP.3SG God put in head:GEN.SG
réew mi [G]
 country DEF
 ‘those that God put in charge of the country’ (lit. those which you know that they are the ones that God placed at the head of the country)
- (4) *Ñaari jabar, boo leen mënul yor, [...] xam ko ci*
 TWO:GEN.PL wife when:AOR.2SG O.3PL can:NEG hold know O.3SG in
sa bopp, danga leen di fase. [XSW]
 POSS.2SG head FOC.V.2SG O.3PL IPFV repudiate
 ‘When one can’t afford to have two spouses and is aware of it (lit. if you know it in your head), he must repudiate them.’
- (5) *man, yenn yi xéjul ci sama bopp.* [XSW]
 PRO.1SG ones DEF fit.in:NEG.3SG in POSS.1SG head
 ‘Me, some things are beyond my comprehension.’ (lit. can not be contained in my head)

Before turning to the grammatical uses of *bopp*, two specific verb phrases with *bopp* deserve to be mentioned. First, in combination with the transitive verb *moom* 'to possess, to be the owner of', the phrase 'to own one's head' means 'to be free, independent, without master'. The use of this verb phrase is not restricted to human beings and has also been found in reference to animals, like goats or birds, in our corpus. Second, with the transitive verb *mën* 'to be stronger than someone' (maybe from a meaning like 'to have power over someone'³), the verb phrase 'to be stronger than one's head' takes on the meaning 'to be well-off, to make one's own way in the world'. In these two cases, the concept HEAD appears to represent an autonomous person (or living creature), either for his free will or for his mere existence (which he may override). As we will see, these semantic features are clearly present in the semantic background of the grammatical uses of this term, too.

3. The reflexive pronoun

Beside its nominal uses for referring to the body part 'head', *bopp* has various grammaticalized uses. In all of them, *bopp* is used as a reflexive marker, along with an inflecting possessive modifier exhibiting person and number agreement with *bopp*'s antecedent. In a first set of grammatical uses, the *bopp*-phrase ('his head') is used as a pronoun filling the syntactic slot of a nominal argument. Let us take this first type as a starting point. The most salient grammatical use of 'his head' in Wolof is that of a reflexive marker in a prototypical reflexive construction, i.e. indicating the *co-reference* of a patient object with an agentive subject, as in (7), paralleling (6): 'he loves his head' means 'he loves himself'. The *bopp*-phrase functions as a *reflexive pronoun* but this pro-noun retains other syntactic properties of the noun: the postverbal position of the reflexive marker parallels that of the nominal object *Marie* in (6) and contrasts with the preverbal position of the (clitic) object pronoun in (8).

(6) *Móodu dafa bëgg Marie* [D]
 N.PR FOC.V.3SG love N.PR
 'Móodu loves Mary'

(7) *Móodu dafa bëgg bopp-am* [D]
 N.PR FOC.V.3SG love head-POSS.3SG
 'Móodu loves himself'

3. This verb is commonly used as an auxiliary with the meaning 'can'.

- (8) *Móodu dafa ko begg* [D]
 N.PR FOC.V.3SG O.3SG love
 ‘Móodu loves her’

As can be seen in Table 2, the possessive markers in Wolof are mostly preposed to the noun, except for the third person singular where it is suffixed. So in (7), the reflexive “pronoun” is a regular possessive phrase corresponding to ‘his head’.

Table 2. Wolof possessive modifiers (example with *xarit* ‘friend’)

1.SG	<i>sama^a xarit</i>	‘my friend’	<i>sama-y xarit</i>	‘my friends’
2.	<i>sa xarit</i>	‘your friend’	<i>sa-y xarit</i>	‘your friends’
3.	<i>xarit -am</i>	‘his/her friend’	<i>a-y xarit -am</i>	‘his/her friends’
1.PL	<i>sunu xarit</i>	‘our friend’	<i>sunu-y xarit</i>	‘our friends’
2.	<i>seen xarit</i>	‘your friend’	<i>seen-i xarit</i>	‘your friends’
3.	<i>seen xarit</i>	‘their friend’	<i>seen-i xarit</i>	‘their friends’

a. Variants: for (1 SG) *suma, saa*, for (1PL) *suñu*.

As shown by Schladt (2000), body part terms are overwhelmingly the main source of reflexives in the languages of the world, and almost exclusively in Africa. As confirmed by Heine (2000), in most cases, the nominal source is the noun for BODY or HEAD, but BODY⁴ is much more frequent than HEAD in African languages (20/7 in Heine 2000 and 60/5 in Schladt 2000).⁵ Moreover, Heine and Kuteva (2001: 168) indicate that the latter tends to give rise to a middle marker in a more general grammaticalization chain: HEAD > REFLEXIVE > MIDDLE. This is not the case in Wolof.

3.1 Direct Reflexive vs. Middle construction

Wolof has two distinct strategies for coding a self-affected subject: one of them is using ‘his head’ as a pronoun in object position for expressing co-reference

4. Wojtylak (this volume) provides another prototypical example of the use of the term for ‘body’ as a reflexive marker, but also to refer to the broader notion of ‘self’, in an Amazonian language (Murui). In contrast, Pero (an African language from the Chadic family) shows lesser known usages of the word for ‘body’, as described by Frajzyngier (this volume): besides its use to encode coreferentiality between arguments inside the clause (as a reflexive pronoun), this term is also used to indicate that “the object of the verb does not undergo a change in form, place or existential status or internal state”. For more comments on the grammatical uses of ‘body’ in Pero compared to ‘head’ in Wolof, see footnote 24.

5. On the other hand, Evseeva and Salaberri (2018: 396) indicate that in their sample of 950 languages (belonging to 123 linguistic families) using “head-reflexives”, 72.7 % are spoken in Africa.

between the patient and the agentive subject, in a “direct reflexive construction” (Kemmer 1993: 42) as exemplified above in (7); the other one is via verbal derivation with the middle suffix *-u*, as exemplified below in (10) for the transitive verb (9) *sol* ‘to wear, to put on (a dress)’. In contrast to the reflexive construction, the middle derivation implies valency reduction, i.e. there is no object.

(9) *Ban simis la sol ? [D]*
 which shirt FOC.CMP.3SG wear
 ‘Which shirt does he wear?’

(10) *Dafay sol-u [D]*
 FOC.V.3SG:IPFV wear-MID
 ‘He is getting dressed’

What is the division of roles between the two constructions in Wolof? A comparison will help to refine the semantic characterization of the use of *bopp* as a reflexive marker. The characterizations presented here are based on Nougquier Voisin’s (2002: 111–126) detailed study of the middle voice in Wolof.

In a majority of cases, depending on the verb, either the reflexive or the middle construction is *obligatory* for the expression of a self-affected agent, so the two constructions are in complementary distribution. Nougquier Voisin (2002: 111sq) has shown that the middle derivation has autocausative, decausative, and also some quasi-passive functions in Wolof. The term *autocausative function* (from Genušiene 1987: 87), which we are concerned with here, refers to cases where the subject is both Agent and Patient⁶ of the action as in (10) above. For this autocausative function, the use of the middle derivation in Wolof is restricted to situations implying an *intrinsic coreference* of the Agent and Patient, that is with a weak elaboration of the participants, e.g. for actions affecting the body, like ‘to dress’ in (10), and grooming (e.g. *sang-u* ‘to shower’ from *sang* ‘to bath someone’).⁷ By contrast, the reflexive construction, which has only autocausative uses, is restricted to highly transitive activities with a human agent and to prototypically *other-directed processes*, be they stative like *bëgg* ‘to love’ (7), *xam* ‘to know’ (11), *yég* ‘have regards for’ (12), or dynamic like *jiñ* ‘to accuse’ (13), *réy* ‘to kill’, *tàgge* ‘to announce someone’s death’ or *téye* ‘to hold back’ (14). With these verbs, the use of the reflexive construction ‘his head’ is obligatory for the expression of a self-affected subject, and the middle construction (with *-u* suffix) is impossible (cf. (13)b). These

6. In this case, Genušiene (Evseeva and Salaberry 2018: 39) actually indicates that the subject’s semantic role changes from that of an Agent to that of an Actor.

7. There are also a few posture verbs with middle suffixes in Wolof, and those are always deponent (Nougquier Voisin, 2002: 11), e.g. *gapparu* ‘to sit cross-legged’ (*gappar), *děfeenu* ‘to lie on the belly’ (*dēfeen).

actions are unusually reflexive, that is why Nouguié Voisin (2002: 95) qualifies the reflexive construction as indicating an ‘accidental A/P coreference’. For the same reason, the reflexive construction often conveys an intensive value, as in (12).

- (11) *xam-al sa bopp*. [D 2003]
 know.IMP POSS.2SG head
 ‘Know yourself’
- (12) ... *yég sa bopp* [XSW]
 have.regards.for POSS.2SG head
 ‘...(and you) are full of yourself’ (lit. you have regards for your head)
- (13) a. *Móodu mu.ngi jiñ Samba* [D]
 N.PR PRST.3SG accuse head-POSS.3SG
 ‘Móodu is accusing Samba’
 b. **Móodu mu.ngi jiñ-u*
 c. *Móodu mu.ngi jiñ bopp-am*
 N.PR PRST.3SG accuse head-POSS.3SG
 ‘Móodu is accusing himself’
- (14) *Mënoo téye sa bopp?* [“XSW]
 can:NEG.2SG hold.back POSS.2SG head
 ‘You can’t restrain yourself’ (lit. you cannot hold back your head)’

In the reflexive construction, the syntactic transitivity is preserved via the reflexive pronominal phrase, in accordance with the clear elaboration of the agent and patient roles specific to this construction (in contrast to the middle one). This is why the self-affected patient is maintained as a person or participant through the *metonymic use* of the noun *bopp* ‘head’: in the examples above, the ‘head’ clearly stands for the ‘person’ or ‘individual’ as a conscious or moral being or, in the last one, as a volitional (thus controlling) agent.

This syntactic structure and its semantic component are in accordance with the emphatic uses of the reflexive construction. For a few verbs (e.g. *gaan* ‘to hurt, to injure’, *wat* ‘to shave’), the two constructions are possible. In such cases, the reflexive one with ‘his head’ emphasizes the agentive role and the responsibility of the subject (‘he did it by himself’), as illustrated in (15) and (16). Note that in the two constructions cannot combine (16c) : the reflexive marker does not reinforce the middle construction, as an intensifying adverb would do. Their semantic and syntactic patterns are different:⁸ the patient role is maintained in the reflexive

8. That is why this reflexive construction with ‘his head’ in Wolof can be viewed as a ‘construction’ in the technical sense of Construction grammar (e.g. Goldberg 1995), although it is not fully grammaticalized.

construction through the *bopp*-phrase, thus putting an emphasis on the responsibility, volitionality or agentivity of the subject in affecting him or herself in a usually *other-directed* process. As stated by Frajzyngier (2000: 128), “the presence of another argument subsumes the control over the event on the part of the subject”. This semantic feature of the reflexive construction is also reported for Basque by Evseeva and Salaberri (2018: 402): with verbs that allow both detransitivization and “head-reflexive” pronoun strategies, using the latter adds an intentional meaning.

- (15) a. *Mu.ngi sang-u.*
 PRST.3SG bath-MID
 ‘He is taking a shower’
- b. *Léegi mag nga, mën nga, sang sa bopp.*
 now be.big PRF.2SG can PRF.2SG bath POSS.2SG head
 ‘You are grown up now, you can take shower by yourself’ (from Nouguiet Voisin, 2002: 100)
- (16) a. *Móodu gaañ-u na [D]*
 N.PR injure-MID PRF.3SG
 ‘Móodu has injured himself’ ~ ‘Móodu has been injured’ (One does not know whether he was injured by someone or by himself)
- b. *Móodu gaañ na bopp-am*⁹
 N.PR injure PRF.3SG head-POSS.3SG
 ‘Móodu has injured himself (i.e. by himself)’
- c. **Móodu gaañ-u na bopp-am*

3.2 Oblique reflexives

The use of the reflexive pronoun (or pronominal phrase) is not limited to indicating coreference between an agentive subject and a patientive object but can be extended to an oblique complement. This is what Nouguiet Voisin (2002: 97), following Kemmer (1993: 74 sqq), calls the “indirect reflexive”, Geniušienė a “Dative transitive reflexive” (1987: 230), and which I call an “oblique reflexive”. In Wolof, this is made possible by the use of an applicative suffix (*-al*), which changes an oblique argument into an object with the semantic role of beneficiary, recipient or comitative. In (17), for instance, the applicative suffix introduces an additional

9. In Wolof, the middle and the reflexive construction are not used along with the affected body part in object position (as is the case, for instance, in French, e.g. *je me suis cassé la jambe* lit. ‘I broke myself the leg’ for ‘I broke my leg’). In this case, two constructions are possible, one with a prepositional phrase for the affected body part (‘he injured himself at the leg’), the other one with an active form (with no middle or reflexive marker) and the affected body part in subject position (‘his leg broke’).

object to the transitive verb *jënd* ‘to buy’, with the semantic role of a beneficiary, and the reflexive pronoun (‘his head’) indicates coreference between this beneficiary and the agentive subject.

- (17) *Jënd-al na bopp-am woto* [D]
 buy-APPL PRF.3SG head-POSS.3SG car
 ‘He bought (for) himself a car’

The next example (18) is remarkable, because here the *bopp*-phrase appears four times in the same sentence. In this utterance, the second person has a generic use. In the first proposition, the oblique reflexive co-occurs (as a benefactive) with the first and then with the second lexicalized verb phrase using ‘his (here your) head’ as a patientive object, as mentioned above (section 2). Moreover, in the last occurrence, ‘your head’ appears in a prepositional phrase (introduced by the general locative preposition *ci*), without the applicative derivation on the verb, conveying apparently the same benefactive meaning. This equivalence between the prepositional complement and the applicative object follows the general rule for the applicative derivation in Wolof. This use of the oblique reflexive pronoun in a prepositional phrase is, however, rare in our corpus.

- (18) *Ndax boo moom-al-ee sa bopp sa bopp te*
 because if:AOR.2 SG OWN-APPL-ANT POSS.2SG head POSS.2SG head and
mën-oo sa bopp, dënga wut loo def,
 be.stronger-NEG.2SG POSS.2SG head FUT.2SG search REL:AOR.2SG do
danga jóg di wër loo def ci sa bopp
 FUT.2SG get.up IPFV go.around.for REL:AOR.2SG do in POSS.2SG head
 ‘Because, if someone is free of any tie (lit. owns his head for his head)
 without being well-off (lit. and is not stronger than his head), he will
 search what to do, he will get up and look for something for himself
 (lit. in his head)’ [F]

In Kemmer’s definition (Kemmer 1993), a prototypical “indirect reflexive situation” comprises three participants, namely an Agent, a Patient and a Recipient or Beneficiary, and the Agent and Recipient/Beneficiary are coreferential, as exemplified above. Moreover, according to this author, among the various semantic roles of oblique participants, “the only oblique roles that are relevant from the point of view of both reflexive and middle marking are the Recipient and the Beneficiary”. As indicated by Nougier Voisin (2002: 101–2), in Wolof, the reflexive construction is used only to indicate coreference between the Agent and the Beneficiary, and not with the Recipient, since for ditransitive verbs involving a patient and a recipient, like *may* ‘to offer, to give’, the (indirect) reflexive construction cannot be used. However, I have found interesting oblique reflexive constructions in my corpus

that do not correspond to Kemmer's prototype in two possible ways: either there is no patient in the reflexive clause, or the oblique reflexive refers to other semantic roles than those of beneficiary or recipient. Furthermore, some ditransitive verbs have been found in oblique reflexive constructions.

In (19), the oblique reflexive pronoun has the semantic role of a *comitative*, as indicated by the use of the preposition *ag* ~ *ak* in the parallel (nonreflexive) clause in apodosis. But in the vast majority of cases, the oblique reflexive pronoun appears as an additional object with a semantic role that seems to be that of an agent, as in (20) with the transitive verb *def* 'to do, to make'. This sense has been found only for human (or animate) subjects.

(19) *Bopp-am lay wax-al, wax-ul ak ken.*
 head-POSS.3SG FOC.CMP.3SG:IPFV speak-APPL speak-NEG.3SG with somebody
 'He speaks to (with) himself, he does not speak to (with) anyone.' [F]

(20) *Moo defar-al bopp-am gaal-am*
 FOC.S.3SG manufacture-APPL head-POSS.3SG dugout-POSS.3SG
 'He built his boat (by) himself' [D 2003]

At first, this agentive sense is surprising because it does not belong to the semantic roles usually added by the *-al* applicative suffix.¹⁰ The closest semantic role in Wolof is that of instrument (or manner), usually introduced by the other applicative suffix *-e*. By contrast to *-al*, which is used exclusively for adding human semantic roles (beneficiary, recipient or comitative), *-e* introduces mostly non-human obliques (with the semantic roles of instrument, manner or location). So we may consider that, in this oblique reflexive construction, the applicative suffix is used for introducing an agent as a human instrument of the action, and that *-al* is required because of this human component. In this case, the coreference of the oblique pronoun with the agentive subject, conveying the *same* semantic role, produces an emphatic effect, close to the intensifying uses of the *bopp*-phrase presented in 4.1 *infra*. It is worth noting that in most of our examples where the oblique reflexive does add another role than beneficiary, the reflexive construction appears with a focusing verbal inflection (namely complement focus for the comitative, and subject focus for the agentive role) which certainly contributes to its particular meaning. This agentive semantic role of the oblique reflexive is confirmed in (21) by the parallel with the first clause where the same verb is derived with the causative suffix *-lu*, used to express a causative event in which the *agentive causee* is not expressed (Robert 2017).

10. Furthermore, in Wolof, it is impossible to overtly express the agent in a passive construction. That is why there is no passive *stricto sensu* in this language: the middle voice may function as a quasi-passive with this restriction.

- (21) *Duma yar-lu sama doom, maa koy yar-al*
 NEG.IPFV.1SG raise-CAUS4 POSS.1SG child FOC.S.1SG O.3SG:IPFV raise-APPL
sama bopp. [D 2003]
 POSS.1SG head
 ‘I don’t have my child educated (by anyone), I educate him (by) myself.’

The second finding is that the oblique reflexive pronoun is possible with ditransitive verbs. In this case, however, the applicative suffix does not add a new object but changes the semantic role of the second object, from that of a beneficiary into that of an agent (or “human instrument”) coreferent with the (agentive) subject, here again. This change of semantic role is illustrated in (22) and (23), (a) vs. (b).

- (22) a. *Wax¹¹ ma say soxla.* [D 2003]
 tell O.1SG POSS.2SG:PL need
 ‘Tell me your needs.’
 b. *Wax-al ko sa bopp.* [D 2003]
 tell-APPL O.3SG POSS.2SG head
 ‘Say it (by) yourself.’
- (23) a. *Ku la ko nettali?* [D 2003]
 who O.2SG O.3SG recount.to
 ‘Who told you that?’
 b. *Moo ma ko nettali-l boppam.* [F]
 FOC.S.3SG O.1SG O.3SG recount.to-APPL head-POSS.3SG
 ‘He himself told me that.’

Finally, the Wolof oblique reflexive differs from Kemmer’s prototypical “indirect reflexive situation” in that the oblique reflexive construction is possible without Patient, that is with intransitive verbs. In (24), *léeb* is an intransitive verb with an internal patient in its semantic background, meaning ‘to tell a tale or a story’. Here the oblique reflexive refers to the agentive subject with the semantic role of recipient.¹² In (25), *dem* is a motion verb and there is no patient in the semantic frame of this verb. The oblique reflexive takes on a remarkable meaning: the reflexive construction emphasizes not only the agentive role but more specifically the volitionality (or free will) of the Subject. This sense is reminiscent of the use of

11. The verb *wax* is ditransitive here and means ‘to tell/say something (to) someone’. This example can be compared with (19) where *wax* in absolute use means ‘to speak’. Depending on the construction the oblique reflexive takes on different meanings.

12. Interestingly, in her discussion of the use of applicative derivation in non-reflexive constructions, Nouguié Voisin (2002: 218) indicates that the Patient-Object of a transitive verb may not be expressed: in this case the verb remains transitive (instead of becoming ditransitive) and the semantic role of the object is changed from a patient to a recipient.

‘head’ as the seat of volition and consciousness mentioned among the lexical uses of *bopp* (Section 2), and indicates again that the original meaning of this noun is still present in this grammatical use through metonymic extension.

- (24) ... *ma léeb-al sama bopp ndax ma tàmbalee nelaw*
 AOR.1SG tell.a.tale POSS.2SG head because AOR.1SG begin:LINK sleep
 ‘... je me raconte (une histoire) pour m’endormir’ [Nouguier Voisin
 2002: 101]
 ‘... I tell myself (a story) in order to fall asleep’

- (25) *Moo dem-al bopp-am.* [D 2003]
 FOC.S.3SG go-APPL head-POSS.3SG
 ‘She left on her own accord.’

To sum up, in Wolof, the oblique reflexive is possible with intransitive, transitive or ditransitive verbs provided that the *-al* applicative derivation is used in this construction (or sometimes alternatively the preposition *ci*). In the oblique reflexive construction, the *-al* applicative derivation does not necessarily follow the same patterns as in the active construction, concerning both the semantic roles added by the applicative derivation (not only recipient, beneficiary or comitative) and the transitivity requirements. Through this derivation, the reflexive pronoun can express coreferentiality of the *agentive* Subject with a recipient, comitative or beneficiary role, and most often with a “human instrument” (‘by him or herself’). As a result, since the Subject is already agentive, in the last case the reflexive construction emphasizes the agentive role as well as the volitionality (or will) of the Subject in the process. This meaning is very close to the use of the prepositional phrase presented in 4.1.

3.3 Genitive (possessive) reflexives

The coreference expressed by the reflexive pronoun can be extended to even more peripheral components, namely to the possessor in a genitive phrase. Semantically, the *bopp*-phrase corresponds here to a possessive (intensive) reflexive, ‘his X of head’ meaning ‘his own X’. Here again, the *bopp*-phrase functions as a “pro-noun”, in as far as it occupies the syntactic slot of a noun, but this time not as an argument of the verb but as an “argument” of a noun, in a regular genitival phrase with a head-modifier order: [NP1-GEN NP2]. I have labeled this construction “genitive reflexive” in order to draw a parallel with the oblique reflexive and to explicitly refer to the genitival construction involved in Wolof.

Before illustrating this genitive reflexive, some morphosyntactic remarks are in order, both on the genitival phrase and on the possessive modifiers.

The connective morpheme for the genitive construction is *-u* vs. *-i* for the singular vs. plural of the (possessed) head noun. As indicated previously (see Table 2), the Wolof possessive modifiers are preposed to the noun, except for the third person singular where it is suffixed. In a genitival phrase, when a possessive marker is needed (as is the case for the *bopp*-phrase), in the majority of cases the possessive modifier is placed *before* the head noun N1 (for all persons, but the third singular of course) whatever its semantic scope, on N1 ('our relative from the Gambia') or on N2 (lit. 'our names of ancestors' for 'the names of our ancestors'), as illustrated in (26) (a) and (b). Though less frequent, a syntactic order mirroring the semantic scope of a possessive modifier on a N2 ('the names of our ancestors') is also possible, as illustrated in (26)c. For the third singular suffix, since the N1 bears the genitive suffix, the possessive marker is always suffixed to N2 and cannot move to N1, thus always generating an ambiguous structure with regard to the scope of the possessive marker (27).

- (26) a. *suñu mbokk-u Gàmbi* [H]
 POSS.1PL relative-GEN.SG Gambia
 'our relative from Gambia'
- b. *suñu-y tur-i maam yi* [D]
 POSS.1PL-PL name-GEN.PL ancestor DEF.PL
 'the names of our ancestors' (lit. our names of ancestors)
- c. *tur-i suñu-y maam yi* [D]
 name-GEN.PL POSS.1PL-PL ancestor DEF.PL
 'the names of our ancestors'
- (27) *xarit-u dëkk-am bi* [D]
 friend- GEN.SG village-POSS.3SG DEF
 'the friend from his village' ~ 'his friend from the village'

Remarkably, when the reflexive construction with 'his head' is used in a genitival phrase as in (28), the possessive modifiers must be preposed to N1 (so the literal translation of 'my own house' in this example would be 'my house of head') and *cannot* move to N2, as it is possible for an ordinary genitival phrase such as (26c). This fixed position of the possessive modifier seems to indicate that the *bopp*-construction has grammaticalized in this genitival reflexive. In addition, from a semantic point of view, (i) the possessive modifier has scope both on N1 and N2 (*bopp*), and (ii) *bopp* in N2 indicates coreference with the possessor indexed on the possessive modifier. This is probably why the possessor must be located on

a different constituent than *bopp* (namely on N1) in order to allow the reflexive *anaphora*¹³ expressed by *bopp*.

- (28) *sama kër-u bopp màbb na.* [D]
 POSS.1SG house-GEN.SG head fall-down PRF.3SG
 **kër-u sama bopp màbb na*
 ‘My own house has fallen down’ (lit. my house of head has fallen down)

Note that in this genitive reflexive construction, the (same) “possessor” is indexed twice: with the possessive modifier and with the word for ‘head’, hence its intensive meaning (see 4.1 below for the analysis). Another interesting point in the genitive reflexive construction is that, since the reflexive anaphora has not scope over the predicate, there are no more restrictions on the nature of the subject (agentive or volitional) or on the (typically other-directed) predicate, as was the case in the direct reflexive construction: in (28), the subject ‘house’ is inanimate and the process has a decausative meaning ‘to fall down’. Moreover, the genitive reflexive can modify a noun in any syntactic function: subject as in (28) above, object as in (29), and also adjunct such as in the locative prepositional phrase in (30). In all those sentences, however, the possessor indexed on the possessive modifier refers to the subject NP.

- (29) *Yälla mey na ko tey mu am nag-i boppam*
 God offer PRF.3SG O.3SG today AOR.3SG have COW-GEN.PL head:POSS.3SG
 ‘God has allowed him today to have cows of his own’ [C]
- (30) *bu ñu nekk-oon ci seen kër-i bopp ya*
 if AOR.3PL be.located-PAST in POSS.3PL house-GEN.PL head DEF
 ‘if they were in their own houses’ [H]

When modifying the object of a dependent predicate, the plain possessive modifiers are ambiguous with regard to their antecedent (here *Sàmba* or *Musaa*), as illustrated in (31)a. In such a construction, the reflexive genitive can only refer to the closest participant, viz. the argument controlling the dependent predicate as in (31)b, and there is no way to disambiguate by referring to the subject of the main verb (*Sàmba*) as the possessor, unless a complex periphrasis is used (i.e. ‘*Sàmba* saw *Musaa* selling a sheep whom you know that this one, *Sàmba* owns it’). This means that the scope of this reflexive anaphora is predicate-internal.

13. Although it applies to different constructions, the semantic structure of this genitive reflexive can be paralleled with the “Possessor or Total (Object) Patient” semantic “role”, defined by Geniušienė as a construction where the Semantic Object is split into the Patient undergoing the situation and the Possessor (Geniušienė 1987: 41). According to the author, this construction is involved in some Dative Transitive reflexives (Geniušienė 1987: 290-295).

- (31) a. *Sàmba gis na Musaa di jaay xar-am* [D]
 N.PR see PRF.3SG N.PR COP sell sheep-POSS.3SG
 ‘Sàmba saw Musaa selling his sheep’ (ambiguous: Sàmba’s or Musaa’s sheep)
- b. *Sàmba gis na Musaa_i di jaay xar-u bopp-am_i*
 N.PR see PRF.3SG N.PR COP sell sheep-GEN.SG head-POSS.3SG
 ‘Sàmba saw Musaa_i selling his own_i sheep’ (Musaa’s sheep)

In Wolof, the possessive reflexive is not obligatory (unlike the third person reflexive possessive *suus* in Latin for instance). The genitive reflexive may be added for disambiguation, as in (31)b and (32)b, or for emphasis on the (personal) possession, as in (29). Being an optional modifier always conveying emphasis on the possession, the genitive reflexive functions as an intensive possessive “pro-noun” (‘his/her own’, ‘of his/her own’), because of the double marking of the possession (on the possessive modifier and in the reflexive anaphora present in the genitive phrase). Concerning the semantics of this intensive possessive reflexive, one has to keep in mind a comment of one consultant about (32)b: “this sentence means that Sàmba has damaged his (own) dugout, *not the one of somebody else*”. The genitive phrase should be actually more appropriately translated as ‘his dugout of his own (and not of somebody else)’, accounting also for the double scope of the possessive modifier in the genitive reflexive, on the possessed N1 and on *bopp* in N2. Therefore, this genitive reflexive does not only convey explicit (reflexive) coreference between the subject and the possessor but also evokes alternative possessors that are discarded at the same time.

- (32) a. *Sàmba yàq na gaal-am* [D]
 N.PR ruin PRF.3SG dugout-POSS.3SG
 ‘Sàmba_i has damaged his_i dugout’ (co-referential : Sàmba’s dugout)
 ‘Sàmba_i has damaged his_j dugout’ (somebody else’s dugout)
- b. *Sàmba yàq na gaal-u bopp-am*
 N.PR ruin PRF.3SG dugout-GEN.SG head-POSS.3SG
 ‘Sàmba has damaged his own dugout’ (lit. the dugout of his head)

A remarkable constraint has been observed, shedding a converging light on the semantics of this genitive reflexive. This construction cannot be used with kinship terms, such as *baay* ‘father’, *jabar* ‘wife’ to express a (true) possessive reflexive. While the genitive reflexive was possible to disambiguate ‘his (own) sheep’ in (31), the reflexive construction is strictly impossible with ‘his wife’ in a sentence like (33) with the same clause pattern. According to my consultant’s previous comment, I consider that this restriction of use is due to the fact that with a kinship term, as soon as the possessive modifier is present, no alternative possessors can be evoked and discarded by the reflexive anaphora in the genitive phrase (*my wife

of myself): my father is my father, my wife is my wife. Interestingly, the genitive reflexive is still possible with *jabar* but only in a figurative use, that is when this term is used humorously to designate as ‘his spouse’ a woman someone likes very much (not his real spouse or lover). In this case, the genitival reflexive can be used as an intensifier, discarding (figuratively) other husbands and designating this woman as “his special one”. This figurative and affective meaning is the only possible interpretation of (33)b. Interestingly, as illustrated in (33)c, the only way to disambiguate (33)a is to replace the possessive modifier by the plain definite article, ‘the wife’. In this case, the woman who was kissed is unambiguously Musaa’s wife.

- (33) a. *Sàmba gis na Musaa di fòon jabar-am* [D]
 N.PR see PRF.3SG N.PR COP kiss wife-POSS.3SG
 ‘Sàmba saw Musaa kissing his wife’ (ambiguous: Sàmba’s ou Musaa’s wife)
- b. *Sàmba gis na Musaa di fòon jabar-u bopp-am*
 N.PR see PRF.3SG N.PR COP kiss wife-GEN.SG head-POSS.3SG
 *‘Sàmba_i saw Musaa kissing his_i own wife’
 ?‘Sàmba saw Musaa kissing his favourite girl’ [joke]
- c. *Sàmba gis na Musaa di fòon jabar ji*
 N.PR see PRF.3SG N.PR COP kiss wife DEF
 ‘Sàmba saw Musaa_i kissing his_i wife’ (Musaa’s wife)

The same restriction of use of the genitive reflexive (with the sole possible figurative interpretation) holds for *baay* ‘father’,¹⁴ and actually for all terms for which the possessive modifiers select one referent as a “possessor” compared to which *other possible possessors cannot be discarded* by the reflexive anaphora in the genitive phrase, that is, in all likelihood, for human beings.¹⁵ This incompatibility with humans is due to the semantic contribution of the reflexive construction in the compositional semantics of this construction. So, with the word *xarit* ‘friend’, the genitive reflexive is impossible as a true possessive reflexive not because one has only one friend but because one’s friend might be the friend of other people as well, without changing one’s personal relation to him: your friend is still you friend, those other people cannot be discarded. In (34), the genitive reflexive does

14. For expressing a true intensive possessive (‘my own father’), one has to use a relative clause meaning ‘my father who gave me life’ (*sama baay ji ma jur*).

15. For persons (which cannot be owned by someone else), the genitival construction does not indicate a possessive relation but rather a specification of N1 by N2: the relation between N1 and N2 (e.g. ‘the father/friend-of Sàmba’) contributes to narrow down the set of possible referents of N1 (‘father/friend’) like a qualifying phrase.

not mean “my own friend” but suggests that this friend of mine is my “exclusive” friend (i.e. my “real” friend), discarding figuratively the other people who could have this person as a friend. For a true possessive reflexive (‘my own friend’), Wolof nicely makes use of another body part term in the genitival construction, namely *bakkan* ‘nose’, used here in its figurative sense of ‘life’¹⁶ as in (35). So here ‘my own friend’ is literally ‘my friend of the same (one) life’. This restriction of use with human beings possibly indicates that the noun ‘head’ in this genitival construction has not fully grammaticalized as a mere reflexive pronoun but still stands for the *person*.

(34) *sama xarit-u bopp* [D]
 POSS.1SG friend-GEN.SG head
 ‘the friend of myself, not of others’ [figuratively] ~ ‘my best/real friend’

(35) *Sama xarit-u benn bakkan wor na ma.* [D]
 POSS.1SG friend-GEN.SG one nose betray PRF.3SG O.1SG
 ‘My own friend has betrayed me.’

Formally the genitive reflexive is a genitival construction in which *bopp* stands for a pronoun; from the semantic point of view, however, we are dealing here with an optional possessive reflexive used for disambiguation and which always conveys an emphasis on the *identity* of the possessor, discarding alternative possessors. Thus, this genitive reflexive shares the following properties with the use of the *bopp*-phrase as an intensifier that will be discussed in the next section: a non-argument position and modifying function, and an emphatic component. The semantic continuity between the different uses of the noun *bopp*, is also illustrated by the following examples: (36) illustrates the semantic continuity between the genitive reflexive and the lexical (and metonymic) use of ‘the head’ as the seat of personal judgment; (37), with a prepositional (locative) reflexive, was given as an alternative to the genitive reflexive which cannot be used with a human being in N1, thus illustrating the semantic continuity between the genitive reflexive and the use of the locative *bopp*-phrase that will be discussed in the next Section 4.

(36) *sama xalaat-i bopp la.* [H]
 POSS.1SG thought-GEN.PL head FOC.CMP.3SG
 ‘It’s only my personal opinion ~ my own thoughts.’ (lit. my thoughts of head)

(37) a. *sama baay ci bopp-am, fen na.* [D]
 POSS.1SG father in head.POSS.3SG lie PRF.3SG

16. This polysemy (‘nose’, ‘life’) is widespread in African languages and relies probably on a double metonymy: the nose as the organ for breathing and breathing as the manifestation of life.

- b. **sama baay-u bopp, fen na*.
 ‘My own father has lied.’ (lit. my father in his head, i.e. himself, has lied)

In all these reflexive uses, as direct, oblique or genitive reflexive, the *bopp*-phrase ‘his head’ functions as a “pro-noun”, filling the slot of a noun phrase in the syntactic pattern of the clause. The direct and oblique reflexives indicate coreference between an argument of the verb and the subject of the clause. With the genitive reflexive, however, these conditions do not hold, the reflexive pronoun is not an argument of the verb but a noun modifier and the reflexive anaphora can scope over a noun in any syntactic function. For these reasons, the genitive reflexive appears as an intermediary stage between the reflexive uses of the *bopp*-phrase and the modifying uses of the prepositional phrase that will be presented now.

4. The prepositional reflexive as an adnominal intensifier

In another type of uses, the *bopp*-phrase is introduced by the general locative preposition *ci* (*ci boppam* lit. ‘in his head’). What is the syntactic scope and the semantic contribution of the reflexive anaphora in this case? Actually, except for a few cases in which the prepositional phrase is used to introduce a real oblique complement (as in (18)), in the plentiful occurrences found in our corpus, this “locative” reflexive is used as an adnominal intensifier.

The use of reflexive markers as intensifiers is mentioned in Heine and Kuteva (2001: 168) under the label ‘intensive reflexive’¹⁷ and has been well studied by König and Siemund (2000). These authors have shown that in a wide variety of languages, intensifiers and reflexive pronouns are identical in form, though not in distribution, and develop from the same body part terms as reflexives. They propose a refined analysis of the semantics of these intensifiers, distinguishing two main uses. In the adnominal use, the intensifier is an adjunct to a NP (e.g. *The work of Picasso itself / himself*); in the adverbial use, the intensifier is adjoined to a VP and fills the position of an adverbial (e.g. *I have swept this court myself*), taking on a meaning roughly paraphrasable by *alone, without help* (König & Siemund, 2000: 43–4). In Wolof, these distributional criteria do not hold for the accounting of the various senses of this intensifier, since the prepositional reflexive is always (syntactically) *adnominal*, that is at the right periphery of a NP, as most noun

17. “(with) one’s head’ > reflexive pronoun used to strengthen or emphasize the identity of the concept concerned” (Heine & Kuteva, 2001:168).

determiners and modifiers: Wolof is a head-initial language.¹⁸ Different senses can be distinguished for the use of this reflexive locative phrase in Wolof.

4.1 Emphasizing agentivity ('by him or herself')

In the first type of use as a noun modifier, the prepositional reflexive takes on a meaning close to that described by König and Siemund (2000) for *adverbial* intensifiers. In (38)a, the prepositional phrase 'in his head' is an adjunct to the subject noun (Sàmba), but the semantic scope of this noun phrase is the whole predicate, emphasizing Sàmba's agentive role in the process of breaking his dugout. This example can be contrasted with the genitive reflexive in (32)b, and paralleled with all the examples where the oblique reflexive emphasises the agentive role of the subject in the process through an additional instrumental semantic role (e.g. (20), (21), (22)). In fact, the oblique reflexive construction with an applicative derivation was given by speakers as a possible equivalent to the prepositional one, as illustrated in (38)b, indicating a semantic continuity between the different uses of the reflexive phrase in Wolof. The semantic equivalence between prepositional and applicative constructions is a common phenomenon in Wolof, but nevertheless remarkable here because the prepositional phrase with the reflexive pronoun is not an adjunct to the verb (as usual) but an adjunct to the subject NP. Interestingly enough, although it is not obligatory, the speaker spontaneously chose the subject-focusing verbal inflection for both versions of this sentence: this verb form focuses on the subject as the person who realized the process, thus favoring the emphasis on his agentive role in the process.

- (38) a. *Sàmba ci bopp-am moo yàq gaal-am*
 N.PR in head.POSS.3SG FOC.S.3SG damage dugout-POSS.3SG
- b. *Sàmba moo yàq-al bopp-am gaal-am*
 N.PR FOC.S.3SG damage-APPL head.POSS.3SG dugout-POSS.3SG
 'Sàmba broke his dugout (by) himself' [D]

However, some syntactic constraints on placement reveal that this reflexive locative phrase has (at least partly) grammaticalized in this use. The prepositional reflexive cannot move to the post-predicate position (as a prepositional circumstant would do), unless a coreferential independent pronoun is introduced after a pause, in order to make it an antitopic. This is illustrated in (39). This constraint on subject adjacency (or adjacency to its coreferent independent pronoun) indicates that, in spite of its prepositional structure, this prepositional reflexive has grammaticalized

18. For more details, see Robert (in press).

as a noun modifier.¹⁹ Note that the movement of the reflexive pronoun after the predicate (including the patientive object) is strictly impossible with the applicative construction in (38)b, even with a pronominal antitopic, this time because the reflexive pronoun is an argument of the verb in this applicative construction and has to follow the constituents order.

- (39) *Sàmba moo yàq gaal-am, | moom ci bopp-am* [D]
 N.PR FOC.S.3SG damage dugout-POSS.3SG PRO.3SG in head.POSS.3SG
 'Sàmba broke his dugout (by) himself' (lit. Sàmba broke his dugout, he by himself)

Furthermore, the genitive reflexive can combine with this locative reflexive, when it is necessary to disambiguate the possessor as in (40).

- (40) *Sàmba moo yàq gaal-u bopp-am, moom ci bopp-am*
 N.PR FOC.S.3SG damage dugout-GEN.SG head.POSS.3SG PRO.3SG in head.POSS.3SG
 'Sàmba broke (by) himself his own dugout' [D]

In these examples, the prepositional reflexive modifies the subject (or its coreferential pronoun) and emphasizes its agentive role in the event. This use is, of course, possible only for an agentive subject or, more precisely, for a participant acting as an agent in an intentional process. As it is, the same meaning and constraints of placement hold when the prepositional reflexive modifies the object of the (main) verb to emphasize its agentive role in a dependent predicate, as illustrated in (41).

- (41) *Gis naa Sàmba ci bopp-am di yàq gaal-am*
 see PRE.1SG N.PR in head.POSS.3SG COP damage dugout-POSS.3SG
 'I have seen Sàmba breaking his dugout (by) himself' [D]

Here again, as for the genitive reflexive (see 3.3) i.e. when the reflexive pronominal phrase is not an argument but an argument modifier, an emphatic value is perceptible and has to be related to the elimination of possible alternatives in the background of this construction: Sàmba and no one else (as it would be expected) broke his (own) dugout. This emphatic value can be paralleled with that mentioned for the genitive reflexive in (32)b, 'Sàmba broke his own dugout and not somebody else's'. Actually, the same contrastive meaning in the background of the uses of the reflexive pronoun was also present in the use of the direct reflexive, this time

19. Considering its semantic scope over the whole predicate, the locative reflexive must be viewed as a 'construction', in the sense defined by Construction grammar (e.g. Goldberg 1995), that is as a pairing of a form with a meaning.

because the agent applies to himself a process that is prototypically other-directed (see 3.1). So, the expected (and discarded) alternatives are also in the background of this direct reflexive construction.

This emphatic component based on the elimination of expected alternatives is in line with the semantic analysis proposed by König and Siemund (2000: 44) for the adnominal intensifiers, that was very enlightening to me: “Adnominal intensifiers evoke alternatives to the referent(s) of the NP to which they are adjoined and characterize these alternatives (Y) as periphery or entourage of the referent(s)”. How is this meaning produced by the use of the reflexive pronoun in the adnominal construction? First, the emphasis on the *agentive* role of the subject in the process is permitted by the prepositional construction of the reflexive as a modifier of an *agentive* subject. Moreover, the lexical meaning of ‘the head’ as a reflexive pronoun may also contribute to the semantics of this construction through the metonymic interpretation of ‘the head’ as the seat of the decisional power (see 2), thus as a volitional agent. Finally, the *intensive* effect related to the discarding of the evoked alternatives is produced by the use of a reflexive pronoun in this adnominal function. Through the reflexive anaphora, the same participant is referred to twice in the same noun phrase: the first time (by the noun) for its denotational content and its argumental role in the predicative relation, the second time (by the reflexive anaphora), as a noun modifier in an oblique form, that is as a qualifying reidentification confirming its *agentive* role in the process. This repeated mentioning of the same referent producing an intensive effect can be paralleled with the role of lexical reduplication in French, in NPs like *une femme-femme* (lit. ‘a woman-woman’) for instance. This compound noun phrase is not lexicalized, it is a construction used by the speaker to indicate that the woman referred to corresponds *the prototypical* woman with all her attributes that is a really feminine woman. Culioli (1990: 117–22) has called this the “centering operation” (*centrage*) and described it as follows: the first occurrence of the noun refers to a particular woman, the second occurrence – in the same noun phrase – refers to the prototype (called by Culioli the center of the notional domain), and has no referential value but a qualifying role, producing a “high degree” value. Similarly, the repeated mention of the same participant in the modifying use of the reflexive pronoun produces a centering effect, discarding the other possible participants in the process, and confirming the role of the subject through the reflexive anaphora, hence the intensive meaning. This centering effect of adnominal intensifiers was very clearly formulated by König and Siemund (2000: 54) in their generalized principle stating that « Adnominal intensifiers relate a center X (referent of the focus) to a periphery of alternative values ». I propose to relate this centering effect to the double reference to the same participant through the reflexive anaphora. This first use of the reflexive modifier as an agent intensifier is restricted to

intentional processes with an agentive subject. In the following uses, there is no restriction on the process.

4.2 Emphasizing identity ('in person', 'per se', 'the actual one')

In (42), the semantic contribution of the prepositional reflexive to the utterance is slightly different. Rather than emphasizing the agentive role of the subject, the reflexive pronoun lays stress on the *identity* of the person, as a distinguishing quality for participating in the event expressed in the predicative relation.

- (42) *Directeur bi ci bopp-am jiñ na Samba* [D]
 director DEF in head-POSS.3SG accuse PRF.3SG N.PR
 'The director in person (~ himself) has accused Samba'

In this example, the emphasis on the agentive role of the subject is not completely absent (since the subject is the agent of an intentional process), but the emphasis on his identity is more salient. This is due to the semantics of the term 'director' indicating the highest position in a hierarchical organization. This social identity is an aggravating factor for the event: the prepositional reflexive centers on the implication of the top of a hierarchy in the process, eliminating the (expected) alternative participants. The outstanding status of the agent in this value of adnominal intensifiers has been described by König and Siemund (2000: 45) as one of the necessary conditions for the 'centering' effect (in my terminology) of adnominal intensifiers: "X [the modified noun] has a higher position than Y [the peripheral alternative values] in a hierarchy". This higher position can also account for the use of the prepositional reflexive in (37) 'my own father has lied'.

This type of use of the adnominal reflexive phrase for emphasizing the identity of the participant in the process is neither restricted to hierarchical terms nor to agentive subjects. In contrast to the preceding use emphasizing agentivity, this use can apply to patientive objects as in (43), to inanimate referents as in (44) or (45), and even to a relative clause (46). Those semantic aspects of the modified noun are conditioning factors for this value of the reflexive modifier: since the modified nouns do not play any agentive role in the predicative relation, the centering effect produced by the repeated reference to the same participant, as described above (4.1), bears on its mere identity.

- (43) *Gis naa directeur_i bi ci bopp-am_i* [D]
 see PRF.1SG director DEF in head-POSS.3SG
 'I have seen the director in person ~ himself'

(Talking about the origin of diseases: it can be a spirit or...)

- (44) *man naa doon feebar ci bopp-am* [D]
 can PRF.3SG:LINK be disease in head.POSS.3SG
 ‘it may be a disease per se ~ on its own’

(Talking about a village called Bëyti whose name has been given later on to an extended quarter)

- (45) *Bëyti si bopp-am, | sunu dëkk...* [C]
 N.TPN in head-POSS.3SG POSS.1PL village
 ‘The actual Bëyti (~ Bëyti itself), our village, (they all came to take refuge here)’

(Talking about how to cure a disease)

- (46) *Dafa bëgga faj [li ko waral] ci boppam.* [D]
 FOC.V.3SG want:LINK cure REL O.3SG cause in head.POSS.3SG
 ‘He wants to treat its very cause ~ the cause itself’ (lit. to cure [what caused it] in its head)

As is shown by these examples, the *bopp*-prepositional phrase is always postposed to the modified constituent, whatever its position in the clause. This element has to be a noun or any term in a nominal function.²⁰ So in (47), the verb *dox* ‘to walk’ has a nominal use.

- (47) *Dox ci boppam baax na ci wér g-i yaram* [D]
 walk in head.POSS.3SG be.good PRF.3SG in health CLG-GEN body
 ‘Walking per se ~ as such is good for your health’

4.3 Emphasizing the inclusion in an ordered list (‘even him or her’)

In another type of use, the prepositional reflexive phrase takes on a meaning close to that of the ‘scalar maximizer’ *even*, as exemplified in (48)a, paralleled in (48)b with a paraphrase using *attaa* ‘even’. The contrast with alternative participants is still present here but the specificity of this type of use is to indicate that alternative participants have undergone or performed the process, and to add a gradation by including in the list of participants the most unexpected, or most remarkable one. This example can be contrasted with (16)b, where the direct reflexive was used

20. So the intensifying use of the *bopp*-phrase is not restricted to independent personal pronouns, as it is the case in the examples given in Heine & Kuteva’s (2001: 168), and holds for noun phrases and proper names as well.

to emphasize the agentive role and the responsibility of the subject in affecting him or herself.

- (48) a. *Móodu ci bopp-am gaañ-u na* [D]
 N.PR in head.POSS.3SG injure-MID PRF.3SG
 b. *àttaa Móodu gaañ-u na* [D]
 even N.PR injure-MID PRF.3SG
 'Even Móodu has injured himself'

This type of adnominal use with scope over the predicate is not restricted to animate subjects: it is possible for object arguments or for inanimates, as exemplified in (49) below, and can be paraphrased by various adverbs or discourse particles like *àttaa* 'even', *itam* 'too' or *sax* 'even, by the way'. Nevertheless, in contrast to those markers, the use of the prepositional reflexive as a scalar maximizer requires contextual conditioning and displays an important constraint on clause chaining: the alternative participants undergoing or performing the process must have been established in the previous context, and the same predicative relation must be *repeated* for the participant modified by the *bopp*-phrase, as shown in (49): (49)a is ungrammatical; the predicate must be repeated as in (49)b. Thus, the preceding context establishes the list of alternative participants in the process (which are not discarded this time but taken as a basis for a gradation toward the center), and the repeated predicate makes the modified noun an "extreme center" included in the list. This constraint on the repetition of the predicate can be interpreted as a trace of the original reflexive meaning of this intensifying use of the prepositional reflexive in this specific context.

- (49) a. **dóor na ñépp Musaa ci boppam*
 hit PRF.3SG all N.PR in head:POSS.3SG
 b. *dóor na ñépp, dóor na Musaa ci boppam*
 hit PRF.3SG all hit PRF.3SG N.PR in head:POSS.3SG
 'He hit everyone, (he hit) even Musaa' [D]
 c. *dóor na ñépp, dóor na wotoom ci boppam*
 hit PRF.3SG all hit PRF.3SG car:POSS.3SG in head:POSS.3SG
 'He hit everyone, (he hit) even his car' [D]

The repetition of the same predicative structure as a necessary condition for the interpretation of the prepositional reflexive as a scalar maximizer is visible in the next example. In (50), a traditional healer is explaining to a woman that, when pregnant, women should not eat white clay, as they sometimes do in Senegal, because white clay is not good for their health.

- (50) *kew dana yàq sa doom, yow ci sa bopp*
 white.clay FUT.3SG destroy POSS.2SG child PRO.2SG in POSS.2SG head
dina yàq sa yaram. [W]
 FUT.3SG destroy POSS.2SG body
 *‘White clay may destroy your child, even you, it may destroy your body’
 ‘White clay may destroy your child, as for yourself, it may destroy your body.’

In spite of the preceding mention of the possible harm to the child as an alternative participant in the process, there is no way here to interpret the reflexive prepositional phrase as meaning ‘even you’, because the two predicates are not identical: in the second clause, the modified pronoun is not an object of the verb *yàq* ‘destroy’ (*yaram* ‘body’ is the object of *yàq*) as in the first clause: *yow* ‘you’ is actually a topic, coreferential with the possessor indexed by the next possessive marker on the object (namely *sa yaram* ‘your body’). For the scalar interpretation, one needs the changes in the second clause illustrated in (51): the same verb is repeated with the new participant as an object pronoun (‘you’), in order to have a parallel predicative structure. Due to the position of object clitics between the inflection and the lexical part of the predicate (see comment on (8) in 3.), the prepositional reflexive cannot be placed immediately after the pronominal object: a coreferential independent pronoun is needed, in antitopic position, to introduce the adnominal modifier, as it was the case in (39).

- (51) ..., *dina la yàq, yow ci sa bopp.* [D]
 FUT.3SG O.2SG destroy PRO.2SG in POSS.2SG head
 ‘..., even you, it may destroy you.’

Interestingly, (52) with a coordinative construction was given as a possible equivalent, confirming König and Siemund’s predictions (2000: 55) about the contexts favoring the acceptability of reflexive intensifiers. In Wolof, nominal coordination is formed with the comitative preposition *ag* (whereas verbal coordination requires another morphem *te*), so the modified pronoun is actually coordinated to the previous object.

- (52) *dana yàq sa doom, ag yow ci sa bopp.* [D]
 FUT.3SG destroy POSS.2SG child with PRO.2SG in POSS.2SG head
 ‘it will destroy your child, and even you’

4.4 Semantic continuity, limits and motivation: Comparison with *ci wàllu boppam*

In the previous sections, we saw that the prepositional reflexive used as an adnominal intensifier produces various senses, depending on the context: emphasis on the agentivity of the modified noun (‘by him or herself’), on the identity (‘in person’, ‘per se’, ‘the actual one’) or on the inclusion of the modified term in an ordered list of participants in a process, that is as a scalar maximizer (‘even’). There is clearly a semantic continuity between the various intensifying uses of the reflexive locative phrase: out of context, the clause is often ambiguous in several ways, as illustrated in (53).

- (53) *Buur ci boppam dem seeti ndax li naar wax dëgg*
 king in head:POSS.3SG leave look:CTF Q.PLR REL moor say truth
la. [D]
 FOC.CMP.3SG
 ‘The king himself went to see whether what the Moore said was true’
 ~ ‘The king went (by) himself to see whether what the Moore said was true’
 ~ ‘The king, in person, went to see whether what the Moore said was true’
 ~ ‘Even the king went to see whether what the Moore said was true’

This polysemy of the reflexive prepositional phrase is probably permitted by the underspecification of the preposition *ci* in Wolof: *ci* has a broad locative meaning and is used as a kind of all-purpose preposition. Its specific meaning in context is specified by the semantics of the other terms, in particular by the predicate. In the present case, the contextual meaning of the locative reflexive is partly conditioned by the nature of the terms (e.g. human vs. non-human agent, intentional vs. non intentional predicate) and always specified by the context. In (54) for instance, the first clause has preconstructed a (minimal) set of forgiving people, therefore when the predicate is repeated for God, the reflexive intensifier gets the meaning of the scalar maximizer, including the predicate in its scope: ‘even God does it’.

- (54) *Bu la nit tooñee, danga ko wara baal. Yàlla ci*
 when O.SG human offend:ANT FOC.V.2SG O.3SG must:LINK forgive God in
boppam dafa baal-e. [D]
 head:POSS.3SG FOC.V.3SG forgive-ANTIP
 ‘When someone offends you, you must forgive him. Even God forgives’

Finally, some occurrences have been found where the prepositional reflexive phrase modifies a maximally peripheral element, such as a topic or an antitopic, sometimes with a very loose connection to the sentence. For instance, in (55), the word ‘disease’ has no syntactic role or pronominal reference in the predicative

relation and will be referred to by the speaker after no less than nine clauses. Thus this modified noun appears as a broad topic introducing a long development.

(Context: a speaker is asking a person to describe the kind of disease for which he has consulted a traditional healer, the person answers with a long story starting like this:)

- (55) *Feebar bi daal moom ci boppam, bi ma ñēwee,*
 disease DEF indeed PRO.3SG in head:POSS.3SG when AOR.1SG come:ANT
mu seet ma, ubbi na benn libër
 AOR.3SG look O.1SG open PRF.3SG one book ... [H]
 ‘Well, the disease itself, when I came, he examined me, has opened a book and...’

When asked to explain why the speaker added this reflexive locative phrase, a consultant said that the speaker wanted to “clearly state that he is *precisely talking* about his disease”. Should we consider that the prepositional reflexive has grammaticalized as a kind of contrastive topic marker and that the reflexive marker has lost its original meaning and motivation? Actually, when the speaker wants to restrict his pointing to the modified term (in contrast to other possible topics), he needs to add a genitival construction with the word *wàll* ‘part, share’ in the prepositional reflexive phrase, as in (56): *ci saa wàll-u bopp* (lit. ‘in my *part* of head’) means ‘for my part, as far as I am concerned’. This construction functions as an adnominal modifier like the plain prepositional reflexive. The preposition *ci*, however, can be omitted here, maybe indicating an incipient grammaticalization. The contrast between (56) and (57) clearly shows that the metonymic use of the ‘head’ for *the person* or *entity* in its integrity is still motivated in the prepositional reflexive: the insertion of *wàll* (‘part’) is required in order to limit the implication of the referred participant in the process, thereby allowing this “restrictive reflexive” to function as a topic marker. The centering effect produced by the elimination of alternative participants in the process is not present with *ci sa(m)a wàllu bopp* which, instead, restricts the semantic scope of the predicative relation to the modified participant.

- (56) *Kon man [ci] saa wàll-u bopp, naka laay*
 so PRO.1SG [in] POSS.1SG part-GEN.SG head how FOC.CMP.1SG:IPFV
faje?
 cure:ANTIP
 ‘In this case, for my part ~ as for me, how do I cure people?’ [H]
- (57) *Kon man ci saa bopp, naka laay faje?*
 so PRO.1SG in POSS.1SG head how FOC.CMP.1SG:IPFV cure:ANTIP
 ‘In this case, how do I myself cure people?’ [D]

This contrast is also visible in the next example: in (58)a with the restrictive reflexive, the speaker is questioning his interlocutor *about* himself, whereas with the plain prepositional reflexive, as in (58)b, he would have been questioning him *personally* or *directly* (not someone else).²¹

(Context: a speaker is trying to prompt someone to tell his personal story)

- (58) a. *Léegi, ma laaj la, yow ci sa wàll-u bopp.*
 now AOR.1SG ask O.2SG PRO.2SG in POSS.2SG part-GEN.SG head
 'Now I am asking you [to tell me] about yourself' [C]
- b. *Léegi, ma laaj la, yow ci sa bopp*
 now AOR.1SG ask O.2SG PRO.2SG in POSS.2SG head
 'Now, I am asking you personally ~ directly (not someone else)' [D]

Finally in (59), the prepositional phrase with 'my part' is not possible (even as a topic marker), because the modified term is an agentive subject, therefore requiring the implication of *the person as a whole* in the process of going to the meeting: the use of the reflexive pronoun with *bopp* is necessary to emphasize the agentivity of the subject in the process, thus indicating that the metonymy of the 'head' for the person is still active in the prepositional reflexive.

- (59) *man ci sama bopp dinaa dem ci ndaje li* [D]
 PRO.1SG in POSS.1SG head FUT.1SG go in meeting DEF
 'I will myself go to the meeting'
 **man ci sama wàllu bopp, dinaa dem ci ndaje li*

So, to conclude on this point, we can state that, when modifying a topic or an antitopic as in (55), the prepositional reflexive indicates a "discursive centering" by which the speaker eliminates other alternatives and points to the very *nature* of the referred entity he precisely wants to talk about. In other words there is still an emphasis on the identity of the entity referred to and the semantics of the prepositional reflexive is the same as when it modifies an argument in a sentence.

21. Wolof displays here an interesting contrast with Mina (Central Chadic): besides its use as a reflexive marker, in this language (Frajzyngier 2019: 59), the word for 'head' can be used to mark the topic of a verb of saying (e.g. 'we talked about a horse' lit. we talked head horse). As indicated by Frajzyngier (2019), this function is most likely a semantic extension of the coding of the spatial relation 'on' with 'head'. In Wolof, since *bopp* did not grammaticalize into a locative marker as we have seen (2.), this use of 'head' is not possible: for the closest construction, that is as a topic marker, the restrictive construction ('in my part of head') is required.

5. Conclusion

This study has revealed that the noun phrase ‘his head’ has various grammatical uses in Wolof, falling in two main types, (1) as a reflexive pronoun with different semantic roles, and (2) as an adnominal intensifier in a reflexive prepositional phrase.

So, from its use as a reflexive pronoun, the *bopp*-phrase has not grammaticalized further into a middle marker, in all likelihood because the middle marker is older²² than the reflexive pronoun in Wolof, as indicated by its suffixal status. In this language, the two constructions coexist, in most cases in complementary distribution,²³ for prototypically *other-directed* processes (reflexive) vs. *self-directed* processes (middle). This confirms Kemmer’s prediction (1993: 229) according to which middle markers from non-reflexive sources will *not* develop into markers of reflexive semantics. However, in Wolof, the reflexive pronoun has developed a variety of non-prototypical uses that were not predicted in Kemmer’s model, maybe pointing to another grammaticalization chain, ranging from direct and

Table 3. The grammatical uses of the pronominal phrase ‘his head’ in Wolof

(1) THE REFLEXIVE PRONOMINAL PHRASE ‘HIS HEAD’			
<i>pattern</i>	<i>syntactic role</i>	<i>semantic role</i>	<i>meaning</i>
direct reflexive	object	patient	‘himself’
oblique reflexive (+ APPL suffix ~ PREP)	object (~ oblique)	beneficiary recipient comitative human instrument/agent	‘for himself’ ‘to himself’ ‘with himself’ ‘by himself’
genitive reflexive (+ GEN suffix)	noun modifier	possessor	‘(of) his own’
(2) THE INTENSIFYING PREPOSITIONAL PHRASE ‘IN HIS HEAD’			
<i>pattern</i>	<i>syntactic role</i>	<i>emphasizing</i>	<i>meaning</i>
reflexive locative PP (+ PREP)	noun modifier	agentivity identity inclusion in a list of participants	‘by himself’ ‘in person’, ‘per se’ ‘even him’
(3) THE RESTRICTIVE PREPOSITIONAL PHRASE ‘IN HIS PART OF HEAD’			
reflexive locative PP (+ PREP + <i>wáll</i> -GEN)	noun modifier	restrictive (topic) marker	‘for his part’

22. The middle suffix (as well as the genitive linker) may originate from the third (homophonic) spatial deictic – *u*. It contrasts with the proximal *-i* and distal *-a* ones and indicates the absence of localization of an entity in the speaker’s sphere (Robert 2006).

23. Note that obligatorification and specialization are considered to be indicators of grammaticalization (Hopper, 1991: 21–22).

oblique reflexive pronoun to adnominal intensifier (in the locative phrase) through the genitive reflexive, which share properties with both types of uses. Some of these uses are well known, however the genitive reflexive is apparently a typologically rare structure and may have played a pivotal role in this grammaticalization chain.

Furthermore, the detailed account of their various senses and contexts of use, as summarized in Table 3, allows us to understand their semantic continuity and discontinuity and, in particular, the relation between the reflexive and the intensifying uses that is seldom accounted for.

The first important characteristics of the grammatical uses of the HEAD in Wolof is that, in all cases, the [POSS + HEAD] phrase functions as a *pro-noun*, occupying the syntactic slot of a noun and expressing *coreference* (i.e. shared identity) with a noun in the clause through an anaphoric relation. The second remarkable point is that, under certain conditions, the syntactic and semantic role of this reflexive pro-noun can change according to the general syntactic patterns for nominal complements in this language: thanks to the applicative suffix, the coreference with the agentive subject can be extended from patientive object (direct reflexive) to oblique arguments (with a semantic role of beneficiary, comitative, recipient or, more specifically, human instrument/agent); thanks to the genitival connector, the reflexive pro-noun can function as a noun modifier indicating coreference of the modified noun with the possessor indexed on the possessive modifier of the head noun. In this construction, the possessive modifier has a double scope, on the possessed N1 and on *bopp* in N2. And finally, thanks to the locative preposition, the prepositional reflexive in adnominal position can function as a noun modifier, like the genitive reflexive, but in a different construction. The reflexive anaphora is still present in this case. However, because of its intra-phrastic scope, the necessary correlation with the agentive subject of an intentional predicate is lost and the coreference expressed by the reflexive pronoun can be extended to any noun in the utterance, even a topic or an antitopic. What is the semantic contribution of the reflexive anaphora in this intensifying use of the prepositional reflexive?

A clear semantic continuity, produced by a common semantic pattern, can be outlined across the various uses of this reflexive pronoun. In all these uses, the *bopp*-phrase with the possessive modifier has a pronominal functioning and indicates coreference between two syntactic components. When the reflexive anaphora has scope over two *different* semantic roles, the *bopp*-phrase has a plain reflexive meaning. However, an emphasis (on the self-affectedness or self-benefit) is already present in this prototypical reflexive construction because a clear elaboration of the two distinct roles for the same agent is maintained by the pronominal construction (and strengthened by the semantic motivation of the use of 'the head' in this function), contrasting with the valency reduction of the middle construction. Furthermore, being restrictively used for typically *other-directed* processes,

the reflexive construction also implies that alternative (more expected) agents are discarded. The “centering effect” on the actual participant, due to backgrounded elements in the semantics of the verb in the (in)direct reflexive construction, is even clearer, because explicitly marked, when the reflexive anaphora refers to the same participant in the *same* semantic role. This is the case, (a) for the oblique reflexive when it does not introduce a new semantic role (i.e. as an agent), and even more clearly, (b) with the genitive reflexive, for which the possessor is already indexed on the possessive modifier, and (c) for the prepositional reflexive used as a noun modifier. In all these cases, the reflexive anaphora creates a *re-identification* of the referent in the same role, producing an intensive effect by centering on the referent in this role and discarding the alternative participants. Furthermore, in the modifying uses, the reflexive anaphora no longer identifies a (coreferent) participant in the discourse, nor does it contribute to the denotational (or referential) value of the verbal scene, it functions as an optional element used by the speaker to qualify the modified term for discursive (argumentative) purposes.²⁴

Finally, this study has revealed that the grammaticalization of the reflexive pronoun is not completed and that the use of *bopp* is still motivated in its grammatical uses. From a syntactic point of view, the *bopp*-noun phrase is always used in a nominal function (occupying a nominal slot) and retains some nominal properties, such as the presence of an inflecting possessive modifier and the post-verbal position of a nominal (vs. pronominal) object. Moreover several semantic restrictions have been observed, such as the use of the genitive reflexive with human beings, and also some intermediary cases where it is difficult to decide on a grammatical or a metonymic use of this body part term such as (60). So, Wolof is an instance of an intermediate stage of grammaticalization (stage II) according to the model proposed by Schladt (2000) for the body part reflexives, out of Heine’s (1994) ‘Overlap-Model’.

- (60) *Móodu, mag-u boppam la. [D]*
 N.PR elder.brother-GEN head-POSS.3SG FOC.CMP.3SG
 ‘Móodu just does whatever he pleases’

24. I propose to characterize in a similar way the two grammatical uses of ‘body’ in Pero (see footnote 4) as described by Frajzyngier (this volume): when ‘body’ is not used as a reflexive pronoun (referring to the same participant in two different semantic roles), it functions as a noun modifier (modifying here the object of the verb). Interestingly, the intraphrastic scope of the reflexive anaphora in this language produces different semantic effects than the ones in Wolof, in all likelihood because the two reflexive markers originate from two different semantic notions (‘body’ in Pero vs. ‘head’ in Wolof): in Pero, when used to *qualify* a referent, the term ‘body’ refers to the *integrity* of the referent which has not been “affected” by the process (in the sense defined by the author), whereas in Wolof ‘the head’ refers to its *identity*.

Lit. 'Móodu is the elder brother of his head (= of himself)', meaning that Móodu does not listen to the elders as he should, he is his own *authority*'.

Altogether, these semantic restrictions and conditioning as well as the semantics of the various reflexive constructions in Wolof, emphasizing the agentivity, responsibility or identity of the referent, point to a metonymic use²⁵ of the HEAD for the PERSON or INDIVIDUAL with its specific attributes of will, intentionality and identity, at the root of the incipient grammaticalization of this noun. This metonymic use of *bopp* in grammatical function is still motivated and in accordance with many of its lexical uses, such as the compound noun phrase in (61).

- (61) *bopp-sa- bopp* [D 2003]
 head POSS.2SG head
 'every man for himself' ~ 'individualism' (lit. 'head-your-head')

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Abbreviations

	indicates a pause	LINK	verbal linker
ANT	anteriority	MID	middle
ANTIP	antipassive	NEG	negative suffix or inflection
AOR	aorist	N.PR	proper name
APPL	applicative	O	object pronoun
CAUS4	causative with omitted causee	PAST	past
CLX	agreement class marker of class x	PL	plural
COMP	complementizer	POSS	possessive
COP	imperfective copula	PRF	perfect
CTF	centrifugal suffix	PRO	independent pronoun
DEF	definite article	PRST	presentative inflection
FOC.	Complement/Subject/Verb focus	Q.PLR	polar question particle
CMP/s/v	inflection		

25. More precisely a synecdoche strategy.

FUT	future	REL	relativizer
GEN	genitive	SG	singular
IMP	imperative	TPN	toponym
IPFV	imperfective		

Corpus and data references

The following abbreviations are used for the various references:

C	‘The Wolof Corpus’. Robert, S. 2017. In Mettouchi, A. and C. Chanard (eds.), <i>The Cortypo Corpus</i> . http://cortypo.huma-num.fr/Archives/corpus.php
D	Elicited from Jean-Léopold Diouf
D 2003	Jean-Léopold Diouf’s dictionary (Diouf 2003)
G	<i>Gancax gi</i> , a TV play from the radio program <i>Jamonoy Tey</i> , broadcast by the ORTS (Office de Radiodiffusion-Télévision du Sénégal) on July 8, 1984.
F	<i>Fallou Cissé’s personal story</i> , recorded by the author in Senegal in 2015.
H	<i>Feebar yi ak garab yi</i> . Debate about traditional healers on the radio program <i>Horizon</i> , broadcast by the ORTS on November 21, 1985.
XSW	<i>Xam sa waru gaar</i> , a play from an educational TV program, by the ORTS (Office de Radiodiffusion-Télévision du Sénégal) in 1986.
W	<i>Ñu waxtaan ci</i> . TV debate from an educational program, broadcast by the ORTS in April 1986.

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Multifaceted body parts in Murui

A case study from Northwest Amazonia

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Based on the firsthand data from Murui, a Witotoan language spoken in the Northwest Amazon, the study demonstrates how the body part terms ‘back’, ‘face’, ‘mouth’, and ‘body’ grammaticalized into the domains covering spatial orientation, time, comparison, counting, and the reflexive. Murui body part nouns did not grammaticalize in isolation; to become grammatical markers, they were obligatorily followed by case marking. This allowed those nouns to preserve the original semantics of the case suffixes, and then to extend their semantics into other domains. For instance, the noun ‘back, spine’, followed by the locative, became a postposition meaning ‘above, on top’, and later also ‘over’, a marker used in comparative constructions and counting. In the contexts in which this process took place, ‘back’ lost its semantic content and many of its original morphosyntactic characteristics.

Keywords: grammaticalization, body part terms, ‘back’, ‘face’, ‘mouth’, ‘body’, Murui, Witotoan

1. Typological profile of Murui

Murui (also called Búe, muru1274, huu) is a dialect of Murui-Muina, member of the Witotoan language family, which is one of the smaller language families in the Northwest Amazon (Aikhenvald 2012; Wojtylak 2017; Echeverri, Fagua and Wojtylak forthcoming).¹ The language is spoken by about 2,000 people in

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southern Colombia and northern parts of Peru (the Caquetá-Putumayo River Basins; see Map 1 the Appendix). The division of the Witotoan languages is illustrated in Diagram 1.

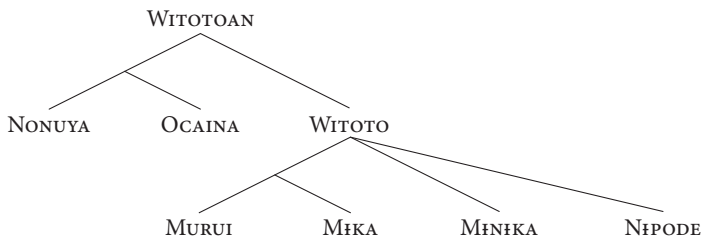


Diagram 1. The Witotoan language family

Murui is nominative-accusative, with head marking and some elements of dependent marking. The language is agglutinating and predominantly suffixing. Grammatical relations are expressed through cross-referencing on the verb (with one cross-referencing position; the subject S/A) and a system of case marking. A case marker goes onto the last constituent of an NP. This is illustrated in (1)–(2):

- (1) ini-di-omiko?_{PRED}
 sleep-LK-2du.m
 ‘Are you (two males) sleeping?’
- (2) [bai-e jaiga-bi-na]_{NP:O} jiro-d-e=ta_{PRED}
 that.FSH-CLF:G cahuana-CLF:THICK.SUBSTANCE-N.S/A.TOP drink-LK-3=REP
 ‘He drank the *cahuana* drink (it is said).’

Typical clause structure is predicate final (SV/AOV). There are three open lexical word classes: nouns, verbs, and adjectives; quantifiers, intensifiers, pronouns, demonstratives, interrogative content words, connectives, adpositions, interjections, and a few underived adjectives are closed word classes. Adverbs, time words, and number words form heterogenous categories. In terms of their morphosyntactic possibilities, Murui open and closed word classes share numerous properties. For instance, many of open and closed word classes can head intransitive predicates. This is shown in (3) below where the head of the intransitive predicate is the interrogative *buu* ‘who’ (cf. a transitive verb in (2) above). Only verbs can head transitive predicates.

- (3) buu-di-omiko?_{PRED}
 who-LK-2du.m
 ‘Who are you (two males)?’

Scheme 1. The structure of a verb in Murui

Root	1. Root
Suffixes	2. Aspect <ul style="list-style-type: none"> - high intensity (root reduplication)
	3. Thematic syllable, miscellaneous affixes (verbal classifiers)
	4. Body movement <i>-da</i>
	5. Aspect system <ul style="list-style-type: none"> - terminative <i>-bi</i> - durative <i>-ri</i> - reiterative <i>-oi</i> - semelfactive <i>-no</i> - inceptive <i>-kai</i> - manner <i>-rui</i>
	6. Valency increasing markers <ul style="list-style-type: none"> - causative <i>-ta</i> - double causative <i>-tata</i> - causative (encouragement) <i>-do</i>
	7. Emphatic <i>-i</i>
	8. Desiderative <i>-aka</i>
	9. System of directional markers <ul style="list-style-type: none"> - andative <i>-ai</i> - ventive <i>-aibi</i>
	10. Aspect system <ul style="list-style-type: none"> - remote habitual <i>-vui/-zoi</i> - customary <i>-fi</i> - general habitual <i>-kabi</i>
	11. Attributive markers <ul style="list-style-type: none"> - positive <i>-re</i> - negative <i>-ni</i>
	12. Negation <i>-ñe</i>
	13. Prohibitive <i>-no</i>
	14. Tense <ul style="list-style-type: none"> - future <i>-it(i)</i>
	15. Predicate linkers, passive, nominalizers, and clause linking <ul style="list-style-type: none"> - linker <i>-di/-ti</i> - passive <i>-ka/-ga</i> and future passive <i>-yi</i> - event and event future nominalizer <i>-ye</i> (followed by emphatic <i>-za</i>) - sequential <i>-no</i> - sequential completive <i>-da</i> (<i>-ta</i> directly following the root) - conditional₁ <i>-ia</i> - overlap <i>-kana</i> - apprehensive <i>-iza</i> - imperative <i>-no</i> (followed by the rapid action <i>-kai</i>)
	16. Pronominal cross-referencing and classifiers as nominalizers
	17. Clause linking markers <ul style="list-style-type: none"> - temporal <i>-mo</i> - conditional₂ <i>-na</i>
Enclitic	18. Epistemic and evidentiality markers <ul style="list-style-type: none"> - confirmed certainty =<i>di</i> - unconfirmed certainty =<i>za</i> - reported =<i>ta</i>

Murui verbs have a rich system of verbal morphology, with an extensive array of aspect markers. The expression of tense is marginal, with non-future being an unmarked choice. Like other languages from the Caquetá-Putumayo region of the Northwest Amazon, Murui has one reported evidential as well as a number of markers expressing epistemic modality (Wojtylak 2018a). An example of a verb suffixed with TAME suffixes is given in (4). Scheme 1 illustrates the structure of a Murui verb.

- (4) joko-ri-zai-aka-ñe-i-ti-kue=di
 wash-DUR-ANDTV-DES-NEG-FUT-LK-1SG=CERT
 ‘I WILL not want to go washing.’

Unless the animacy, gender, and number are important in the discourse context, the 3rd person is always cross-referenced with *-e*. The cross-referencing suffixes are given in Table 1. Murui pronouns, shown in Table 2, are independent morphemes and have similar forms as the cross-referencing suffixes. They also occur in possessive constructions.

Table 1. Murui cross-referencing pronominal subject markers on verbs

	SINGULAR		DUAL		PLURAL	
	MASCULINE	FEMININE	MASCULINE	FEMININE		
1		-kue	-koko	-kaiñai	-kai	
2		-o	-omiko	-omiñoi	-omoi	
3	UNSPECIFIC		-e			
	HIGHLY ANIMATE	-mie	-ñaiño	-aimai	-aiñuai	-maki

Table 2. Murui independent pronouns

	SINGULAR		DUAL		PLURAL
	MASCULINE	FEMININE	MASCULINE	FEMININE	
1	kue		koko	kaiñai	kai
2	oo		omiko	omiñoi	omoi
3	-mie	-ñaiño	-maiai	-ñuai	-maki

The structure of Murui nouns is less ‘complex’ than that of verbs. Nouns allow up to three slots which can be filled simultaneously. Each grammatical category is marked only once in the clause. These are:

- Classifiers and classifier-repeaters (usually one per clause, rarely two or three),
- Number (plural, kinship plural, and collective),
- Case (topical subject S/A, topical non-subject S/A, locative, ablative, instrumental, adessive, benefactive-causal, privative).

Perhaps one of the most salient features of Murui nominal morphology is a large system of classifiers, which consists of over 110 classifier morphemes (Wojtylak 2016). An example of a noun with all three structural positions filled is given in (5):

- (5) oogo-do-niai-do
 banana-CLF:POINTED-COLL-INS
 ‘with the bananas’

Murui open and closed word classes can take classifiers to form nominal modifiers to function as nominalized NPs. This is illustrated in (6) and (7). In the translation, the referent of the ‘headless’ nominal modifier is shown in brackets.

- (6) jano-ko_{NP}
 small-CLF:COVER
 ‘small (house)’
- (7) kue-ko_{NP}
 1sg-CLF.REP:DOG
 ‘my (dog)’

The head of an NP can either be a single noun or it can be modified by other nouns, adjectives, quantifiers, pronouns, demonstratives, and interrogative and number words. The head of an NP follows modifiers, as in (8)–(10):

- (8) [bi-e jiko_{HEAD}]_{NP}
 this.CTS-CLF:G dog
 ‘this dog’
- (9) [atava ri-ño_{HEAD}]_{NP}
 chicken woman-CLF:DR.F
 ‘female chicken (lit. chicken female)’
- (10) [aare ame-na_{HEAD}]_{NP}
 long wood-CLF:TREE
 ‘long tree’

Murui has a small class of postpositions, as in (11)–(12). They cannot be modified. Syntactically, some of the grammaticalized body part terms discussed in this paper behave as similarly to such postpositions.

- (11) Rubio_s [Lusio dine]_{LOCATIONAL} i-ñe?_{PRED}
 Rubio Lucio AT.LOC:NSP exist-NEG
 ‘Rubio isn’t at Lucio’s?’

- (12) Klementina_s [Lusio diga]_{COMITATIVE} jaai-ya_{PRED}
 Clementina Lucio WITH go-E.NMLZ
 ‘Clementina went with Lucio.’

Within a possessive NP, a dependent noun (Possessor) precedes the head noun (Possessed), as in (13):

- (13) [Fransiska_R jo-fo_D]_{POSSESSIVE.NP}
 Francisca house-CLF:CAVITY
 ‘Francisca’s house’

Murui nouns as well as NPs can head intransitive predicates. This is shown in (14) (cf. (3) above):

- (14) [oo jito]_{NP} -ñe-di-kue=za_{PRED}
 2sg SON-NEG-LK-1SG=UNCERT
 ‘I am not your son (so it seems).’

Within an NP, modifiers do not agree with the head noun; the agreement is only partial and the modifier always takes the generic classifier *-e*. In (15), the bound demonstrative *bai-* ‘that’ and the number word *da-* ‘one’ do not agree in classifier *-bi* on the head noun:

- (15) [bai-e da-je jaiga-bi]_{NP}
 that.FSH-CLF:G one-CLF:G cahuana-CLF:THICK.SUBSTANCE
 ‘that one *cahuana* (drink)’

In Murui, the agreement is indicative of the distinction between an NP and a clause: the classifiers occur obligatorily only as agreement markers in verbless clauses only. (16) is a juxtaposition of two NPs, thus a full sentence, unlike (15) above.

- (16) bi-ya_{NP:VCS} mare-ya_{NP:VCC}
 this.CTS-CLF:CRAFT good.ATT-CLF:CRAFT
 ‘This (boat) is good (lit. this (craft) – good (craft)).’

I now turn to the description of the body part terms in Murui.

2. Murui body part terms and grammaticalization

Many of the body part terms in Murui belong to the class of non-generic² inanimate nouns. They are thus obligatorily combined with classifiers which categorize

2. Independent (generic) nouns can occur with or without classifiers, e.g. *cheme* ‘brain (generic, uncountable); *cheme-ki* (brain-CL:CLUSTER) ‘brain (specific shape, countable)’. Bound (non-generic) nouns always occur with classifiers, e.g. *ri-ño* (woman-CL.DR.F) ‘woman’.

them in terms of their physical properties, such as shape, form, and interiority, e.g. *ifo-gi* (head-CLF:OVAL.BIG) ‘head’, *ono-kai* (hand-CLF:STEM) ‘finger’, *moi-fo* (rear-CLF:CAVITY) ‘anus’. Some body parts are given a gender distinction based on a taboo principle, such as the masculine classifier *-ma* in *yikoma* ‘clitoris’ (possibly related to *yi-* ‘suck’) (Wojtylak 2017).³

There is no alienable-inalienable distinction in the language.⁴ Murui body part terms can be possessed (see Table 2 in 1 outlining Murui pronouns that occur in possessive constructions). The possession relationship is expressed by means of an apposition within an NP. This is illustrated in (17)–(20):

(17) [Rata_R kome-ki_D]_{NP:S} zuu-re-d-e_{PRED}
 Rata heart-CLF:ROUND sad-ATT-K-3
 ‘Rata is sad (lit. the heart of Rata is sad).’

(18) [Maria_R moi-fo_D]_{NP:S} izi-re-d-e_{PRED}
 Maria rear-CLF:CAVITY painful-ATT-LK-3
 ‘The anus of Maria is painful.’

(19) [kue_R dirue_D]_{NP:S} jiri-ya_{PRED}
 1sg blood stain-E.NMLZ
 ‘My blood stained (it).’

(20) [konago_R oma-kai_D]_{NP:S} tikori-d-e_{PRED}
 lizard tail-CLF:STEM tear-LK-3
 ‘The tail of the lizard tore itself (loose).’

Body part terms share the same morphosyntactic characteristics with other types of inanimate nouns.⁵ Almost all body parts can take the plural and collective number, in addition to the singular (unmarked). There is a small group of body-related nouns which, depending on the number they take, show different

3. This is somewhat similar to some Australian languages where male and female body parts are given the opposite gender (Evans 1994).

4. Murui might have had a distinction between the alienable-inalienable distinction at some earlier stages of the language. There are a number of archaic forms in the Mika dialect of Murui-Muina where the form *kei* refers to ‘mother’, instead of *ei* in Murui and Minika. The element *k-* in Murui-Muina dialects (*x-* in Ocaina and Nonuya) is surely related to the element of the 1st person pronouns, as in *kue* (1sg), *koko* (1du.m), *kaiñai* (1du.f), and *kai* (1pl). *Kei* thus might bear the possessive prefix *k-* meaning therefore ‘my mother’. In Murui as spoken today, the term mother is simply *ei*, which can be possessed, e.g. *kue ei* ‘my mother’ (Wojtylak and Echeverri forthcoming).

5. This excludes special classes of inanimate nouns that are inherently locative and refer to culturally salient objects. Such nouns have special properties, and differ from one another in terms of how they combine with number and case.

semantics. For instance, the noun *uai* can mean either ‘voice’, ‘word’, or ‘language’. When pluralized, *uai-yai* (word-PL) means ‘voices’ (such as those of animals in the jungle) and can be extended to cover ‘languages’; with the collective marker, *uai-niai* refers to ‘words’ (such as words that are written down in a book). Another example is the noun *abi* ‘body’. *Abi* can only be followed by the collective marker but not plural, i.e. *abi-niai* (body-COLL) ‘bodies’. In fact, the noun *abi* refers to the notion of ‘self’ that, as we will see, grammaticalized into the reflexive in Murui. This is discussed in 2.2.

Some body parts appear to be morphosyntactically ‘unique’ in that they may or may not agree in person and number on the verb. This is shown in (21a), where *komeki* ‘heart’ is not coreferential with the 1st person S/A subject marker on the verb. In this case, 1st person agreement expresses a strong emotion. This is unlike in (21b), where the S NP ‘my heart’ triggers the usual 3rd person S/A subject marker.⁶ There are no overtones of a strong emotion.⁷

- (21) a. *kue_s kome-ki oo-mo faka⁸-di-kue_{PRED}*
 1sg heart-CLF:ROUND 2sg-LOC think-LK-1sg
 ‘I think of you (lit. I contemplate heart in you).’
- b. *naga-no-mo [kue kome-ki]_s faka-d-e_{PRED}*
 all.both.QUANT-CLF:SP.PLACE-LOC 1sg heart-CLF:ROUND think-lk-3
 ‘I think of many things (lit. My heart weights in many places).’

The word *komeki* illustrated in (21a–b) is quite puzzling. The noun *kome* means ‘person’ (cf. *komini* ‘people’ with the classifier *-ni* for ‘human group’); it is followed by the classifier *-ki*, which refers to round hard things (e.g. hard seeds). The same classifier can also refer to ‘forest’ (*jaziki*), ‘name’ (*mameki*, cf. *mame-* ‘to name’),

6. Example (21a) could be analyzed as a compound verb, similar to that described with ‘body’ in 2.4. (note however that verb compounding is scarce). Only a handful of lexicalized verbs show traces of compounding whereby an originally unmarked O NP became part of the verbal root, e.g. *fueo(te)* ‘learn’ (cf. *fuee* ‘mouth’ and *o(te)* ‘get’; this refers to becoming a skilful orator), *raote* ‘hunt’ (cf. *raa* ‘thing’ and *o(te)* ‘get’, literally ‘to get things’). In this view, the example of *komeki* in (21a) could be further comparable to *abi* ‘body’ as discussed in 2.4.

7. This is similar in Tariana, an Arawak language spoken to the north of Caquetá–Putumayo River Basins, with whom the Witotoan and Boran peoples were in contact in the past (von Martius 1867, 537, Wojtylak 2017; Aikhenvald forthcoming-a). In Tariana, there is always agreement between the A/S and the verb. However, with the word ‘heart’ (meaning ‘soul’), the agreement is first person (Aikhenvald 2003, 500–1). As in Murui, such non-coreferential constructions in Tariana express a stronger emotion (Aikhenvald forthcoming-b).

8. The verbal root *faka-* has many meanings including ‘try’, ‘test’, rehearse’, and ‘weight’. Other derived forms are also possible, e.g. *fakari(te)* ‘experiment’ or ‘interpret a song’, *fakado(te)* ‘count’, *fakare(de)* ‘incite’, and *fakata(te)* ‘provoke’ (Echeverri, p.c.).

‘generation’ (*uruki*, cf. *urue* ‘child’), ‘orphan’ (*jaieniki*), and ‘sets of ritual songs’ (*ruaki*), and can be understood as ‘essence, core, cluster-like’. As such, *komeki* has two meanings: ‘heart’ – as a body organ (heart-CLF:ROUND) and ‘mind, thought’ – as a person, core. There is also a morphological difference between them (cf. with *uai* ‘word’ above): *komeki* meaning ‘heart’ can be pluralized (for instance, when one kills three peccaries and extracts three hearts of the animals); *komeki* ‘mind, thought’ cannot.

I now turn to discuss ‘back, spine’, ‘face’, ‘mouth’, and ‘body’ that grammaticalized into domains covering spatial orientation and time (2.1), comparison (2.2), counting (2.3), and the reflexive ‘self’ (2.4).

2.1 The domain of spatial orientation and time

The domain of spatial orientation and time is the most significant target domain of the grammaticalization of body part terms cross-linguistically (Heine and Kuteva 2002; Kraska-Szlenk 2014). The lexical, locational, and temporal meanings of the grammaticalized body parts ‘back, spine’, ‘face’, and ‘mouth’ are discussed in turn. In the examples, body parts are marked in bold.

A. BODY PART NOUN *emodo* ‘BACK’ > ‘ABOVE’ and ‘AFTER’ – the noun *emodo* (containing the classifier *-do* for pointed objects) means ‘back, spine’, as in (22):

- (22) Adam_A **emo-do**_O kui-t-e_{PRED} [taiti-re-na jira]
 Adam back-CLF:POINTED scratch-LK-3 itchy-ATT-E.NMLZ REASON
 ‘Adam scratched (his) **back** because it was itchy.’

To express location in space, *emodo* is obligatorily followed by the locative *-mo*, as in (23):

- (23) [ana bai-e nuikito-na]_O i-t-e_{PRED}
 below that.FSH-CLF:G type.fish-N.S/A.TOP become-LK-3
emo-do-mo_{LOC} nai-mie_S ei-kobe_O
 back-CLF:POINTED-LOC ANA.SP-CLF:PR.M foot-CLF:ROUND.LEAF
 fiebi-kai-d-e_{PRED}
 stay-INCP-LK-3
 ‘And beneath (the water he) turned into the *nuikito* fish. (A symbol of) a bird-like claw remained **on his back**.’

As an NP, obligatorily followed by the locative case, *emodomo* grammaticalized into a postposition meaning ‘above, on top of’, as in (24). It is also used to cover temporal sense ‘after’, as in (25):

- (24) i-no_s [jo-fo emodo-mo] i-t-e_{PRED}
 ANA.NSP-CLF:PR.GR house-CLF:CAVITY above-LOC exist-LK-3
 ‘The (group of chickens) are (located) **on top of** the house (on the roof).’
- (25) gui-ye emodo-mo bii!_{PRED} jaiga-bi_o
 eat-FUT.E.NMLZ after-LOC come.IMP cahuana-CLF:THICK.SUBSTANCE
 jiro-ye-za!
 drink-FUT.E.NMLZ-EMPH
 ‘**After** eating, come to drink the *cahuana* (drink)!’

Emodomo is further used as a marker in comparative constructions (2.2) and for counting from ‘five’ onwards (2.3).

B. BODY PART NOUN *uieko* ‘FACE’ > ‘(IN) FRONT’ and ‘BEFORE’ – the lexical noun *uieko* means ‘face’, as in (26). *Uieko* contains the classifier *-ko* for objects that have a spherical shape. Example (27) shows how ‘face’ can be semantically extended to refer to object’s frontal parts.

- (26) [[afai komini uie-ko]_o jibui-zai-ya]_{PRED}
 upstream people.CLF:DR.GR face-CLF:SPHERICAL watch-ANDTV-E.NMLZ
 mare-na
 good.ATT-N.S/A.TOP
 ‘It’s good to go to watch the people’s **faces** from up the river.’
- (27) [[jadi-e jo-fo]_R uie-ko_D]_{NP:S} eo jea-re-d-e_{PRED}
 this.CTH-CLF:G house-CLF:CAVITY face-CLF:SPHERICAL very dirty-ATT-LK-3
 ‘The **front** (lit. face) of this house is very dirty.’

When followed by the locative *-mo*, *uieko* covers the domain of spatial orientation, meaning ‘in the face’, as in (28):

- (28) [kue uie-ko-mo]_{NP} uizi_s i-t-e_{PRED}
 1sg face-CLF:SPHERICAL-LOC eye exist-LK-3
 ‘My face has eyes (lit. **in my face**, there are eyes).’

Unpossessed *uiekomo* is also used in constructions to mean ‘(in) front, upfront’. This is illustrated in (29)–(31):

- (29) jari-re uieko-mo jaai-di-kue_{PRED} mei navuida rii-di-kue_{PRED} [oo_o
 quick-ATT front-LOC go-LK-1SG so evening arrive-LK-1SG 2sg
 ki-a-no]_{SEQUENCE} jari-re uieko-mo kakarei-zai-di-kue_{PRED}
 see-E.NMLZ-SEQ quick-ATT front-LOC listen.TH-ANDTV-LK-1SG
 ‘I went quickly **in front**; well, I came (in) in the evening. When I saw you, I went to listen **upfront** (in the church).’

- (30) *jii jai bai-e kai misa-mo_{LOC} i-ti-kai_{PRED} y... oo*
 yes already that.FSH-CLF:G 1pl mass.Sp-LOC exist-LK-1PL and.Sp 2sg
uieko-mo naidai-do_{PRED}
 front-LOC sit.down.BODY-LK.2SG
 ‘Yes, we were already at the mass. And you sat down **in front**.’
- (31) *kue dii_s ua kue yofue-ra-ko-mo_{LOC}*
 1sg s/A.TOP really 1sg teach-CLF:NEUT-CLF:COVER-LOC
i-ya dino-ri kue_s mei ua jaka uieko-mo
 exist-E.NMLZ AT.CLF:SP.PLACE-ADE 1sg so really always front-LOC
i-ya-na_o gaai-fi-re-di-kue_{PRED}
 exist-E.NMLZ-N.S/A.TOP like-CUST-ATT-LK-1SG
 ‘So I... (As for me), in my school times (lit. when I was in school), I used to like being **in front** (of the people, e.g. presenting).’

Murui has a number of morphosyntactic mechanisms for clause linking, including dependent clauses such as those expressing condition, purpose, reason, and time. (32)–(33) show how *uieko*, followed by the instrumental case *-do*, grammaticalized to express anteriority, indicating that one action happens *before* another.

- (32) [*kue_s jaai-aka-na uieko-do*] *boyiti-kue_{PRED}*
 1sg go-DES-E.NMLZ before-INS urinate.FUT.LK-1SG
 ‘Before wanting to leave, I will pee.’
- (33) *Kata_s uieko-do jo-fo-mo_{LOC} rii-d-e_{PRED}*
 Kata before-INS house-CLF:CAVITY-LOC arrive-LK-3
 ‘Kara arrived home before (the others).’

C. BODY PART NOUN *fuue* ‘MOUTH’ > ‘EDGE’ > THE CLASSIFIER *-fue* ‘STORY, NARRATION’ – the body part noun *fuue* means ‘mouth’, as in (34). It can also extend to cover ‘edge (of an object)’, as in (35)–(36):

- (34) *nai-mie_{VCS} [fuue-mo_{LOC} fai-rai-ma]_{NP:VCC}*
 ANA.SP-CLF:DR.M mouth-LOC throw-AGT-CLF:DR.M
 ‘He is the initiator (lit. he – (male) thrower **into the mouth**)’
- (35) [*i-ye fuue*]_{NP}
 ANA.NSP-CLF:RIVER edge
 ‘river **edge**’

9. The reference to ‘throwing into the mouth’ has to do with words that are ‘thrown’ during an oral ritual exchange.

- (36) [pataro **fuue**]_{NP}
 pants.Sp edge
 ‘edge of pants’

As a classifier, *fuue* is phonetically eroded and becomes *-fue* meaning ‘(oral) story, narration’. Like other classifiers in the language, it has various derivative function, as in (37). Various Murui classifier can be historically traced back to full independent nouns, e.g. the classifier *-vui* ‘season’ is traced back to disyllabic *fiuvui* (those are classifier-repeaters, Wojtylak 2016, 2017).

- (37) moni-**fue** (abundance-CLF:STORY) ‘nourishment (lit. story of abounding)’
 ua-**fue** (real-CLF:STORY) ‘truth (lit. true story)’
 riidua-**fue** (defend.E.NMLZ-CLF:STORY) ‘defence (lit. story of defending)’
 ebi-re-di-**fue** (nice-ATT-LK-CLF:STORY) ‘legend (lit. story that is nice)’
 yeta-ra-**fue** (advise-CLF:NEUT-CLF:STORY) ‘norms (lit. story of advising)’

D. BODY PART NOUN *abi* ‘BODY’ > ‘AGAIN’ – the body part noun *abi*¹⁰ refers to one’s physical body, e.g. *oo abi* (2sg body) ‘your (physical) body’, and can be semantically extended to cover carcasses and shells of objects, as in *jo-fo abi* (house-CLF:CAVITY body) ‘body of the house (lit. house’s shell)’, *ive abi* (river body) ‘river bank’. *Abi* can be followed by various suffixes, such as the locative, e.g. *abi-mo* (body-LOC) ‘in the body’, as in (38).

- (38) Tadave_A [uzu-ño **abi-mo** i-t-e ioyo-ño]_O
 Tadave grandparent-CLF:DR.F body-LOC exist-LK-3 mite-CLF:DR.F
 kui-ño-t-e_{PRED}
 scratch-SMLF-LK-3
 ‘Tadave scratched out the itch mite that was on (lit. in) grandmother’s body.’

Followed by the instrumental case *-do*, *abido* grammaticalized into a marker denoting frequency and meaning ‘again’, as in (40)–(41). Synchronically, *abido* is semantically bleached having no relation to the physical body (unlike what we see in case of ‘back, spine’, ‘face’, and ‘mouth’ above); I gloss it as an independent form.

10. In fact, the noun *abi*, as well as *ama* ‘brother’ used in counting (see 2.3), might originally have been derived forms. A some earlier stage of the language, they might have been combinations of the bound demonstrative *a-* and the classifiers *-bi* (for thick jelly-like substances) and *-ma* (masculine animate). Presently, *a-* is unproductive in Murui, but it is still present in certain grammatical contexts in two other dialects of Murui-Muina, Minika and Nipode, cf. Minika *afe-maki* (ANA-3pl) and Nipode *ape-maki* (ANA-3pl) meaning ‘they’. It is important to note that *-fe* is a commonly occurring nominalizer meaning ‘side, at the side of’, e.g. *aa-fe* (above-SIDE) ‘side, place above’. The forms beginning with *a-*, such as *afemaki*, might refer to the original location of the Minika and Nipode speakers, the ones who lived upriver to the Murui.

- (39) *kai_A bai-e_O fibi-di-kai=ta_{PRED} dino raai-kana jamei*
 1pl that.FSH-CLF:G get.used-LK-1PL=REP AT.CLF:SP.PLACE sit-OVERLAP ONLY
dino-mona_{ABL} raai-ta abido bi-ya_{PRED}
 AT.CLF:SP.PLACE-ABL sit-SEQ.COMPL AGAIN come-E.NMLZ
 ‘We are (reportedly) used to this, sitting there. Only after having sat there one returns from there **again**.’
- (40) *jaaiti-kue abido pero abido rii-zaibi-di-kue_{PRED} [[kue moo]_S*
 go.FUT.LK-1SG AGAIN but.Sp AGAIN arrive-VENTV-LK-1SG 1sg father
i-ya jira]_{Cl:Comp}
 exist-E.NMLZ REASON
 ‘I will leave **again** but I will **again** come back, because my father lives (here).’

Abido frequently occurs with *dane*, which consists of the bound number word *da-* ‘one, alone’ followed by the classifier-like marker *-ne* (which elsewhere has locational meanings, cf. the postposition *dine* (AT.LOC:NSP) ‘at the place, there’ in (11)). In such contexts, *dane* can roughly be translated as ‘once (more)’, as in (41)–(43):

- (41) [*bi-e kai maiji-a-mo]_{LOC} ua bi-rui dane kai ua*
 this.CTS-CLF:G 1pl work-E.NMLZ-LOC really this.CTS-CLF:DAY ONCE 1pl really
kome-ki-do_{INS} [kai o-ga-kino]
 heart-CLF:ROUND-INS 1pl get-PASS-CLF:NEWS
 ‘In what we do today once more with all our hearts it becomes our story.’
- (42) *oo kiua-na dane abido jitai-di-kue_{PRED}*
 1sg see.E.NMLZ-N.S/A.TOP ONCE AGAIN need-LK-1SG
 ‘I want to see you once **again** (lit. I need seeing you once **again**).’
- (43) *kai_S gairi-di-kai_{PRED} dane abido bi-ya_{PRED}*
 1pl gather-LK-1PL ONCE AGAIN come-E.NMLZ
 ‘We reunite, (and then) we come (to reunite) once **again**.’

The noun *abi* has further grammaticalized to express the reflexive notion of ‘self’; this is discussed in 2.4.

2.2 The domain of comparison

In addition to the domains of space and time (2.1), *emodo* ‘back, spine’ marked by the locative case grammaticalized further into the marker of the comparative constructions (called hereafter ‘Standard Marker’), similar to ‘than’ in English.¹¹

11. Consider the following clause in English: *John is taller than Maria*. The prototypical comparative construction scheme (in accordance with Dixon 2012) consists of: (i) the COMPAREE (that which is being compared, i.e. *John*), (ii) the STANDARD of comparison (what the Comparee

The noun underwent desemantization and decategorization, and shows loss of categorial properties, such taking nominal morphology. Murui comparative constructions are monoclausal, the Standard Marker is always postposed to the noun within an NP, and *emodomo* is best interpreted as ‘over’ (Wojtylak 2018b). Examples are given in (44)–(46):

- (44) COMPAREE STANDARD STANDARD MARKER INDEX PARAMETER
 Jose_{VCS} [Pedro **emodo-mo**]_{NP} eo aare-mie_{VCC}
 Jose Pedro over-LOC very long-CLF:PR.M
 ‘Jose is taller than Pedro.’
 Lit. ‘Jose, **over** Pedro, very big (male).’
- (45) COMPAREE STANDARD
 [bi-e raai-ra-ko]_{VCS} [[oni bi-e]_{NP}
 this.CTS-CLF:G sit-CLF:NEUT-CLF:COVER LOCAL₂ this.CTS-CLF:G
 STANDARD MARKER PARAMETER
emodo-mo_{NP} aiyue_{VCC}
 over-LOC big.CLF:G
 ‘This seat is bigger than this seat here.’
 Lit. ‘This seat, **over** this (one) here, big (seat).’
- (46) COMPAREE STANDARD STANDARD MARKER
 [bai-e anane-ko]_{NP:S} [bi-e **emodo-mo**]_{NP}
 that.FSH-CLF:G maloca-CLF:COVER this.CTS-CLF:G over-LOC
 PARAMETER
 maraiñe-d-e_{PRED}
 good.ATT.NEG-LK-3
 ‘That *maloca* (traditional roundhouse) is worse than this one.’
 Lit. ‘That *maloca*, **over** this one, isn’t good.’

Another typical comparative Standard Marker is *-femo* (consisting of the classifier-like *-fe* with locative semantics and the locative case); locative adverbs such as *baai* ‘there’, followed by *-femo* are always postposed to the head of the NP, the Standard. They differ from the *emodomo* constructions in various ways, including its etymological origin. Compare (44)–(46) above with (47) below. The Standard Marker is underlined.

is being compared against, i.e. *Maria*), iii) the PARAMETER of comparison (the property of comparison, i.e. *tall*), (iv) the INDEX of comparison (e.g. *more*, or *-er* as in *tall-er*), and (v) the STANDARD MARKER of the grammatical function of the Standard (i.e. *than*, cf. *emodomo* in 2.2).

- (47) COMPAREE INDEX PARAMETER STANDARD STANDARD MARKER
 bai-ñaiño_{VCS} eo jano-ñaiño_{VCC} [kue baai-fe-mo]_{NP}
 that.FSH-CLF:PR.F very small-CLF:PR.F 1sg THERE-CLF:SIDE-LOC
 ‘She is smaller than I am.’
 Lit. ‘That (female), very small (female), I (on the) ahead (side).’

I now turn to yet another use of *emodomo* in Murui, more specifically, *emodomo* as an element of numeral expressions.

2.3 The domain of counting

Cross-linguistically, the conceptual transfer of patterns from human hands and feet to numerical concepts is common (e.g. Heine 1997; Epps et al. 2012; Comrie 2011; Kraska-Szlenk 2014, and references therein). In Murui, ‘hand’ and ‘feet’ are used in numerical expressions from ‘five’ onwards, and involve a certain degree of grammaticalization. Murui is a particularly intriguing language, as it employs several ‘numeral systems’ (or ‘strategies’) used for counting (Wojtylak and Weiß forthcoming; such counting system is characteristic of the Northwest Amazon, e.g. Aikhenvald 2002, 2012; Epps et al. 2012). One of these systems involves the marker *emodomo*. In brief, the Murui numeral systems consist of the following:

A. BASIC (UNDERIVED) NUMBER WORDS ‘ONE’ and ‘TWO’. These are *da-* ‘one, alone’ and *mena* ‘two’, e.g. *da-be* (one-CLF:LEAF) ‘one (e.g. leaf, paper sheet)’.

B. FRATERNAL (ANALYZABLE) NUMBER WORDS ‘THREE’ and ‘FOUR’. They are etymologically transparent and involve a sib relationship, that is, that of ‘having a brother’; they are based on the classificatory kinship term *aama* ‘brother (for ego masculine)’. The number word ‘three’ can be interpreted as ‘one brother-less, one without brother’ (referring to the idea of not be accompanied); the term ‘four’ roughly translates as ‘all brothers, both brothers’. Examples of ‘three’ and ‘four’ (underlined> are given below. In (48), the number word *da-* ‘one, alone’ is followed by a classifier; in (49), ‘four’ modifies a noun within the NP. In this section, Murui number words are underlined.

- (48) [da-be aa-ma-ni]_{NP:O} jai kue-ti-o_{PRED}
 one-CLF:LEAF brother-CLF:DR.M-PRIV already write-LK-2SG
 ‘You have already written three pages.’
- (49) [kue ai]_S [naga aa-ma-ga oogo-do]_{NP:O}
 1sg wife all.both.QUANT brother-CLF:DR.M-QUANT banana-CLF:POINTED
 ati-d-e_{PRED}
 bring-LK-3
 ‘My wife has brought four bananas.’

The numerals from ‘ten’ to ‘twenty’ do not require *emodomo*; however, ‘ten’ and ‘fifteen’ takes the locative case marker. This is shown in (57):

- (57) *bi-rui*_{NP:VCS} [*naga-fe-be-kuiro-mo*
 this.CTS-CLF:DAY all.both.QUANT-CLF:SIDE-CLF:LEAF-CLF:PEEL-LOC
da-je aa-ma-ni i-e Oktubre]_{NP:VCC}
 one-CLF:G brother-CLF:DR.M-PRIV ANA-CLF:G October.Sp
 ‘Today is October thirteenth (lit. today – in each leaf peel three of October)’

Some Murui use *emodomo* to express ‘twenty’, as in (58). The classifier *-kuiro* in *menakuiro* refers to ‘skin, peel (of one’s hand or foot)’. When the numeral surpasses ‘twenty’, elders often employ ‘eyes’ to indicate that it is not possible to count, as in (59).¹²

- (58) [*naga-fe-be-kuiro* *emodo-mo mena-kuiro*]_{NP}
 all.both.QUANT-CLF:SIDE-CLF:LEAF-CLF:PEEL OVER-LOC TWO-CLF:PEEL
 ‘twenty (lit. each leaf peel over two peels)’
- (59) *jaka uizi rii-ñe-d-e*_{PRED}
 always eyes arrive-NEG-LK-3
 ‘The eyes are not able to see (anymore) (lit. the eyes do not come to see)’

Clearly, ridden of its morphosyntactic properties, the meaning of the lexical body part *emodo* ‘back, spine’ is lost – arguably being semantically ‘closer’ to that of the spatial expression ‘above’ (2.1).

I now focus on the lexical source domain of the ‘body’, which functions as a reflexive-like marker in Murui.

2.4 The domain of ‘self’

That languages can derive reflexives from the ‘body’ domain was shown (among others) by Schladt (2000) who argues that nouns ‘body’ and ‘head’ are more frequently used for marking reflexivity than any other types of nouns (see Robert in this volume on the grammatical uses of ‘head’ in Wolof; cf. Frajzyngier also in this volume on how ‘body’ grammaticalized to code the relationship between the predicate and the noun phrase in Chadic languages). Murui is a case in point – Murui body part noun *abi* ‘body’ involves a certain degree of grammaticalization towards reflexive markers but it is not a truly ‘dedicated’ reflexive marker.

Constructions that express reflexive meanings involve the possessed noun *abi* ‘body’ that is included as part of the O NP argument in a transitive clause. Depending on the specificity of the referent, *abi* can optionally take the topical

12. For values higher than ‘twenty’, Murui speakers use Spanish numbers (Wojtylak 2017).

non-S/A marker *-na* (which is subject to differential object marking, and, among other, has partitive meanings indicating how ‘affected’ an object is, see Wojtylak 2017). This is illustrated in (60) (*abi* is marked in bold):

- (60) [kue **abi**-(na)]_O joko-di-kue_{PRED}
 1sg body-N.S/A.TOP wash-LK-1SG
 ‘I wash myself (lit. I wash my **body**).’

In such constructions, *abi* shows some loss of its morphosyntactic properties as it can optionally take the O-marking but it cannot be the target of a passivized verb.

Abi does not refer just to the physical body but to the broader notion of ‘self’. In Murui, one does not commonly specify what body part they refer to (unlike in some other languages in the Amazon, such as Jarawara, an Arawa language from Brazil, cf. Dixon 2004) and *abi* can be used to refer to e.g. ‘finger’, ‘leg’, ‘skin’, etc. Often, speakers make an additional gesture to show the body part they talk about. That *abi* can be described as semantically bleached, is shown in (61) where a speaker refers to Elger’s finger, rather than his body.

- (61) Elger [da-ma **abi**]_O jai-ta-d-e_{PRED}
 Elger one-CLF:DR.M body cut-CAUS-LK-1SG
 ‘Elger cut himself (lit. cut his own **body**)’ (the speaker is indicating Elger’s finger)

This is further illustrated by numerous idiomatic expressions that exist in the language and include *abi*. Those expressions are shown in (62); some contextual examples are given in (63)–(64):¹³

- (62) *abi uiño(te)* ‘realize (lit. know one’s body)’
abi jifue(te) ‘deceive (lit. cheat one’s body)’
abi iino(te) ‘dare, be confident (lit. obey one’s body)’
abi jano(te) ‘not to let be known (lit. hide one’s body)’
abi moziño(te) ‘stop something bad (lit. stop one’s body)’
abi nikai(de) ‘witness an accident in one’s dream (lit. dream one’s body)’

- (63) naiyi [da-ma **abi**]_O uiño-it-e_{PRED}
 later one-CLF:DR.M body know-FUT.LK-3
 ‘One day (he) will realize (it) on his own (lit. his own **body** will know).’

- (64) [kue uru-e-nia fakai]_{CL.ADV} [kue **abi**]_O jifue-ta-di-kue_{PRED}
 1sg child-CLF:G-COND₁ time 1sg body cheat-CAUS-LK-1SG
 ‘When I was a child, I would deceive myself (lit. I cheat my **body**).’

13. See Petersen de Piñeros (1998) and Wojtylak (2017) for further details.

In addition to the reflexive *abi*, Murui has also another construction that arguably expresses reflexive meanings. It involves *da-ma* (one-CLF:DR.M) ‘own, (male) alone’, *da-ño* (one-CLF:DR.F) ‘own, (female) alone’, and *da-ni* (one-CLF:DR.GR) ‘own, (group of humans) alone’. Often the meaning of such sentences is ambiguous between having reflexive and non-reflexive semantics. It might carry reflexive overtones, as in (65) (note that the animate classifier is coreferential with S/A marking on the verb), but it can also mean just ‘alone’, as in (66). Note that *abi* and *da*+classifier can combine within the clause, as in (61) above.

(65) *da-ni*_A *joko-di-maki*_{PRED}
 one-CLF:DR.GR wash-LK-3PL
 ‘(They) wash themselves.’ or ‘(They) washed alone.’

(66) *Rubio*_s *nooi-zai-d-e*_{PRED} *da-ma*_s *jaai-d-e*_{PRED}
 Rubio bathe-ANDTV-LK-3 one-CLF:DR.M come-LK-3pl
 ‘Rubio went to bathe. He went alone.’

3. Summary

This paper shows how the body part terms ‘back, spine’, ‘face’, ‘mouth’, and ‘body’ grammaticalized into the domains covering spatial orientation, time, comparison, counting, and the notion of ‘self’ in Murui, a Witotoan language spoken in the Northwest Amazon. A summary of grammaticalization of Murui body nouns is given in Table 3.

Murui body part nouns (excluding ‘body’, which synchronically functions as a reflexive-like marker) did not grammaticalize in isolation but accompanied by a case marker, mostly the locative *-mo* but also the instrumental *-do*. The body part noun *emodo* without a case marker simply means ‘back, spine’. It is the locative *-mo* that allows *emodomo* to express spatial relations, and, therefore, the noun phrase to grammaticalize further (by semantic extension to cover comparative and numeral meanings as well as those related to the temporal domain – ‘after’). This parallels other grammatical forms: the nouns *uieko* ‘face’ and *abi* ‘body’ followed by the instrumental (i.e. *uiekodo* ‘in front, upfront’, *abido* ‘again’) which grammaticalized to express meanings relating to time – ‘before’ and frequency. A special case is the noun *fuue* ‘mouth’ which grammaticalized into a classifier meaning ‘(oral) story, narration’. In Murui, similarly to other languages from the Northwest Amazon, the path *independent noun* > *classifier* is quite common (e.g. Aikhenvald 2000; Payne 2007; Seifart and Payne 2007). What distinguishes ‘mouth’ from other body part nouns discussed in this paper is the fact that ‘mouth’ is an underived noun, unlike ‘spine, back’, ‘face’, and ‘body’ (cf. *-do* is a classifier for pointed objects; *-ko* denotes round objects, and *-bi* might originally have been the classifier *-bi*

Table 3. Grammaticalization status of the body part nouns 'back, spine', 'face', 'mouth', and 'body' in Murui

Body part noun		<i>emodo</i> 'back, spine'	<i>uieko</i> 'face'	<i>fuue</i> 'mouth'	<i>abi</i> 'body'
Domain of grammaticalization	Spatial orientation and time (2.1)	Space with LOC 'above'	with LOC '(in) front'	'edge'	—
		Time with LOC 'after' —	with INS 'before' —	—	—
		Frequency —	—	—	with INS 'again'
		Other with LOC 'over'	—	'(oral) story, narration'	—
	Comparison (2.2)	with LOC 'over'	—	—	—
	Number (2.3)	—	—	—	—
	'Self' (2.4)	—	—	—	yes
Mechanism of grammaticalization	Desemantization	yes	yes	—	yes
	Decategorization	yes	yes	—	yes
	Phonetic erosion	—	—	yes	—
Character of change		completed	completed	completed	possibly ongoing
Syntactic status		noun > postposition	noun > postposition	noun > classifier	noun > reflexive

for thick jelly-like substances). Whether the presence or absence of derivational markers can determine the direction of grammaticalization of body part terms, at least in Murui, would be a fruitful area for further work.

Abbreviations

1	1st person	INCP	inceptive
2	2nd person	INS	instrumental
3	3rd person	LK	linker
A	subject of transitive verb	LOC	locative
ABL	ablative	M/m	masculine (classifier/pronominal marker)
ADE	adessive	NEG	negative
ANA	anaphoric	NEUT	neutral (classifier)
ANDTV	andative	NMLZ	nominalization
AT.LOC:NSP	postposition 'at'	NP	noun phrase
ATT	attributive	NSP	non-specific
CAUS	causative	O	object of transitive verb
CERT	certainty	PL/pl	plural (on nouns/pronominal marker)
Cl:Comp	complement clause	PR	'pronominal'
CLF	classifier	PRED	predicate
COLL	collective	PRIV	privative
COMPL	completive	QUANT	quantifier
CTH	close to hearer	R	possessor
CTS	close to speaker	REP	reported
CUST	customary	S	subject of intransitive verb
D	possessed	SEQ	sequential
DES	desiderative	SG	singular
DR	'derivational'	SP	specific
DU	dual	SP	Spanish
DUR	durative	TH	thematic
EMPH	emphatic	TOP.N.S/A	topical non-s/A
F/f	feminine (classifier/pronominal marker)	UNCERT	uncertainty
FSH	far from speaker and hearer	VENTV	ventive
FUT	future	VCS	verbless clause subject
G	generic (classifier)	VCC	verbless clause complement
GR	group	WITH	postposition 'with'
IMP	imperative		

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Appendix



Map 1. Location of the Murui and other Murui-Muina groups (Wojtylak 2017)

PART 3

Lexical Case Studies

The metonymic folk model of language in Turkish

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Situated within the framework of linguistic embodiment, this chapter examines the speech-related terms ‘voice’, ‘mouth’, ‘tongue’, ‘lips’ and ‘chin’ in Turkish to reveal how speech and language are conceptualized in regards to these terms based on the metonymic chain model (Radden, 2001). The data of the study come from idiomatic constructions, which are analyzed in terms of their figurative uses, and the underlying conceptual metaphors and metonymies. The findings agree with Radden’s (2001) metonymic chain (i.e. speech organ – speaking – speech – language), which is expressed in conceptual code as SPEECH ORGAN FOR SPEAKING, SPEAKING FOR SPEECH, and SPEECH FOR LANGUAGE. The data unveil cognitive mechanisms for each term such as MOUTH/LIP IS A CONTAINER, TONGUE MOVEMENTS FOR EXPRESSION SKILL, CHIN FOR LONG TALK that yield a general cognitive understanding of them. The study confirms the embodiment of verbal behavior as well as the existence of culture-specific patterns in the conceptualization of speech and language.

Keywords: speech-related organs, metonymy, metaphor, embodiment, Turkish

1. Introduction

The embodied cognition thesis, which places the human body in a central position in the study of the mind, is the fundamental premise in cognitive linguistics. In contrast to Cartesian dualism which sees mind and body as two separate entities, the embodiment thesis holds that “we have a species-specific view of the world due to the unique nature of our physical bodies”; therefore the human mind cannot be investigated in isolation from the human body (Evans and Green, 2006, p. 45). In other words, one’s encyclopedic knowledge relies on one’s body, which is not only a biological organism, but also an ecological, phenomenological, social and cultural being (Johnson, 2007).

Since body exists within a cultural context, all aspects of embodied experience are molded by means of culture. Cultural practices and values supply collective structures, which affect “the development of our bodily way of engaging our world” (Johnson, 2008, 166). Hence different languages conceptualize particular parts of the body in figurative projections to understand diverse areas of human experience, such as emotions, thought, time, politics, cultural values, language, and so on, which are abstract in nature (e.g. Brenzinger and Kraska-Szlenk, 2014; Enfield and Wierzbicka, 2002; Maalej and Yu, 2011; Sharifian, Dirven, Yu and Nie-meier, 2008). Different cultures may have different attitudes towards these abstract concepts, yielding different cultural models, and these attitudes have an impact on the way people speak. This chapter deals with data from the Turkish context to demonstrate that nonliteral uses of conventional linguistic expressions, including body part terms for speech, are associated with our overall knowledge about these body parts in relation to their structure, size, place and function in the body, and that these expressions are outcomes of underlying metaphors and metonymies motivated by bodily experiences plus cultural factors.

Language, as an abstract system, is conceptualized through more tangible conceptual domains, and expressions referring to articulation, such as voice, or speech organs, such as mouth, are frequently used to characterize ways of speaking and language. According to Radden (2001), the word for language is connected with more basic senses, which belong to one of the domains of articulations and speech organs, linguistic action or basic linguistic units. Based on cross-linguistic evidence, Radden (2001, 2004) comes up with a folk model of language, which is composed of four levels: (i) articulation, focusing on voice and speech organs such as the tongue, (ii) speaking, including various aspects related to speaking such as gossiping, (iii) speech, i.e. parole, focusing on spoken language, and (iv) language as a system, i.e. langue. These levels of the folk model interact in such a way that one can metonymically shift from a lower level to a higher level, forming a chain leading from the speech organs and articulation to semantic aspects of speaking, from speaking to the specific result of speech, and finally from speech to the generic notion of language (Radden, 2001). This chain is conceptually coded as SPEECH ORGAN FOR SPEAKING, SPEAKING FOR SPEECH and SPEECH FOR LANGUAGE, which are specific elaborations of INSTRUMENT FOR ACTION, ACTION FOR RESULT and SPECIFIC FOR GENERIC metonymies. In many languages, the intermediate steps are skipped leading to SPEECH ORGAN FOR LANGUAGE metonymy.

Academic literature covers some studies that focus on different speech organs from different perspectives (Bagasheva, 2017; Charteris-Black, 2003; Deignan and Potter, 2004; Jing-Schmidt, 2008; Nissen, 2011; Szczygłowska, 2014; Yu, 2011). However, literature review demonstrates that there is a need to analyze the speech-related terms in Turkish to have a deeper understanding of their semantic

extensions and uses in the conceptualization of language and speaking. In this regard, following Radden (2001), this study aims to investigate the metaphorical and metonymical uses of the terms associated with speech, including ‘voice’, ‘mouth’, ‘tongue’, ‘lip’ and ‘chin’ in Turkish, (i) to reveal how language and linguistic behavior are conceptualized with regard to these terms, (ii) to come up with a preliminary cognitive-cultural model of these terms, and (iii) to provide further support for the metonymic chain model of language.

After the presentation of the methodology of the data collection and analysis in Section 2, the findings are examined under five general categories: tongue (Section 3), mouth (Section 4), lip (Section 5), chin (Section 6) and voice (Section 7), followed by the discussion and conclusion sections.

2. Data collection and analysis

The database of the study is composed of idiomatic constructions, which include the speech-related terms *ağız* ‘mouth’, *dil* ‘tongue’, *çene* ‘chin’, *dudak* ‘lip’, and *ses* ‘voice’. In accordance with Radden (2001), throughout the study *ses* ‘voice’, as well as *çene* ‘chin’ are considered jointly with speech-related organs. Although the terms *diş* ‘tooth’ and *boğaz* ‘throat’ are considered among speech organs, they were not included in this study as tooth was not found to have any speech- and language-related semantic extensions in Turkish idioms, and throat was found to have only very limited use.

Idioms are concise sayings and they reflect the national philosophies of cultures. They are also products of the human conceptual system; therefore, it is important to study idiomatic constructions for a deeper understanding of the conceptual structure of body part concepts. A number of dictionaries of idioms were used to construct the data, and the idioms containing the words *dil* ‘tongue’, *ağız* ‘mouth’, *dudak* ‘lip’, *çene* ‘chin’ and *ses* ‘voice’ were included in the study. The list of the dictionaries (Aksoy, 2007; Çotuksöken, 2004; Karlı, 1999; Parlatur, 2011; Püsküllüoğlu, 2006; Şahin, 2004) is given at the end of the study.

In the construction of the database, the active, passive and causative constructions (e.g. biting the lip / having the lip bitten), and the noun phrase and the verb phrase constructions (e.g. tongue stumble / one’s tongue to stumble) of the idioms with the same meaning are combined and accepted as one lexical entry. In this way, an inventory of 431 idioms was recorded including 20 voice, 243 mouth, 121 tongue, 34 chin and 13 lip idioms. Sample idioms are provided with their word-by-word literal glosses and definitions in the study.

For the data analysis, the voice, mouth, lip, chin and tongue idioms and their definitions were examined in terms of their figurative uses, and the idioms with

figurative uses were categorized according to their semantic domains (e.g. eating, emotions, speaking). Next, the conceptual metaphors and metonymies were identified, relying on the basic premises of the cognitive theory of metaphor and metonymy (Barcelona, 1997, 2003; Kövecses, 2010; Lakoff and Johnson, 1980). In cognitive linguistic framework, conceptual metaphor is the cognitive process in which one experiential domain, which is more concrete, is partially mapped onto another domain, which is more abstract, so that the latter domain is understood in terms of the first one (Barcelona, 2003). Metonymy, on the other hand, is “a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same domain, or ICM” (Kövecses and Radden, 1998, p. 39). Since the distinction between metaphor and metonymy is not always clear-cut, the close interaction between these two conceptual mechanisms yields the phenomenon called metaphonymy (Goossens, 1995). In the final step of data analysis, the idioms that are related to speaking and language domains are grouped based on Radden’s (2001, 2004) metonymic chain model.

3. Conceptualizations of *dil* ‘tongue’

The tongue is used to express the semantic domains of eating and emotion in addition to the verbal behavior. The tongue stands for the act of EATING, deriving from BODY PART FOR THE FUNCTION OF THE BODY PART metonymy (e.g. *dilini değdirmemek* ‘not touch one’s tongue’ – not eating). Emotions are commonly communicated through the relationship between the tongue’s function of speaking and the physiological effects and behavioral reactions of emotions on the tongue. As a result, the tongue is seen as an entity that is physically affected by the emotions (Baş, 2015).

- (1) a. *dili damağı kurumak* (sb’s tongue and palate to dry) ‘feeling excited’
- b. *dilini yutmak* (swallow one’s tongue) ‘being speechless with joy, fear or surprise; keeping silent’
- c. *dili tutulmak* (sb’s tongue is tied) ‘becoming speechless due to fear, excitement, surprise, etc.’

3.1 Tongue for speaking

Although both mouth and tongue are essential organs in linguistic behavior, the tongue is the primary organ for a person’s ability to talk, as possessing a tongue is a precondition for the realization of the speaking act. Radden (2001) describes this conceptual link between having a thing and using it as PRECONDITION FOR ACTION

metonymy. Different types of speaking, such as repeating, gossiping, explaining, arguing, are conveyed via the tongue.

- (2) a. *ağzı var dili yok* (to have a mouth but not a tongue) ‘not being able to talk’
 b. *dili olsa da söylese!* (wish it had a tongue to say!) ‘if only someone/ something had the ability to talk’
 c. *diline takılmak* (to hook on one’s tongue) ‘repeating something’
 d. *dilinden düşürmemek* (to not drop from one’s tongue) ‘constantly talking about the same person or thing’

The flexible and moveable feature of the tongue inside the mouth plays an important role for the speaking act. Based on this bodily experience, speaking has been conceptualized and idiomatized as the free movements of the tongue. As a result, idiomatic constructions expressing speaking constitute the linguistic examples of TONGUE IS A MOVEABLE OBJECT. On the other hand, not being able to talk is construed as not having a tongue, hindering the movement of the tongue by cutting or tying it, or keeping it under control.

- (3) a. *dili çözülmek* (sb’s tongue is untied) ‘starting to talk’
 b. *dilini tutamamak* (not be able to hold one’s tongue) ‘talking randomly’
 c. *dilin kemiği yok* (tongue has no bone) ‘one can say anything true or false’
 d. *dilini bağlamak* (tie sb’s tongue) ‘making someone stop talking’
 e. *dili durmak* (sb’s tongue to stop) ‘keeping quiet’

In the folk model of language, the tongue movement is associated with the correct articulation of words, hence the skill of speaking is conceptualized as TONGUE MOVEMENTS FOR SPEAKING ABILITY / EXPRESSION SKILL. In contrast, having difficulty in expressing oneself and problems in articulation is seen as difficulties in the movement of the tongue.

- (4) a. *dili yatkın* (sb’s tongue is inclined) ‘ability to learn a foreign language; pronouncing foreign words easily’
 b. *dili dönmek* (sb’s tongue to revolve) ‘expressing oneself well, pronouncing a word correctly’
 c. *dili dolaşmak* (sb’s tongue to tangle) – ‘being baffled and confusing what one is saying’
 d. *dili sürçmek* (sb’s tongue to stumble) ‘mispronouncing words’
 e. *dil tutukluğu* (tongue dysfluency) ‘difficulty in speaking’

In order to talk meaningfully and logically, the tongue must be guided by the mind. Otherwise, it may produce meaningless and unpleasant speech, which may get the speaker into trouble.

- (5) a. *dili yanmak* (sb's tongue to burn) 'feeling sorrow due to one's talkativeness'
 b. *dilinin cezasını çekmek* (to pay for one's tongue) 'being harmed from immoderate and thoughtless talk'
 c. *dil belası* (tongue trouble) 'negative situation caused by negative talk'

Uttering offending words, gossiping and talking in a bad manner are perceived as changes in the shape of tongue, and especially as disproportional length of it. The associations between the property of the tongue and the quality of verbal behavior yield the conceptual mappings TONGUE SHAPE/LENGTH FOR MANNER OF TALKING, TONGUE IS A DEFORMABLE OBJECT, and TONGUE IS A DANGEROUS/VENOMOUS OBJECT/CONTAINER.

- (6) a. *dilini bozmak* (to spoil one's tongue) 'talking offensively'
 b. *dili uzamak* (sb's tongue to grow longer) 'talking impertinently'
 c. *dili bir karış olmak* (sb's tongue to be a hand span) 'responding disrespectfully'
 d. *diliyle sokmak* (to sting with one's tongue) 'speaking harshly'
 e. *dilinden zehir dökülmek* (to pour poison out of one's tongue) 'talking offensively'

When the tongue is qualified with particular characteristics, it metaphorically expresses the personal traits via the person's talking style. The cases in which the tongue represents the person or the personal traits of the person entail SPEECH ORGAN (TONGUE) FOR PERSON metonymy under the PART FOR WHOLE metonymy, which is also known as synecdoche.

- (7) a. *dili kılıçtan keskin* (sb's tongue is sharper than a sword) 'sb who talks tough'
 b. *dili zifir* (sb's tongue is tar) 'sb who speaks harshly'
 c. *dili ekmekçi küreği* (sb's tongue is a baker's peel) 'sb who disturbs others with rude, impudent words'
 d. *ağır dilli* (heavy tongued) 'sb who talks offensively'

Since the tongue is a medium of the speaking act, it has a close relationship with the concept of respect. The idioms in (21) and (22) exemplify this relationship as built between the quality of the words uttered and the physical structure and size of the tongue. Additionally, in the idioms *heavy tongued* and *sb's tongue is tar*, a negative style of talking and offensive utterances are encoded in terms of the tongue's color and weight, resulting in the metaphors OFFENSIVE SPEECH IS BURDEN / DARK / DIRT / PHYSICAL DAMAGE.

It is difficult to talk when there is something in one's mouth or under one's tongue. Depending on this bodily experience, not talking explicitly and freely is

conceptualized as placing the words to be uttered under the tongue, yielding the basis of UNTOLD WORDS ARE UNDER THE TONGUE metaphor.

- (8) a. *dil altı olmak* (be under the tongue) ‘not being told’
 b. *dilinin altında bir şey olmak* (have something under one’s tongue) ‘not saying something overtly’
 c. *dilinin altındaki baklayı çıkarmak* (to take the horsebean out from under one’s tongue) ‘revealing something that has to be kept hidden’

On the other hand, being gossiped about and being constantly talked about is seen as being placed on the surface of the tongue, and hence is metaphorized as THE SUBJECT MATTER IS ON THE TONGUE.

- (9) a. *dile düşmek* (to fall on the tongue) ‘being gossiped about’
 b. *dilden dile dolaşmak* (to wander from one tongue to another) ‘being talked about’
 c. *dilde gezmek* (to travel on the tongue) ‘someone’s name to become popular among people’

3.2 Tongue for speech

The uses of tongue in place of speech cover advice, repetitions, and pleasant or unpleasant utterances in the database. The gustatory function of the tongue is conceptualized as ‘bitter’ or ‘sweet’ in relation to whether the talking style and the words heard are pleasant or not. The mapping between two functions of tongue, namely, tasting and speaking, constructs the metaphor MANNER IS TASTE, which is also observed by Charteris-Black (2003) for Malay and English.

- (10) a. *acı dil* (bitter tongue) ‘offending speech’
 b. *tatlı dil* (sweet tongue) ‘conciliatory speech’
 c. *dil yardımı* (tongue help) ‘advice’

3.3 Tongue for language

As the main articulator in the production of speech, the tongue is the most suitable metonymic vehicle among the speech organs to be used for the notion of language. Therefore, as Radden (2001) notes, the intermediate stages of the metonymic chain, namely, speaking and speech, can be skipped, and the first and the last stages can be combined to form SPEECH ORGAN (TONGUE) FOR LANGUAGE. This metonymy is widely observed across languages in the world. Similarly, the speech organ tongue (*dil*) and language (*dil*) are expressed with the same lexical item in Turkish. In the idiomatic expressions, the linguistic examples of this metonymy

include *ana dili* ‘mother tongue’, *yabancı dil* ‘foreign tongue/language’, *resmi dil* ‘formal language’, *işaret dili* ‘sign language’, *beden dili* ‘body language’, *ölü dil* ‘dead language’, and so on.

4. Conceptualizations of *ağız* ‘mouth’

Ağız ‘mouth’ is the body part term with the highest frequency of use in the database. It metonymically stands for eating in some idioms, as its main function is food ingestion. This projection exemplifies MOUTH FOR EATING under the generic metonymy BODY PART FOR THE FUNCTION OF THE BODY PART (e.g. *ağızına atmak* ‘pop into one’s mouth’, *ağızına sürmemek* ‘not put something in one’s mouth’, *ağız oynatmak* ‘move mouth’).

The mouth is also conceptualized as a medium for the expression of emotions. The emotional uses of mouth idioms generally describe the observable symptoms of the emotions on the face. Namely, different emotions are expressed via the movements of the mouth due to the physical effect of the emotion on the mouth. As a result, the mouth is conceptualized as the REFLECTOR of emotions and the SITE where emotions are located in Turkish (Baş, 2015).

- (11) a. *ağız bükmek* (to curve the mouth) ‘to dislike’
 b. *ağızı dört köşe olmak* (to make one’s mouth become four-cornered) ‘being cheerful and joyous’
 c. *ağızı köpürmek* (sb’s mouth to foam up) ‘being furious’
 d. *ağızının tadı bozulmak* (the flavor in sb’s mouth to be spoiled) ‘getting distressed, being uncomfortable’

A large number of idioms are linked to the semantic domain of ‘speaking’ within the metonymic chain, and exemplifies SPEECH ORGAN FOR SPEAKING metonymy in which the mouth, as an instrument in the speaking act, stands for the act itself.

4.1 Mouth for speaking

The relationship between the mouth and speaking is primarily metonymic since the mouth is directly engaged in speaking. Different types of verbal acts are expressed via the mouth idioms, such as mentioning, repeating, bragging, arguing, warning, interrupting, answering, swearing and talking unnecessarily.

- (12) a. *ağız kalabalığı etmek* (to crowd one’s mouth) ‘being verbose’
 b. *ağızına almamak* (not to take into one’s mouth) ‘not to mention’
 c. *ağızından düşürmemek* (not drop from one’s mouth) ‘always talking about the same thing’

- d. *ağız satmak* (to sell the mouth) ‘boasting’
- e. *ağız kavgası* (mouth fight) ‘quarreling’

Because the mouth can be opened and closed, and the voice comes out of the mouth while speaking, starting to talk is often seen as opening the mouth. This makes the mouth seen mainly as A CONTAINER FOR WORDS, in relation to the metaphor WORDS ARE INSIDE THE MOUTH. Nice words are construed as sweet food such as ‘honey’, or as a precious object such as ‘pearl’, whereas angry and rude words are seen as ‘fire’ coming out of the mouth.

- (13) a. *ağzını açmak* (open one’s mouth) ‘starting to talk; talking offensively; scolding’
- b. *ağzından dirhemle çıkmak* (come out of sb’s mouth bit by bit) ‘talking a little and slowly’
- c. *ağzından ateş saçmak* (spread fire from one’s mouth) ‘talking with anger’
- d. *ağzından bal damlamak* (drop honey from one’s mouth) ‘speaking sweetly’
- e. *ağzından inci saçmak* (spread pearl from one’s mouth) ‘talking nicely’

On the other hand, not being able to talk, keeping a secret or preventing talking is construed as keeping the mouth closed, locked, tied up, sealed, blocked, or filled with objects.

- (14) a. *ağzını kapamak/kilitlemek* (close/lock one’s mouth) ‘keeping silent’
- b. *ağzına taş almak* (take a stone in one’s mouth) ‘not breaking into a conversation’
- c. *ağzını mühürlemek* (seal one’s mouth) ‘keeping quiet’
- d. *ağzını sıkı tutmak* (keep one’s mouth tight) ‘not revealing secrets’
- e. *lafı ağzına tıkamak* (put words into sb’s mouth) ‘not allowing sb to talk freely’

The mouth is seen as a CONTAINER FOR SECRETS/INTENTIONS, therefore in order to learn someone’s thoughts, intentions and secrets, one needs to look inside their mouth.

- (15) a. *ağzını koklamak* (smell sb’s mouth) ‘try to learn someone’s intentions’
- b. *ağzından baklayı çıkarmak* (take the horsebean out of one’s mouth) ‘telling the truth’
- c. *ağzında mercimek durmamak* (not hold lentils in one’s mouth) ‘not keeping secrets’
- d. *ağızdan laf/söz çalmak* (steal speech from sb’s mouth) ‘learning things by making people talk’

In the case of angry or fast talk, the person may not control the act of speaking, which is seen as having difficulty in controlling the utterances coming out of one's mouth or not hearing the words one utters. Harsh words, which are contained inside the mouth, easily escape under the influence of anger; therefore, the mouth should be controlled by the mind. This is linked with the metaphor MOUTH IS THE OUTLET OF WORDS as a further elaboration of the CONTAINER metaphor.

- (16) a. *ađzından kaçırmak* (let from one's mouth escape) 'blurting out'
 b. *ađzından çıkarı kulađı duymamak* (not hear what comes out of one's mouth) 'talking without thinking'
 c. *ađzından çıkmak* (come out of sb's mouth) 'saying something without even realizing it'
 d. *ađzını açıp gözünü yummak* (open one's mouth and close one's eyes) 'saying all harsh words that come to one's mind with anger'

The shape and position of the mouth are closely related to the person's wording, manner and style of talking, which is important for effective communication. The mouth should have the proper shape and occupy the proper position in order to speak appropriately.

- (17) a. *ađzını bozmak* (spoil one's mouth) 'talking rudely'
 b. *ađız yaymak* (spread out one's mouth) 'abstaining from talking overtly and honestly'
 c. *yarım ađızla söylemek* (say with half a mouth) 'talking insincerely'
 d. *ađız yapmak* (make mouth) 'talking differently to hide one's real feelings and thoughts to deceive people'

When people are consistent in their talk, or when people talk in agreement, they are considered as having the same mouth. On the other hand, changing one's words and talking differently depending on the situation is seen as using a different mouth or changing the mouth.

- (18) a. *ađızları uymak* (to match mouths) 'talking coherently'
 b. *ađız birliđi etmek* (to unite the mouths) 'talking in the same way'
 c. *ađız deđiřtirmek* (to change the mouth) 'telling something different from what one previously told'
 d. *(birinin) ađzını kullanmak* (to use sb else's mouth) 'saying exactly what somebody else said'

Similar to the tongue, when associated with certain qualifications, the mouth is used in place of the TALKING STYLE of the person, and since it represents the person via personal traits, it yields the SPEECH ORGAN (MOUTH) FOR PERSON metonymy.

- (19) a. *ağzı temiz* (sb's mouth is clean) 'sb talking courteously'
 b. *ağzı eğri* (sb's mouth is awry) 'sb who talks badly'
 c. *ağzı pabuç kadar* (sb's mouth is shoe-sized) 'sb who talks a lot and rebuffs'
 d. *ağzı büyük* (sb's mouth is big) 'sb who brags'
 e. *ağzı gevşek/cıvık* (sb's mouth is loose/sloppy) 'sb who cannot keep secrets'
 f. *ağzı kara* (sb's mouth is black) 'sb who likes giving bad news'

4.2 Mouth for speech

Speech forms the third link of the metonymic chain after speech organs and speaking. Data analysis shows that there are a few idioms associated with speech, and the mouth is generally used in these idioms to indicate the unwritten, unofficial and frequently repeated speech, as well as gossip.

- (20) a. *ağızdan* (from the mouth) 'verbal'
 b. *ağız alışkanlığı* (a mouth habit) 'speech that is frequently repeated without thinking'
 c. *ağız nağmesi* (a mouth melody) 'idle compliments'
 d. *ağız haberi* (mouth news) 'gossip, hearsay news'

4.3 Mouth for language (subdialect)

Ağız 'mouth' is used in Turkish to express a dialect or a local subdialect, which can be defined as a regional or social variety of a language, or the local speaking form with a more limited use of communication (Demir, 2002; İmer, Kocaman and Özsoy, 2011). The expressions *İstanbul ağzı* 'Istanbul mouth', *Rumeli ağzı* 'Rumelian mouth' and *halk ağzı* 'folk mouth' describe the spoken language of particular regions, which may diverge from the standard language in terms of phonological, syntactic or semantic aspects.

5. Conceptualizations of *dudak* 'lip'

Lips are relatively less preferred body part terms in constructing idioms in Turkish; still they are used to express emotions and linguistic behavior. *Dudak* 'lip' is associated with the emotions disliking, sadness, admiration and surprise in terms of its movements. Because lips are the outer parts of the mouth, they constitute an indispensable aspect of facial expressions, and similar to mouth, they describe observable symptoms of emotions, yielding the metonymy LIP MOVEMENTS FOR EMOTION UNDER BEHAVIORAL REACTIONS OF EMOTIONS FOR EMOTIONS metonymy.

As a result, lips can be conceptualized as the REFLECTOR of particular emotions in Turkish (Baş, 2015).

- (21) a. *dudak ısırma* (to bite one's lip) 'admiring, astonishing'
 b. *dudak bükmek* (to curl one's lip) 'disliking, not caring'
 c. *dudak sarkıtmak* (to droop one's lip) 'showing displeasure, sadness or resentment'

Lip idioms represent only the first link of the metonymic chain, that is, LIPS FOR SPEAKING. When used for speaking, lip idioms have the same construction and meaning as mouth idioms due to the lips' meronymic relationship with the mouth. Since lips are the exterior parts of the mouth, they are seen as the final articulators that form the sound and meaning of words, yielding the conceptualizations LIP IS A CONTAINER FOR WORDS and WORDS/SPEECH ARE BETWEEN / ON THE TIP OF THE LIPS.

- (22) a. *dudağımdan bal akma* (honey to flow from sb's lips) 'talking nicely'
 b. *dudağımda kalmak* (being left on sb's lips) 'not being able to say something'
 c. *dudağımdan düşürmemek* (not to drop from sb's lips) 'saying over and over again'
 d. *dudağının ucuna gelmek* (come to the tip of sb's lips) 'about to say something'

6. Conceptualizations of *çene* 'chin'

The figurative uses of chin in idiomatic constructions are generally limited to the semantic domain of speaking in which chin metonymically stands for the speaking act. Because of the jointed structure of the chin, there is a close relationship between the chin's movement and our ability to talk; that is, as long as the chin moves we can talk.

Chin idioms were found to exemplify only the first link of the metonymic chain, that is, CHIN FOR SPEAKING. The figurative uses of chin idioms focus on long and unnecessary talking and chitchatting. In these idioms, starting to talk is seen as opening the chin and going on to talk is moving the chin consistently, whereas stopping talking is seen as closing or not moving the chin.

- (23) a. *çenesi açılmak* (sb's chin to open) 'chattering'
 b. *çenesi durmamak* (sb's chin not to stop) 'talking continuously'
 c. *çenesi düşmek* (sb's chin to drop) 'chattering'
 d. *çenesini bıçak açmamak* (a knife not able to open sb's chin) 'not being able to talk due to sadness'

- e. *çenesini tutmak* (to hold one's chin) 'not revealing secrets or one's opinions'

Since long talk is a tiring act that requires effort, the chin is encoded as a part body with this power. The idioms reveal that the chin is seen as AN OBJECT OF A MACHINE that can be opened, closed, moved, broken or blown. Also, the CONTAINER and OPEN/CLOSE image schemas in these idioms yield CHIN IS A CONTAINER FOR WORDS and WORDS ARE INSIDE THE CHIN metaphors.

- (24) a. *çenesi kuvvetli* (sb's chin is strong) 'sb who never gets tired of talking'
 b. *çene patlatmak* (to blow up the chin) 'talking a lot on a topic'
 c. *çene yarıştırmak* (to race the chin) 'chitchatting with someone'
 d. *çene yormak* (to tire the chin) 'talking a lot needlessly'

7. Conceptualizations of *ses* 'voice'

According to Radden, most sounds are voiced, therefore the voice can be considered as "the salient default case", and can overall represent spoken sounds (2001: 60). Because the voice is an elementary constituent of articulation in the folk model, it is commonly employed as a metonymic vehicle. The term *ses* in Turkish denotes 'voice' and 'sound', but it also refers to 'the thought, emotion or inner reaction' figuratively (e.g. *gençliğin sesi* 'voice of youth', *vicdanın sesi* 'voice of conscience'). Additionally, the expressions *ses getirmek* 'bring voice' and *sesi olmak* 'be the voice of something' refer to producing voice for drawing attention or prompting others, in which case the voice/sound of an object stands for the object itself.

Voice idioms represent only the first link of the metonymic chain, that is, VOICE FOR SPEAKING. Producing voice is a prerequisite for articulating sounds and speaking, which forms the basis of the conceptual link between voice and speaking. The expressions in the database reveal that producing voice is mostly construed as realizing the speaking act. Voice is seen as an object located in a container, more specifically inside the head, which in turn is a metonymy for the person. Thus, talking is basically seen as producing voice.

- (25) a. *ses etmek* (to make voice) 'calling out'
 b. *sesini yükseltmek* (to raise one's voice) 'speaking loudly and angrily'
 c. *her kafadan bir ses çıkmak* (a voice to come out from each head) 'talking randomly on a topic'
 d. *sesini çıkarmamak* (not to get out one's voice) 'not telling one's opinion, not objecting to something'
 e. *sesini kesmek* (to cut one's voice) 'to stop speaking'

8. Discussion

The findings indicate that linguistic behavior and language are embodied, and body part idioms play a significant role in the conceptualization of linguistic behavior. The conceptual mappings identified in the study put forward a systematic folk model of language in Turkish, in which the concrete domains of articulation and speech-related organs are used frequently to conceptualize the abstract domains of speaking and language as a system. In accordance with the findings of Radden (2001) and Yu (2011), the metonymies SPEECH ORGAN FOR SPEAKING, SPEECH ORGAN FOR SPEECH and SPEECH ORGAN FOR LANGUAGE were identified in the study. Among the idiomatic expressions in the data, the majority instantiate SPEECH ORGAN FOR SPEAKING metonymy, which is the first link of the metonymic chain. Different types of speaking are expressed via speech-related organs, which entail that voice, mouth, lip, chin and tongue are conceptualized as vital instruments in the realization of speaking. These instruments should be controlled by the mind in order to work effectively. The second and third chains of the model, that is, SPEECH ORGAN FOR SPEECH and SPEECH ORGAN FOR LANGUAGE were observed only with the mouth and tongue idioms. This finding shows that mouth and tongue are more productive in the model, and play a more prominent role in constructing idioms.

The articulatory level of the folk model of language includes voice and the four articulators mouth, tongue, chin and lips in Turkish. The roles and functions attributed to each articulator and associations with different aspects of meaning within the metonymic chain constitute a cultural-cognitive model for each of them specific to Turkish. The tongue is seen as the primary articulator of language, as it has the responsibilities of producing sounds, forming the words and filling them with meaning and keeping or revealing these words. In accordance with Reddy's ([1979], 1993) conduit metaphor theory, words, which are conceptualized as A CONTAINER carrying meaning, are placed on the tongue during speaking to be filled with meaning. When the speaking process does not operate properly, the word containers are perceived as waiting over or on the tip of the tongue to be filled with meaning. The idiom *dilin ucunda olmak* (being on the tip of one's tongue) describes this situation when the right word for a concept cannot be recalled to express it.

The way we use our tongues reveals the meaning carried by the words, hence manifesting our thoughts and how sincere and honest we are in our speech. Also, correct articulation, expression skill, and talking style change with regard to the physical characteristics of the tongue, including its shape, color, length, weight, flexibility and upper and lower parts. This leads to its conceptualization as an entity that can metamorphose, move, or harm the self or others. The word *dil* 'tongue' can be used as a root in deriving new words by adding different derivational suffixes.

For instance, the verb *dillen-* [tongue + -lAn] refers to ‘starting to talk’, while the adjectives *dilli* [tongue + -lI] means ‘talkative, gossipy’, and *dilbaz* [tongue + -baz] means ‘eloquent.’ All these functions and features attributed to the tongue play a key role in its representation of language as an abstract system. The cognitive-cultural model of the tongue in Turkish derived from the data can be represented schematically in Figure 1.

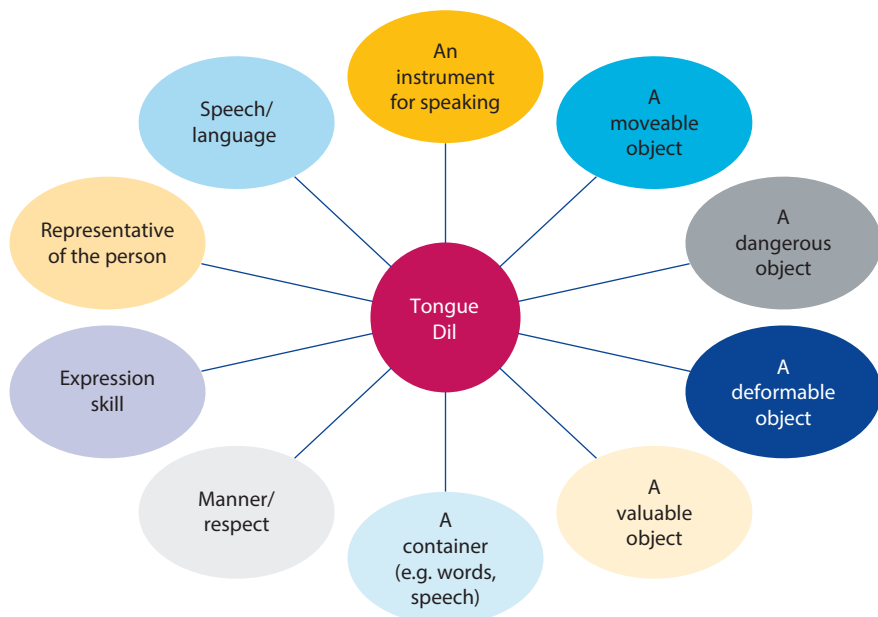


Figure 1. Semantic domains of the cognitive-cultural model of dil-tongue

The mouth is seen as the second most important articulator after the tongue. Its secondary role in speaking and articulation makes it represent (sub)dialect as the local language use. Similar to tongue, it is seen as contributing to a word’s meaning, and thus the accuracy and sincerity of the words uttered are closely associated with the mouth’s shape and position, as well as how they come out of the mouth. In relation to the IN/OUT image schemas, mouth is also conceptualized as A CONTAINER that contains words, thoughts, secrets, intentions, gossip and feelings, and is AN OUTLET where these words come to existence. The cognitive-cultural model of the mouth can be summed up in Figure 2.

Voice, lip and chin have a smaller role in the metonymic chain model with limited figurative uses and conceptual mappings. Voice, as the carrier of language, stands for not only the spoken sounds, but also the opinion and feelings of people. It is mainly seen as a contained entity which comes out of the body, particularly the head, in the act of speaking. Lips, as the outer parts of the mouth,

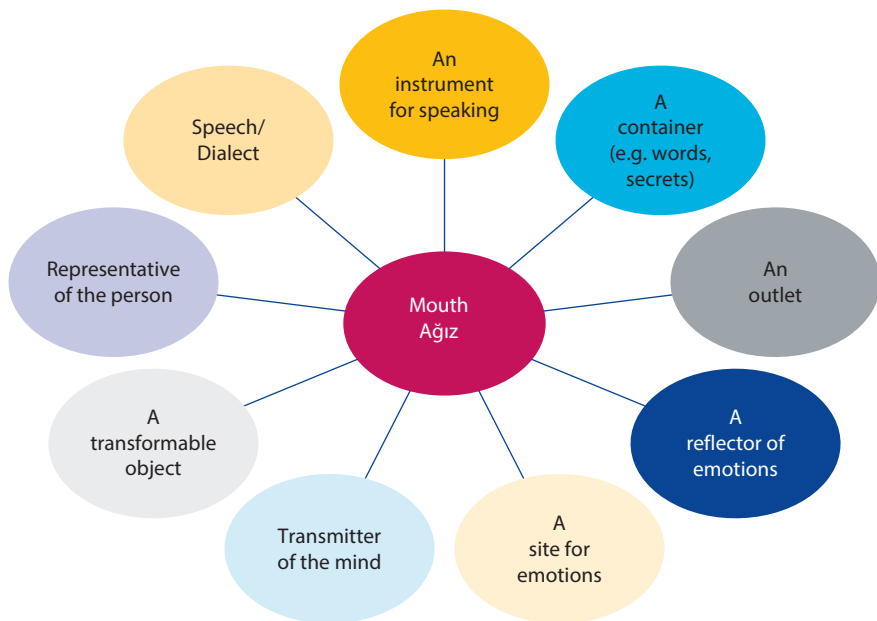


Figure 2. Semantic domains of the cognitive-cultural model of ağız-mouth

are conceptualized as A CONTAINER that consist of words, and are considered the last articulators to shape the sound and meaning of words, so that they can let the words flow easily or block their utterance. The chin is also seen as A CONTAINER; however, different from the other organs, it is basically associated with long talks. Due to its joint structure, it is construed as a moveable object, a machine that consists of several parts.

In addition to the metonymies discussed under the metonymic chain model, metaphors and image schemas are dynamic cognitive processes in the construction of the cultural model. A large part of the metaphoric mappings are motivated by CONTAINER, OPEN-CLOSE, FULL-EMPTY, CONTENT, IN-OUT and PART-WHOLE image schemas. In most cases, metaphors and metonymies operate together forming metaphonymy. Most of the expressions are derived from the metonymic use of the body parts in place of speaking. The metonymically used body parts are embedded within a complex metaphorical expression, exemplifying what Goossens (1995) calls ‘metonymy within metaphor.’ For instance, the body parts in the idioms *sb’s tongue is sharper than a sword*, *sb’s mouth is awry*, *sb’s mouth is tight*, *spoiling mouth*, *locking one’s mouth*, *exploding chin*, and *selling tongue* stand for the speech faculty in a metonymic way, whereas all of the expressions are metaphorical through the uses of adjectives and verbs within the conceptual frame of speaking.

Moreover, some expressions describe the case in which a metaphor may be derived through a metonymy, exemplifying ‘metaphor from metonymy’ (Goossens,

1995). For instance, *open one's mouth/chin* and *close one's mouth/chin* stand for speaking or keeping silent. This may indicate that the person is literally silent, which manifests metonymy. On the other hand, they may make reference to giving information, talking more than necessary, reprimanding someone, or, on the contrary, refusing to provide information, in which case they evidence metaphor from metonymy. These examples indicate that although metaphor and metonymy are two distinct cognitive processes, they often co-exist in many figurative phrases, especially those with body part expressions.

Although the conceptual mappings found in the study are similar to that of Radden (2001) and Yu (2011), the linguistic elaborations of these conceptual mappings may vary depending on the cultural preferences. Findings demonstrate that in addition to the functions of the body parts, their physical structure, position, color and shape have an impact on different conceptualizations of linguistic behavior in accordance with how they are valued in Turkish culture. For instance, the word *kara* 'dark/black' represents malignancy in Turkish culture in addition to its other meanings (Kalafat, 2012). Therefore, when used with mouth and tongue, the words *kara* 'dark/black' and *zifir* 'tar', connote negative and offending expressions, exemplifying the metaphor OFFENDING/SADDENING WORDS ARE DARK in relation to the master metaphor BADNESS IS DARKNESS/BLACK proposed by Lakoff, Espenson and Schwartz (1991).

Additionally, in relation to the talking style, a close relationship between the tongue and the concept of respect is established. For instance, the idiom *dil çıkarmak* 'taking out the tongue' means mocking people to damage their reputation. In a similar fashion, the curse expressions such as *dili kurusun* 'may sb's tongue be dry', *dili ensesinden çekilsin* 'may sb's tongue be pulled from their nape', *dilini eşek arısı soksun* 'may a wasp sting your tongue' that include a wish for the speech organ to be harmed, are composed in relation to cultural factors. Such distinctions at the linguistic level provide further support for the 'cultural embodiment' view, which proposes that the human body is not independent of the sociocultural context (Sharifian, 2017). We cannot separate culture and cognition, because "[e]very act of linguistic (symbolic) practice is both cognitive and cultural at the same time" (Kövecses, 2017, p. 308). Filtered by culture, bodily experiences gain figurative meanings, and are encoded in the minds of the speakers of a speech community in the form of idioms.

9. Conclusion

This study has concentrated on the conceptualizations of the terms associated with speech based on their figurative uses and has revealed the metonymic folk

model of language for Turkish. The study shows that speech-related organs are productive source domains in Turkish for the conceptualization of the concepts of speaking and language, which are complex in nature; therefore, they provide support for the belief that human cognition is embodied, and that embodiment is bound to cultural factors. The specific roles attributed to each speech-related organ form a folk model peculiar to Turkish, and in this model, these organs fulfill different roles through semantic extensions.

The human body is an ideal source domain for figurative language and thought. Metaphor and metonymy are systematic conceptual processes; hence, they provide the underlying schemas encoded in the minds of the speakers in a speech community. The mind is shaped by the bodies we have and bodies exist within a cultural context. In this sense, metaphors and metonymies are grounded on cultural models and they are essential carriers of cultural images. Finally, it must be noted that the scope of the study is limited to idioms; therefore, future investigation that focuses on figurative uses of speech-related terms could make use of a corpus that includes a wider range of linguistic data to have a deeper understanding of the nature of speech-related organs and the folk model of language in Turkish.

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Keeping an eye on body parts

Cultural conceptualizations of the 'eye' in Hungarian

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The notion of embodiment refers to the bodily basis of human perceptions about the environment, and also structures our conceptual system (Gibbs 2005; Johnson 1987). This is most evidently manifested in the conceptualizations of body parts and organs and their metaphorical extension to various target domains, illustrated by the metaphor of UNDERSTANDING/KNOWING IS SEEING, which was considered by Lakoff and Johnson (1980, 1999) and Sweetser (1990) being universally prevalent. This claim was supported by a range of cross-linguistic studies in English (Alm-Arvius 1993; Danesi 1990; Ibarretxe-Antuñano 1999, 2002; Sweetser 1990; Viberg 2008; Yu 2008), but also debated by others (Evans and Wilkins 2000; Sharifian 2011), pointing to the fact that the conceptual links between perceptual modalities and abstract domains are grounded in cultural models (Kövecses 2000; Sharifian et al. 2008; Yu 2008), hence they can be regarded as cultural conceptualizations (Sharifian 2017).

In line with the cross-linguistic research on the metaphorical mappings of vision, the present chapter aims at unveiling the conceptualizations of Hungarian *szem* 'eye', in order to test whether the expressions that derive from it primarily represent the EYE as the SEAT OF THINKING/KNOWING/UNDERSTANDING. According to the results, it is argued that beside the conceptualizations of PERCEPTION, EMOTION and INTERPERSONAL POWER, the UNDERSTANDING IS SEEING metaphor is present in the Hungarian expressions. However, conceptualizations of the EYE in Hungarian are also connected to CULTURAL VALUES. For example, some expressions such as *szemfedél* 'eye-cover', *szemmel verés* 'beating with the eyes' and *szemfényvesztés* 'deception, subtleness' are based on cultural schemas. The chapter further demonstrates that, as part of conceptualization, some spatial orientations attached to the eye may take on certain evaluations, as exemplified in the case of *szeme közé* 'into between his eyes' and its dominantly negative attribution. In this way, the chapter is a contribution to prove the interface between body, language and culture.

Keywords: body part, cultural conceptualization, cultural schema, eye, Hungarian

1. Introduction

In line with the cross-linguistic research on the metaphorical extensions of the eye and vision, the present chapter's aim is to explore the conceptualizations of Hungarian *szem* 'eye', in order to examine whether the expressions that derive from it primarily represent the EYE AS THE SEAT OF THINKING/KNOWING. The data of the research include expressions related to *szem* 'eye' taken from various dictionaries. In the analysis, the schematic attributes of the eye that are applied in the different conceptualizations are also highlighted. According to the results, it is argued that the UNDERSTANDING IS SEEING metaphor is indeed present in the Hungarian language (e.g., *szemlélet* 'view, approach, attitude', *éles szeme van valamihez* 'he¹ knows something, he is good at something'), but on the other hand, there are other dominant faculties related to the conceptualizations of the eye, such as predominantly CULTURAL VALUES (*szemérmes* 'modest', *szemtelen* 'boldfaced', *kisül a szeme* 'he is ashamed'), EMOTION (*elkerekedik a szeme* 'his eyes² widen of wonder/unbelieving') and also INTERPERSONAL POWER (*szemmel ver* 'he casts a spell on somebody', *szemmel tart* 'he keeps an eye on somebody', *szeme közé néz* 'he stands up to somebody'), where some of the examples can be traced back to the cultural schema that believes in the magical power of the eye. Thusly, the eye is conceptualized not exclusively as THE SEAT OF THINKING/KNOWING, but it is also a central body part that serves the source domains of CULTURAL VALUES (including MORALITY, CONSCIENCE and RESPECT), PERCEPTION, EMOTION, BEHAVIOR and INTERPERSONAL POWER.

In the second part of the chapter, it is also argued that abstract meanings related to the eye can be traced back to physical experiences, as demonstrated by the case study of the various meanings of *szeme közé* 'into between his eyes', and the dominantly positive or negative evaluation of particular spatial orientations may be traced back to those primary experiences. Overall, it is concluded that the figurative uses of *szem* 'eye' in Hungarian are connected to various intellectual functions, but they also have important sociocultural dimensions.

1. The Hungarian language does not have gender-specific pronouns and lacks grammatical gender, so for practical reasons, masculine is used throughout the chapter in reference to pronouns.

2. Note that in Hungarian, paired body parts (and classes of identical or similar objects) are named in the singular (Tompá 1969: 516), while when speaking about only one of them, they are referred to as 'half', for example *fél kar* 'half arm' or *fél szem* 'half eye' etc.

2. Conceptualization of body parts

2.1 Embodiment in language

According to the ‘embodiment hypothesis,’ all of our experiences, regardless where we live and what social-cultural background we have, are gained through the limits and constrains of our body (Gibbs 2005; Johnson 1987). Lakoff and Johnson (1999) put forward the elementary statement that reason is “fundamentally embodied” (1999: 17), in other words, “body and brain shape reason” (16), emphasizing the significant role of our body in shaping our understanding about the world around us.

[...] meaning and value are grounded in the nature of our bodies and brains, as they develop through ongoing interactions with various environments that have physical, social, and cultural dimensions. The nature of our embodied experience motivates and constrains how things are meaningful to us. (Johnson 1997: 154)

This observation implies that the body serves as a basis for our conceptual system, which is grounded in image schemas that derive from interactions with the physical environment: these are called “embodied spatial experiences”. The CONCEPTUAL SPACE IS PHYSICAL SPACE metaphor is therefore valid for the whole structure of our conceptual system. However, while the motivation of embodiment is universal, the experiences gained are culturally varied.

The narrow sense of embodiment refers to the conceptualization of the body, namely, concrete and abstract functions related to body parts and organs. Body parts often refer to people, such as in Hungarian, *jó arc* ‘good face’ refers to a sympathetic person, *nagy arc* ‘big face’ means a specifically attractive personality (Csábi 2005; Lakoff and Johnson 1980), whereas *fura alak* ‘strange figure’ is used to describe people who are considered weird or extraordinary (Kövecses and Benczes 2010: 75). Hence, based on the PART FOR THE WHOLE metonymy, BODY PART FOR THE PERSON metonymy is conventionally used to speak about different people and characters. However, as a complement to the embodiment hypothesis, many researchers argue that the body does not have an exclusive role in shaping conceptualizations, and as such, cultural background has at least as much effect on our conceptual system as our body (Geeraerts and Grondelaers 1995; Sharifian et al. 2008).

There has been a bulk of cross-cultural study of body parts and organs that consider their metaphorical meanings. Some examples include: in Bask *buru* ‘head’, *begi* ‘eye’, *oin* ‘leg’, *gibel* ‘liver’, *bihotz* ‘heart’ (Ibarretxe-Antuñano 2012), in Persian *del* ‘heart’, *cheshm* ‘eye’ (Sharifian 2011, 2017), in Chinese *xin* ‘heart’ (Yu 2009, this volume), *miànzei* ‘face’ (Yu, this volume), and in Hungarian *kéz* ‘hand’

and *fej* ‘head’ (Bańcerowski 2007; Baranyiné Kóczy 2019). Body part terms and, in the broad sense, embodied language, have become central issues of cognitive linguistics (Brenzinger and Kraska-Szlenk 2014; Maalej and Yu 2011; Sharifian et al. 2008; Yu 2009, this volume). Body parts constitute a rich web of polysemy, comprising of numerous metaphorical and metonymical expressions. While body part terms give rise to a great amount of figurative language, a key interest is how they serve as grounds of metaphorical expressions in the various languages and cultures. Unfolding the conceptual system that lies behind certain body parts may most importantly also cast light on a segment of a cultural group’s cognition, i.e., how they attest meaning to the various phenomena of the world: “while human beings all have similar bodies that function in similar ways, cultures may attach different values to, and make different interpretations of, certain parts of the body and certain aspects of the bodily experience” (Yu 2004: 682). Research on the semantic structure of specific body parts especially highlight how they are present in similar or different ways in the conceptual system of speech communities. A nice example is a recent collection of chapters on the ‘head’ by Kraska-Szlenk (2019), which includes a comprehensive review on the metaphors of HEAD related to THINKING in Hungarian (Baranyiné Kóczy 2019).

An example to demonstrate this is Yu’s study of the Chinese word *xin* ‘heart’ (Yu 2009, this volume). As he observes, in Chinese conceptualization the heart is not exclusively the center of emotions, but the physiological center and center of cognition governing the whole body, as he puts it, in a cosmic view, the “mirror of the universe”. As Yu explains, the heart is viewed as the central organ that governs the body, including the brain. This cultural model is still present in the Chinese language today, despite modern scientific knowledge. Thusly, the conceptualization of the heart in Chinese is based on and reflects ancient Chinese philosophy, traditional medicine and worldview. Yu’s research on heart provides an example that the ways body parts and functions (e.g., perceptions) are linked to abstract domains (mental processes) are grounded in cultural models and schemas (Kövecses 2000; Sharifian et al. 2008). According to Quinn and Holland, cultural models are

[...] presupposed, taken-for-granted models of the world that are widely shared (although not necessarily to the exclusion of other, alternative models) by the members of a society and that play an enormous role in their understanding of that world and their behaviour in it. (Quinn and Holland 1987: 4)

Cultural models are building blocks of a cultural group’s cultural cognition (see Sharifian 2017) in that they serve as “templates” for understanding certain aspects of lives of the members of a cultural group. From the perspective of Cultural Linguistics, the framework of which this chapter follows, cultural cognition is instantiated in the form of cultural conceptualizations, which is a broad inclusive

category that involves various types of products of human cognition, such as schemas (e.g., Talmy 1983), categories (Rosch 1978), metaphors (Kövecses 2000, Lakoff and Johnson 1980), and metonymies (Benczes et al. 2011). These processes are not exclusively cognitive ones, but they also operate at the cultural (collective) level of cognition, which means that they are present in the minds of the speakers of a cultural group. The main characteristic about cultural conceptualizations is that they are grounded in underlying values and norms associated with a cultural community.

2.2 Previous research on 'eye'

This section provides a selective overview of various studies across languages, which focus on the conceptualization of the eye. Metaphor application may be built on various attributes assigned to particular body parts that are associated with multiple visual aspects or functions of the same concepts. In other words, the visual and locational features often provide a basis for the mapping between body parts and other objects or abstract domains. Kraska-Szlenk (2014: 62) illustrates the semantic extensions of the 'eye' based on its visual and locational features in various languages, such as Arabic (Ar) *ʕajn*, Basque (B) *begi* (Ibarretxe-Antuñano,

Table 1. Extensions of 'eye' into other domains (Kraska-Szlenk 2014: 62)

schema	Linguistic examples
small, round	P <i>oczko</i> 'gem (in the ring)', F <i>oeil</i> , P <i>oko</i> (<i>w rosole</i>), 'eye (in broth)', G <i>Auge</i> , S <i>jicho</i> (<i>la ua</i>) 'bud (of flower)', I <i>mata kaki</i> 'ankle', P <i>oczko</i> , R <i>glazók</i> , Tu <i>göz</i> 'eye' (on a plant), Ta <i>kañ</i> 'small dot' (e.g. on a coconut), H <i>mákszem</i> 'poppy seed', <i>gyöngyszem</i> 'piece of pearl'
small, round, hollowed	F <i>oeil</i> , Tu <i>göz</i> , B <i>begi</i> , <i>glazók</i> , Ar <i>ʕajn</i> , G <i>Auge</i> 'small hole' (e.g. of the needle, peephole), B <i>ogibegi</i> 'holes in bread', <i>gatzabegi</i> 'holes in cheese', <i>erlategiren begia</i> 'hive entrance', Ta <i>kañ</i> 'mesh' (of the sieve, net), 'stitch', F <i>oeillet</i> 'small hole' (e.g. buttonhole, eyelet), 'eye' (of the needle) P <i>oczko</i> (<i>w pończosze</i>) 'hole (in the stocking), H <i>láncszem</i> 'link' (of chain), <i>öltésszem</i> 'stitch'
round, shining	Ar <i>ʕajn</i> , S <i>jicho la maji</i> , I <i>mata</i> (<i>air</i>), 'spring' (of water), Tu <i>göz</i> 'spring' (of water) or 'scale pan', P <i>oczko wodne</i> 'little pond (in the garden)', P <i>pawie oczko</i> , Ta <i>mayil tókaiyin kañ</i> 'peacock's eye'
centred (including abstracts)	G <i>Auge</i> , I <i>mata</i> 'centre', <i>mata ati</i> 'innermost feeling or thought' (lit. 'eye liver'), P <i>oko cyklonu</i> 'eye of tornado', Tu <i>göz</i> 'bridge span' or 'drawer, compartment', <i>araba gözü</i> 'glove compartment', Z <i>bangiri</i> 'centre', <i>bangiri gene</i> 'middle of the path', <i>bangiri oro</i> 'head of an ulcer'

2012), French (F) *oeil* and *oillet* (diminutive), German (G) *Auge*, Indonesian (I) *mata* (Siahaan 2011), Polish (P) *oko* and diminutive *oczko*, Russian (R) diminutive *glazók*, Swahili (S) *jicho*, Tamil (Ta) *kaṇ*, Turkish (Tu) *göz* and Zande (Z) (Pasch 2014). Hungarian (H) examples of *szem* are also added to the examples of Table 1.

Brown and Witkowski (1983) further provide cross-linguistic evidence for the common extension of 'eye' into 'seed' and 'fruit', which is also present in Hungarian: *mákszem* 'poppy seed', *búzaszem* 'grain of wheat', *szőlőszem* 'piece of grape', *borsószem* 'a pea', 'very small'.

An example of the comparative research on different languages is Ibarretxe-Antuñano's (2012) study on the polysemic meanings of *begi* 'eye' in Bask. Apart from SMALL QUANTITY IS AN EYE metaphor, she notes that a hole is often conceptualized as 'eye', based on two different conceptualizations, the round shape (i.e., rounded empty cavity where the eye lies) or the function of a hole (through which things pass/enter). She evidences that, in spite of several meanings shared with its English equivalent, it has also different characteristics. For example, Basque *buru* 'head' and *begi* 'eye' both have the meaning of 'in the direction of', however, in some cases they can be considered opposite body parts (similarly to English 'head and tail'), as they fulfil different functions in the figure-and-ground schema (Ibarretxe-Antuñano 2012: 262). Overall, *begi* conveys similar meaning to English *eye*, but it also has different conceptualizations, as the analysis shows.

Another way to observe the cross-linguistic usages of the 'eye' is corpus linguistics. Siahaan's (2011) analysis is based on newspaper corpora, where she compares the figurative extensions of the two source concepts of head and eye in German and Indonesian. She evidences that there are matching conceptualizations in the two languages where the source domains are employed for the same conceptual domain (e.g. (human) LEADER OR CHARACTER TRAITS), but at the same time, language specific distinctions are also observed: firstly, the metaphorical and metonymical extensions of head and eye differ strikingly in frequency of occurrence in the two languages; and secondly, German speakers have a preference for targeting the function of *Kopf* 'head', *Haupt* 'head' and *Auge* 'eye', while for Indonesian speakers it is the position of *kepala* 'head' and the appearance or shape of *mata* 'eye' which is preferentially targeted. Moreover, she argues that contrasting preferences for figurative conceptualizations of body part terms can be traced back to a contrast in cultural values.

Kraska-Szlenk (2014: 135–154) outlines the semantic network of Swahili *jicho/macho* 'eye' by corpus analysis. She concludes that in Swahili, the eye, on the one hand, is represented in connection with its physical condition (often diseases), display of EMOTIONS, INTENTIONS (wanting) and CONTACT, while on the other hand, it is the instrument of SEEING which is expanded to the figurative uses of KNOWING, INTELLECTUAL ANALYSIS, MEASURE and LIKING. The concept of 'evil

eye', which is present in both Persian and Hungarian, for example, are one of the actions related to the eye in Swahili.

Yu (2004), examining Chinese and English expressions of the eye (in Chinese two basic body part terms for the eyes are *yan* 'eye(s)' and *mu* 'eye(s)'), finds that both languages share the conceptual metonymy PERCEPTUAL ORGAN FOR PERCEPTION and the conceptual metaphors SEEING IS TOUCHING and THINKING/KNOWING, OR UNDERSTANDING IS SEEING. Furthermore, the conceptual metonymy PERCEPTUAL ORGAN FOR PERCEPTION OR EYES FOR SEEING, and the conceptual metaphor SEEING IS TOUCHING is present in both Chinese and English. That is, in both languages seeing is described in terms of the eyes and their physical contact with the target. At the level of linguistic representation, however, Yu points out similarities and differences between the two languages. His approach is focused primarily on the functions and extensions related to the eye.

In relation to the eye, various studies aim to highlight culturally motivated conceptualizations which are rooted in cultural cognition. Sharifian (2011) observes the case of *cheshm* 'eye' in Persian. He reveals that it appears in conceptualizations related to EMOTIONS, such as love, envy, greed, as well as CHARACTER TRAITS such as naivety or willfulness. The relation of the body part to Persian culture is manifested in the expressions of *cheshm kardan* 'eye do' or *cheshm zadan* 'eye hit', which mean 'casting a charm or spell' on someone due to envy, animosity, or admiration for another person's talent, possession, etc. As a result, this person may be affected by bad luck. In this way, these expressions unveil cultural conceptualizations, which will be further discussed in Section 4.6. Sharifian concludes that, despite the presence of some expressions for vision that may also apply to intellect, the eye-related expressions do not reveal UNDERSTANDING IS SEEING as a dominant conceptualization in everyday use of language by Persian speakers.

Maalej outlines the cultural model of *3ayn* 'eye' in Tunisian Arabic (2011). Accordingly, it relies on the conceptualization of several mental faculties (such as knowing, understanding, thinking, speaking), PHYSICAL STATES (e.g., sleep, death, passage of time), EMOTIONS (love, desire, anger, guilt, envy), CHARACTER TRAITS (ambition, greed, naiveté, insolence), and CULTURAL VALUES (respect and hospitality). Correspondingly, experience embodied through *3ayn* 'eye' in Tunisian Arabic is dominated by conceptualizations comprising of image schema-based metaphors, metonymy-motivated metaphors, metaphors and metonymies.

Shehu (this volume) analyses the various figurative uses of *ido* 'eye' in Hausa, where he also points out the role of cultural experience in the metaphorical and metonymical extensions of the EYE. He notes that the size and the color of the eyes are especially culturally relevant in Hausa (similar to other African cultures), as the eyes are described either white or red in reference of the color of the retina, unlike in Caucasian cultures where they are typically referenced as brown, blue

or green, based on the color of the iris. In Hausa, white and large/bold eyes are culturally associated with beauty, whereas red and small eyes have negative connotations. He also concludes that in English, in the conceptualization of a person, the ‘face’ is more salient, while on the other hand, in Hausa the ‘eye’ is more salient for the conceptualization of humans.

There are various other works done on the cultural variance of the conceptualization of the eye in other languages, such as Turkish (Baş 2015), Japanese (Occhi 2011), or Estonian (Vainik 2011), among others.

These studies highlight that in different languages various kinds of conceptualizations of experiences and faculties are anchored to the same body part ‘eye’. Furthermore, cross-linguistic differences often have their roots in cross-cultural differences, i.e., cultural traditions and values. Apart from these, they also accentuate the fact that conceptualization is rather complex phenomena, involving several dimensions of linguistic usage (e.g., preferences for figurative conceptualizations, functions in the figure-and-ground schema), and digging out cross-linguistic differences necessitates considering various aspects of the body part at hand.

3. Meanings of *szem* ‘eye’

Let us first overlook the various meanings of *szem* ‘eye.’ The most important meanings include the followings (Bárczi and Országh 1962: 163–166, Pusztai 2014: 1265–1266):

- (a) Organ of vision;
- (b) Look: e.g.,
rajta van a szem-e
 on.he is the eye-POSS.3SG
 ‘he has an eye on somebody/something’
- (c) Eyesight: e.g.,
 (i) *van szem-e hozzá*
 is eye-POSS.3SG it.for
 ‘he has eyes for something’
 (ii) *Hova tet-t-e a szem-ét?*
 Where.to put-PST-3SG the eye-POSS.3SG-ACC
 ‘Where did he put his eyes?’
- (d) Feeling, emotion: e.g.,
más szem-mel néz-Ø rá
 different eye-with look-PRS.3SG he/it-onto
 ‘he looks at somebody with different eyes’

- (e) Shame: e.g.,
Hogy van szem-e? Nem szégyell-i magát?
 How is eye-POSS.3SG? Not shame.do-PRS.3SG himself-ACC
 ‘How comes he has eyes (to do such a thing)? Isn’t he ashamed?’
- (f) Grain: e.g.,
a búza-Ø szem-e
 the wheat-GEN eye-POSS.3SG
 ‘grain of wheat’
- (g) A piece of grapelike fruit: e.g.,
egy szem szőlő
 one eye grape
 ‘a piece of grape’
- (h) A small round piece: e.g.,
láncszem
chain-eye
 ‘link of chain’
- (i) A little: e.g.,
egy szem-et sem alud-t-Ø
 one eye-ACC not.even sleep-PST-3SG
 ‘he didn’t even sleep a little/at all’
- (j) Bud: e.g.,
szemez-ik a fa
 eye.do-PRS.3SG the tree
 ‘the tree is budding’
- (k) Various metaphorical meanings in proverbs: e.g.,
 (i) *majd ki-sül-Ø a szem-e*
 nearly out-burn-PRS.3SG the eye-POSS.3SG
 ‘he is very much ashamed’
 (ii) *kopog-Ø a szem-e az éhség-től*
 knock PRS.3SG the eye-POSS.3SG the hunger-from
 ‘he is ravenously hungry’
 (iii) *szem-et szúr-Ø*
 eye-ACC sting-PRS.3SG
 ‘something comes into his sight’, ‘he notices something’

In the cases of the meanings ‘grain’, ‘a piece of grapelike fruit’, ‘a small round piece’ and ‘bud’, the conceptual link between the body part and the actual meaning is ‘small and important part of something’, while in (j) spatial reference is transferred to temporal reference. The different meanings derive from the body part, which originates from Uralic *silmä meaning ‘the same’ and ancient Hungarian *szüm*. It needs to be mentioned that the word *szüm* can be found in the oldest Hungarian

linguistic record, and it is mentioned in a metaphorical sense, which will be further explained in 4.3.

While *szem* has various meanings, there are a number of words that derive from it. The importance of the word is indicated by that fact that the Hungarian word for ‘person’ derives from the ‘eye’: *személy* (eye-NOM). It is based on PART FOR THE WHOLE metonymy, hence BODY PART FOR THE PERSON, which developed from the following conceptual process: eye → look → outlook/appearance → person. The nominal suffix *-ély* means ‘container of something’, therefore ‘person’ in Hungarian literally means ‘container of the eye’, which highlights that the eye is a dominant body part in Hungarian conceptualization.

Another noteworthy expression is *szemfedél* (eye-cover), which is similar to the meaning of English ‘pall’. Before the cultural traditions related to it are explained, it is important to recall that someone’s death is often referred to as *örökre lehunyta/lezárta a szemét* ‘he/she closed his eyes forever’, which means ‘he died.’ This expression indicates that the eye is conceptualized as the pivotal body part in expressing life or death. In parallel, there is another expression for birth: *meglátta a napvilágot* (he/she began to see the sunlight) ‘he was born.’ Both expressions reflect the metonymy SEEING FOR BEING ALIVE. Turning back to *szemfedél* ‘eye-cover’, it refers to a Hungarian tradition of mourning and funeral, when the corpse’s face was covered by a sheet or an ornamented blanket. There were various customs that determined the type of cloth of the eye-cover that was used. In the case of a young man who was about to marry, his ‘engagement-handkerchief’³ was placed on his face, while an engaged young woman’s face was covered by her wedding veil. It could be possible because a woman’s wedding veil was part of her dowry and it was ready well before the wedding. For a mother of young children, again, her eye-cover was a piece of her wedding veil. In many regions a cross was cut into the eye-cover above the face so that the dead person could see when he arrives at the otherworld (Dömötör 1990: 76). This ritual originates from Indo-Iranian traditions, where the deceased person’s eyes were covered by a small plate made of precious metal (silver or gold) (Benkő 1992, 1992/1993). It can be seen that the word *szemfedél* reflects cultural conceptualization, more particularly, the event schema of MOURNING/BURIAL. Event schemas mean a set of culturally defined knowledge about the expected procedures, associated norms and behavior of participants and material culture of such events like wedding, funeral, Christmas, and so on (Mandler 1984, see also Sharifian 2017: 41).

3. The engagement-handkerchief was given to the lad as a gift from his fiancée on the engagement celebration, which he would wear until his wedding (Dömötör 1990: 58).

4. Conceptualizations of *szem*

4.1 Szem as the SEAT OF CULTURAL VALUES

4.1.1 *Conceptualizations of morality and conscience*

There are various expressions that allude to the fact that the eye is tightly related to morality and, hence, conscience. First of all, closing one's eyes to something (*szemet huny valami felett*) refers to those cases when somebody else undertakes a wrong or immoral act and he closes his eyes as if he did not see it: 'overlook something'. Here the conceptualization has a metonymical origin and it can be described as the following: seeing the immoral act is the equivalent of accepting it, while if we shut our eyes, we avoid the necessity of judgement. Another expression is *szemrebbenés nélkül* '[doing something] without batting an eyelid' (eye-batting without), which has two meanings: (a) undertaking an action while remaining calm and hiding one's emotions; or (b) doing something without remorse or feeling ashamed (Bárczi and Országh 1962: 187). The second one means that a person carries out an act, particularly an unfair or immoral one without twinge of conscience. It is clearly seen that in this case, the eye gives a signal of conscience, hence it is a marker of it. Similarly, in the phrase *szemére hány valamit* 'he casts something in somebody's teeth', or 'he reproaches somebody' (he throws something onto her eyes) refers to the act of telling off them for doing morally wrong or being unfair to the other person. Further, telling in his eye (*szemébe mond*) bears the meaning of telling one to face, which is the equivalent of criticizing somebody directly.

There are more expressions that reflect the conceptualization of EYE as the SEAT OF MORALITY/CONSCIENCE:

- (1) *Van szem-e ez-t ten-ni?*
Is eye-POSS.3SG this-ACC do-INF?
'Is he not ashamed to do this?'
- (2) *Hogy van szem-e ezt ten-ni? Nem szégyell-i*
How is eye-POSS.3SG this-ACC do-INF? Not shame.do-PRS.3SG
magá-t? (in dialects)
himself-ACC⁴
'How dares he do so? (How comes he has eyes to do this?) Isn't he ashamed?'
- (3) *majd kiég/kisül-Ø a szem-e*
nearly out-burn-PRS.3SG the eye-POSS.3SG
'his eyes nearly burn out (of shame)'

4. Note that in Hungarian genders are not marked grammatically.

- (4) *szem-e közé néz-Ø*
 eye-POSS.3SG between.to look-PRS.3SG
 ‘he calls him to account’
- (5) *lesüt-i a szem-é-t*
 down-shine-PRS.3SG the eye-POSS.3SG-ACC
 ‘he casts down his eyes’

Examples (1), (2) and (3) describe that a person is feeling ashamed due to having committed shameful or immoral acts. In (4) looking between the eyes refers to calling somebody to account, which is used when the other person has done wrong, therefore it is again related to morality and conscience. Casting down one’s eyes in Example (5) is the conventional expression for feeling ashamed. The conceptual relation between being immoral and having irregular eyes is also present in the following expression:

- (6) *szem-e se áll-Ø jól*
 eye-POSS.3SG not.even stand-PRS.3SG well
 ‘his eyes do not even sit well’, ‘he is mean/insincere’

There is a special word possibly deriving from *szem*, namely, *szemérem*, which broadly means ‘modesty, shyness, feeling ashamed.’ Although its origin is unknown according to various etymology dictionaries, Czuczor and Fogarasi discuss it in detail and explain its meaning in the following way. As they put it, *szemérem* can be interpreted as what we feel when something violates our sense of morality and common courtesy (Czuczor and Fogarasi 1870: 1216). Thusly, the word consists of the following morphological components:

- (7) *szem-ér-em*
 eye-reach-NOM
 ‘whatever touches the eye’, ‘modesty, shyness, feeling ashamed’

In this conceptualization, ‘shyness’ (*szemérem*) originally means ‘touching the eye’, an impression that affects the eyes negatively, therefore they close: “the eye is the seat and mirror of being ashamed, which closes by being morally touched” (Czuczor and Fogarasi 1870: 1216). The conceptualization is similar in *bántja a szemét* ‘it hurts his eyes’ and in *szemet szúr* ‘it stings the eye’, which is used when we find something unjust or wrong. In this conceptualization, the eye appears as the physical center of conscience, which reacts to immoral acts as insults by being physically hurt and in order to avoid that, closing the eyelids.

4.1.2 *Conceptualizations of respect*

A branch of expressions reflects the conceptualization of the EYE connected to RESPECT. One of the expressions to mention is *szemtelen* ‘eyeless’ which is attested to someone who is unashamed or disrespectful. It must be observed that in this conceptualization, having no eyes or perhaps closing the eyes means having no respect, which implies that, on the other hand, having eyes or opened eyes are characteristic of a respectful person. Consequently, the eye is strongly related to the expression of respect. There is another phrase related to this conceptualization: *szembe köp* ‘he spits in the eye’, which means rude offence. Here the eye is mentioned in connection with the offended person. Finally, (8) also describes being disrespectful or mocking at somebody.

- (8) *szem-e közé nevet-Ø*
 eye-POSS.3SG between.to laugh-PRS.3SG
 ‘he laughs in somebody’s face’

It seems that, based on the linguistic examples in Sections 4.1.1 and 4.1.2, the eye is often conceptualized as representing cultural value. This is also present in a dialectic phrase *nagy szeme van valaminek* ‘something has big price, value’ (something has big eyes, cf. Bárczi and Országh 1962) and in the following expression:

- (9) *ő a szem-em-Ø fény-e*
 he the eye-POSS.1SG-GEN light-POSS.3SG
 ‘he is the apple of my eyes’

In these examples the eye is represented as an organ which establishes interpersonal relationship between two persons. However, the EYE may serve as the SEAT OF RESPECT in both agents: in the expression *szemtelen* ‘disrespectful’, the eye belongs to the person who commits the insult in an unashamed manner, in the phrase *szembe köp* ‘he spits in the eye’ one violates the other person’s eye which represents his center of respect.

4.2 PERCEPTION/ALERTNESS

There are various expressions that represent the eye as a pivotal body part in perceiving the phenomena of the world. Some examples are the following:

- (10) *nyitott szem-mel jár-Ø*
 open eye-with walk-PRS.3SG
 ‘he/she keeps his eyes peeled’
- (11) *nyitva tart-ja a szem-é-t*
 open hold-PRS-3SG the eye-POSS.3SG-ACC
 ‘he keeps his eyes open’ (he is watchful)

- (12) *le-hull-t-Ø a hályog a szem-é-ről*
 down-fall-PST-3SG the scale the eye-POSS.3SG-from
 'he began to see clearly'
- (13) *szemes*
 eyed
 'watchful'
- (14) *szemes-nek áll-Ø a világ*
 Eyed-for stand-PRS.3SG the world
 'alert people are successful', 'first come first served'
- (15) *szem-füles*
 eye-eared
 'all eyes and ears'
- (16) *szem-be-tűnő*
 eye-into-appearing
 'salient'
- (17) *szemre sok-at mutat-Ø*
 eye-onto much-ACC show-PRS.3SG
 'it shows off well', 'it looks well'
- (18) *szem-re rend-ben van*
 eye-onto order-in is
 'outwardly it seems to be all right'

These expressions highlight that the eye and its related function, vision is connected to watchfulness and alertness. The next set of phrases displays the conceptualization PAYING ATTENTION TO SOMETHING IS SEEING.

- (19) *szem-tanú*
 eye-witness
 'eyewitness'
- (20) *szem-ügy-re vesz-Ø*
 eye-matter-onto take-PRS.3SG
 'he examines thoroughly'

All the examples are cases of what Yu (2004) also observes in Chinese and English expressions, PERCEPTUAL ORGAN STANDS FOR PERCEPTION metonymy. The schematic function attached to the eye is conveying information inside towards the thinking agent, therefore it has an internal effect.

4.3 SZEM as the SEAT OF INTELLECT

Although they are not very typical among eye-related expressions, some of the phrases reflect the conceptualization THINKING/UNDERSTANDING IS SEEING. To begin with, the oldest Hungarian linguistic record, the *Funeral Sermon and Prayer* (*Halotti beszéd és könyörgés*) mentions the word *szium* ‘eye’ in a metaphorical meaning. The *Funeral Sermon* is the oldest known and surviving contiguous Hungarian text, written by one scribal hand dating to 1192–1195. The first sentence of the sermon is the following:

- (21) *Lát-játuk fele-i-m szium-tük-hel, mi-k vagy-muk:*
 See-PRS.2PL fellow-PL-POSS.1SG eye-POSS.2PL-with what-PL be.PRS-1PL:
isá, por és homou vagy-muk.
 behold, dust and ash BE.PRS-1PL
 ‘Behold, my brethren, with your own eyes, what we are. Behold, ’tis but dust and ashes, that we are.’⁵

It is remarkable that seeing with the eyes here refers to understanding the fact that it is human fate to depart one day and become dust and ash.

There are further words like *szemlélet* ‘view, approach, attitude’ (a suffixed derivative of *szem*) and *szemszög* ‘point of view, aspect’ (eye-angle) belong to this conceptualization. Looking at a situation ‘with another person’s eyes’ (*egy másik személy szemével*) means evaluating and judging it from the other person’s perspective. Further, a person who has ‘sharp eyes for something’ (*éles szeme van valamihez*) can understand it well and is able to manage it. Observe also the following phrases:

- (22) *szem előtt tart-Ø*
 eye before hold-PRS.3SG
 ‘he keeps in mind’
- (23) *szem elől téveszt-Ø*
 eye before.from miss-PRS.3SG
 ‘he loses sight of something’ ‘he forgets about considering something’

Constantly watching something means keeping it in mind. On the other hand, *be van kötve a szeme* ‘his eye is blindfolded’ refers to being unable to judge well a situation due to some circumstances (Bárczi and Ország 1962).

- (24) *fel-nyit-ott-a a szem-é-t*
 up-open-PST-3SG the eye-POSS.3SG-ACC
 ‘it/he opened up his eyes’ (he began to understand the situation)

5. translation: http://www.1moment.hu/halotti_beszed.pdf

Example (24) refers to when someone begins to see clearly and arrives at the realization of something. REALIZING IS SEEING is also present in a number of phrases that do not contain the *eye* but seeing and vision.

(25) *meglát-t-a benne a tehetség-et/lehetőség-et*
 see-PST-3SG in.he/it the talent-ACC/opportunity-ACC
 'he realized the talent/opportunity in him/it'

(26) *keresztül-lát-ott-Ø rajta*
 through-see-PST-3SG on.he
 'he saw through him'

(27) *mögé-lát-Ø a dolgoknak*
 behind-see-PRS.3SG the thing-PL-to
 'he can see behind things'

Examples (25)–(27) refer to a person who, by the act of looking at something, can perceive its essence. In (21) he can realize an opportunity or that the other person is talented, in (26) he learns the true character of the person (which usually means recognizing someone's bad nature), while in (27) the real motivation behind some phenomenon is understood by the speaker.

There is a special word, *szemfényvesztés* 'deception, subtleness' (eyelight-loss), which derives from the ancient shamanistic religion of Hungarians, which was rather widespread even after the global adoption of Christianity. Losing one's eyelight (i.e., sight) means losing the ability to see, and by this, becoming unable to judge. In shamanistic rituals witchcraft has been often carried out while blindfolding the subject of the ritual so that he could not see. In the present understanding, *szemfényvesztés* means an action or process which deceives us due to pretense of truth or reality (Zaicz 2006: 783). The light of the eye indicates that it has an external effect where the eye is the source of light.

4.4 SZEM as the SEAT OF EMOTION

A number of expressions related to the eye have relevance to emotions. Judging a person or thing by saying for example *az én szememben ő kedves* 'in my eyes she is nice' reveals the way the speaker feels about somebody. Similarly, *rossz szemmel néz rá* 'he/she looks at him/her with bad eyes' refers to the situation when a person disagrees or disapproves to another person's character or acts. Further expressions that take on the eye as conceptualizing emotions include:

(28) *szikrá-k-at szór-Ø a szem-e*
 sparkle-PL-ACC spread-PRS.3SG the eye-POSS.3SG
 'he is angry'

- (29) *el-sötétül-Ø* *a szem-e*
 away-darken-PRS.3SG the eye-POSS.3SG
 ‘he becomes angry/evil’
- (30) *ferde szem-mel néz-Ø* *rá*
 slanting eye-with look-PRS.3SG onto.he
 ‘he looks askance at him’, ‘he regards him in a disapproving or distrustful manner’
- (31) *össze-szűkül-Ø* *a szem-e*
 together-narrow-PRS.3SG the eye-POSS.3SG
 ‘his eyes narrowed (of suspicion or anger)’
- (32) *el-kereked-ett-Ø* *a szem-e*
 away-round-PST-3SG the eye-POSS.3SG
 ‘his eyes widened’, ‘he became surprised’
- (33) *nagy szem-ek-et⁶ mereszt-Ø*
 big eye-PL-ACC bulge-PRS.3SG
 ‘he stares round-eye’, ‘he is surprised’
- (34) *fel-csillan-Ø* *a szem-e*
 up-twinkle-PRS.3SG the eye-POSS.3SG
 ‘he becomes enthusiastic’
- (35) *nem tud-ja* *le-ven-ni* *róla* *a szem-ét*
 not can-PRS.3SG down-take-INF from.she the eye-POSS.3SG-ACC
 ‘he can’t take his eyes off her’
- (36) *vér-ben forog-Ø* *a szem-e*
 blood-in roll-PRS.3SG the eye-POSS.3SG
 ‘he is angry’

Examples (29)–(33) have metonymical origin as they can be traced back to facial gestures related to specific emotions. In (29), for example, darkness may refer to the fact that an angry person’s facial gestures involve the narrowing of the eye, when the white part of the eye cannot be seen, whereas the dark pupil expands. Furthermore, darkness may also be associated with evil. In the case of (30), oblique eyes occur due to head tilt, which is a gesture often used when expressing disapproval. Narrowed eyes in (31) again may be the result of showing an angry or disapproving face. In (32) and (33), when expressing surprise, the eyes are opened wide, which often seem as bulging eyes. Shining eyes, on the other hand, express

6. This is a rare example where eyes are referred in plural.

happiness and enthusiasm (34). Finally, when someone cannot take their eyes off somebody expresses admiration. Observe also phrases (37) and (38):

(37) *szem-et vet-ett-Ø rá*
 eye-ACC cast-PST-3SG on.her
 'he set his eye on her', 'he set his heart upon her'

(38) *legeltet-i a szem-ét rajta*
 pasture-PRS.3SG the eye-POSS.3SG-ACC on.her
 'he feasts his eyes on her'

Literally, placing the eye on somebody (Example (37) means paying special attention to that person, and in the metaphorical sense, it means being in favor of her/it (it is typically used in relation with men and women or people and objects). Both examples reflect the emotion DESIRE.

Expressions (29)–(33) have metonymical origins because they refer to facial gestures related to the expression of emotion. In these examples the external effect of the eye is manifested. For example, in *elsötétül a szeme* 'he becomes angry/evil' the darkening of the eye is depicted, the process when the eye becomes narrow, the pupil widens and the white of the eye disappears, resulting in a dark image of the eye. Another expression, *ferde szemmel néz rá* 'he looks askance at him' or 'he regards him in a disapproving or distrustful manner', refers to the case when one's head tilts to the side, a common gesture to express doubt or disapproval. Expressions (32) and (33) derive from the facial expression when one's eyebrows are lifted in a display of surprise or shock, and the eyes are vertically widened. Sparkling eyes show happiness or enthusiasm. In *sugárzik a szeme a boldogságtól* 'look blissfully happy' (glow-PRS.3SG the eye-POSS.3SG happiness-from) the eye is a source of light, just in the case of *szemfényvesztés* 'deception, subtleness' (eyelight-loss) as explained in 4.3. Finally, the case when someone is unable to take off their eyes from another person reflects admiration, where the eye functions as an active agent.

4.5 BEHAVIOR

The eye can also express behavior. The following phrases are a few to exemplify it.

(39) *vér-szem-et kap-Ø*
 blood-eye-ACC get-PRS.3SG
 'becomes bold'

(40) *farkas-szem-et néz-Ø*
 wolf-eye-ACC look-PRS.3SG
 'he faces (something) bravely'

- (41) *fogat-ja a szem-é-t*
 roll-PRS.3SG the eye-POSS.3SG-ACC
 ‘he is rolling his eyes’

When Hungarians say that a person ‘gets blood-eyes’ (39), it refers to the situation when an unexpected act encourages him, and he becomes bold. Secondly, ‘looking wolf-eye’ with somebody (40) expresses the act of standing face to face with another person and waiting for him to take action. ‘Rolling one’s eyes’ (41), on the other hand, is the expression of disagreement and doubt, or it may also refer to an attempt by a woman to get attention by a man.

4.6 INTERPERSONAL POWER, CONTROL and the cultural schema EVIL EYE

Szem is also the body part that may express power or control. Observe Examples (42)–(45):

- (42) *ki-szemel-Ø*
 out-eye.do-PRS.3SG
 ‘he picks out (somebody)’
- (43) *rá-vet-ett-e a szem-é-t*
 on-cast-PST-3SG the eye-POSS.3SG-ACC
 ‘he cast an eye on her’
- (44) *szem-mel tart-Ø*
 eye-with hold-PRS.3SG
 ‘he gives an eye to something’
- (45) *szem-be-néz-Ø (valakivel)*
 eye-into-look-PRS.3SG (somebody-with)
 ‘he faces somebody’

The verb *kiszemel* ‘picks’ means the action of choosing/picking a person or thing from among many for the purpose of some further action. Similarly, *rávetette a szemét* (43) refers to picking a person, for example as a young man chooses a girl that he is fond of and decides to gain her heart (see also 4.4). There are further expressions related to this conceptualization: *szemmel tart* ‘he gives an eye to something’ (44) means controlling a person’s, animal’s or object’s behavior and actions. *Szembenéz valakivel* (45) is the equivalent of looking into somebody’s eyes, which has the abstract meaning of facing or confronting another person.

One of the eye-related phrases that have a strong cultural basis is *szemmel verés* ‘beating with the eyes’ or *szemverés* ‘eye-beat’, which means casting a charm or spell on someone. According to Hungarian folk belief, it was primarily witches

who were able to ‘eye-beat’, and secondly, people who had specific physical characteristics such as having a unibrow or gimlet eyes or cockeyes. “Furthermore, anybody who is present unwarranted at an important situation or procedure, admires or praises somebody or something is able to eye-beat. They distinguish intentional or unintended eye-beat. The intensity of the belief is indicated by the fact that even in the recent past, many claimed that “their eyes beat”” (Ortutay 1981: 636). Interestingly, as Sharifian notes, this conceptualization is also present in Persian and its meaning and cultural schema is explained very similar to the one in Hungarian culture:

The eye in Persian is also associated with a cultural schema that attributes certain destructive powers to the eyes. The Persian expressions *cheshm kardan* (‘eye do’), and *chashm zadan* (‘eye hit’) mean roughly ‘casting a charm or spell’ on someone or something, either intentionally or sub-consciously. This is brought about largely through envy and animosity, or it can even be a result of genuine admiration of a person’s talent, possession, etc. The spell may invite, either intentionally or inadvertently, bad luck in terms of sickness or a loss on the part of the envied person. (Sharifian 2011: 202–203)

Similar to its Persian counterpart, in the Hungarian expressions *szemmel ver* ‘beat with the eye’ or *szemverés* ‘eye-beat’, the destructive power of the eye is revealed. Furthermore, it needs to be noted that in the phrase *rossz szemmel néz rá* ‘he looks at him with bad eyes’, “bad eyes” may also allude to the schema EYE-BEAT. However, the cultural schema of EYE-BEAT is not exclusively present in Hungarian and Persian: The belief of Evil Eye was a widely extended belief among many Mediterranean and Asian tribes and cultures, and also in Swahili as Kraska-Szlenk points out (Kraska-Szlenk 2014). It is thought to have developed within the cultures of the Near East and distributed the Middle East, North Africa and India (Breu and Marchese 2005). The emergence of the Evil Eye as early as 7000-3000 B.C., can be associated with human envy and its strong cultural attachment to social inequities in the developing sedentary groups. According to Spooner, the psychological basis of the phenomena can be explained the following way:

The concept of the Evil Eye appears to be an institutionalised psychological idiom for the personalization, or simply the personification, of misfortune, in particular insofar as misfortune, or the fear of it, may relate to the fear of outsiders and their envy. (Spooner 1976: 79)

In order to distract the harmful effect of the Evil Eye, various kinds of objects (amulets and talismans) and ritual were used as protective power. A well-known example is the Turkish amulet named *nazar*. In Hungary, one of the treatments against eye-beat is washing a person with a mixture of water and coal (Ortutay

1981: 638). The belief of eye-beat or Evil Eye might have spread among different cultures by means of their physical contact throughout centuries.

4.7 Summary

The various conceptualizations discussed in Section 4 are summarized in Figure 1.

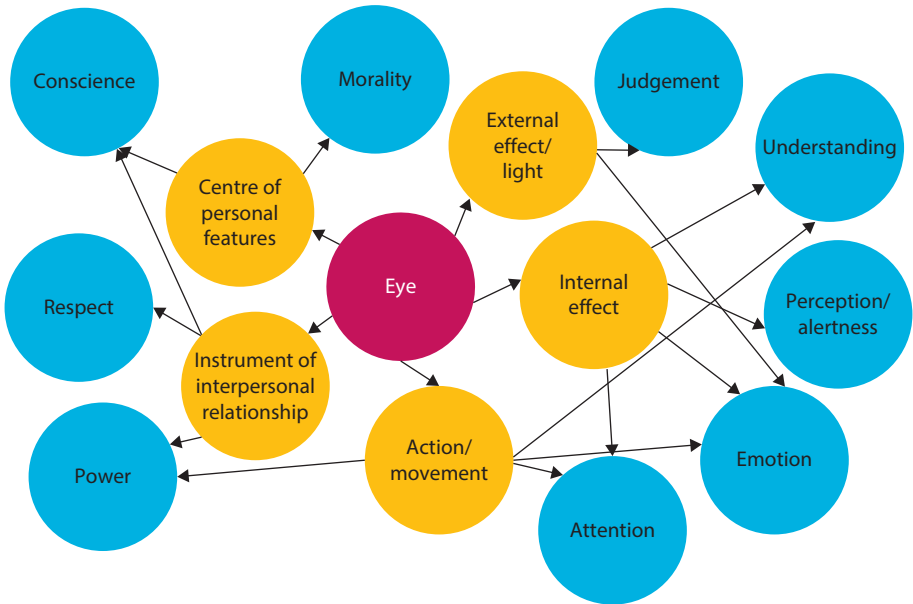


Figure 1. The network of cultural conceptualizations and schematic functions of *szem* 'eye' in Hungarian

The conceptualizations rely on five basic functions of the eye: external effect (which may be light effect), internal effect, action/movement, instrument of interpersonal contact, or a center of personal features. Figure 1 represents how the various conceptualizations of the eye in Hungarian are linked to its physiological functions. Accordingly, each function of the eye is connected to more than one conceptualization, and some conceptualizations derive from more than one schematic function of the body part. In the case of EMOTION, the eye may serve as many as three schematic functions such as external effect, internal effect or action/movement, indicating the complexity of the conceptualization of EMOTION.

It is also clear that among all conceptualizations, the eye serves the metonymical center of personal traits exclusively in relation to CONSCIENCE and MORALITY. On the other hand, the domains of RESPECT, CONSCIENCE and POWER are linked to the interpersonal function of the eye. It appears as an active moving entity in the conceptualizations of POWER, ATTENTION, UNDERSTANDING and EMOTION, where

the central conceptualization is ATTENTION, in which the other domains are rooted: ATTENTION \Rightarrow UNDERSTANDING, ATTENTION \Rightarrow EMOTION, ATTENTION \Rightarrow POWER/CONTROL. During the process of attention, the eye either connects to the object at hand by some action, or it physically approaches the object. The internal effect of the eye comes to action in the expression of EMOTION, ATTENTION, PERCEPTION/ALERTNESS and UNDERSTANDING. Finally, in the domains of JUDGEMENT and EMOTION, the eye has an external effect. When the eye is a source of light, in some cases, it can be conceived as an action. Overall, there are four main conceptualizations that seem to formulate: first, the external and internal effects of the eye are related to INTELLECTUAL ACTS and EMOTIONS; second, the eye is an instrument of interpersonal contact when it expresses POWER, RESPECT and CONSCIENCE, third, in the domains of MORALITY and CONSCIENCE, the eye functions the metonymical center of personal features; fourth, the eye as an acting agent appears in various conceptualizations, such as INTELLECTUAL ACTS, EMOTIONS and POWER.

5. Spatial metaphors related to *szem*: The case study of *szeme közé*

One of the words that derive from *szem* is *szemben* ‘opposite’ (eye-in). It refers to the situation when an entity stands turning its face or frontal part towards the person/object at hand (Bárczi and Országh 1962: 166). Another noteworthy word is *szemközt* ‘opposite’ (eye-between), which means roughly the same as *szemben* ‘in the face of, opposite’ (eye-in) (Bárczi and Országh 1962: 182). While *szemközt* is in locative case, there is a similar expression, *szeme közé* ‘into between his eyes’ (between.to eye-POSS.3SG), which is in lative case, but it conveys rather different meaning. It is present in various phrases having a specific meaning – it can be replaced by *szembe* ‘into the eye’ (eye-in) or *szemébe* ‘into his eye’ in some cases, but in many instances, it implies different meanings with different connotations. According to the *Historical-Etymological Encyclopedia of the Hungarian Language*, the spatial area ‘between the eyes’ originally referred to the scope of eyesight, i.e., the distance as far as one is able to see (Benkő 1976: 717). Consequently, *szemébe* ‘into his eye’ and *szeme közé* ‘into between his eyes’ have in fact different meanings. As the following analysis shows, there are various actions that are used in connection with the spatial territory denoted by *szeme közé*. It is argued here that *szeme közé* is employed mostly in expressions that depict an action which violates a person’s respect, thusly, in most of the cases it has a negative conceptualization. The abstract conceptual domains in relation with the expressions of *szeme közé* can be traced back to the physical experience of affecting or violating a person’s intimate zone by getting too close to the eyes with one’s hand or some instrument.

The analysis is based on the Hungarian National Corpus (Oravecz et al. 2014) where 348 findings contain the expression *szeme közé*. In the followings, the various conceptualizations are illustrated by examples taken from the corpus.

(a) PHYSICAL VIOLATION

- (42) *A diák ököl-be szorít-ott-a a kez-ét, és [...]*
 the student fist-into clench-PST-3SG the hand-POSS.3SG-ACC and [...]
szem-e közé vág-ott-Ø.
 eye-POSS.3SG between.to cut-PST-3SG
 ‘The student clenched his hand and [...] hit **between his eyes**.’

In this example, the student physically attacks the other person. It can be considered the primary usage of the expression *szeme közé*, and also the basic meaning which further metaphorical usages derive from.

(b) PHYSICAL OFFENCE

- (43) *Bort loccsant-anak a szem-e közé.*
 wine-ACC splash-PSR.3PL the eye-POSS.3SG between.to
 ‘They splash wine **between his eyes**.
Ki-robban-Ø a verekedés...
 out-burst-PSR.3SG the fight...
 The fistfight starts...’

Apart from physically affecting one, at the same time, it is also an act of offence.

(c) THREAT

- (44) *hörög-te-Ø a szem-e közé*
 rattle-PST-3SG the eye-POSS.3SG between.to
 ‘he fumed (with anger) **in his face**’

Szeme közé is employed here to emphasize the threatening effect of fuming with anger.

(d) POWER, COMMAND

- (45) *Keményen a szem-e közé néz-ett-Ø. – Igy-ál!*
 firmly the eye-POSS.3SG between.to look-PST-3SG “drink.IMP-2SG!”
 ‘He firmly looked **into his eyes**. “Drink!”’

In this case, *szeme közé* cannot be replaced by *szemébe* ‘into his eyes’, as it has a much stronger sense and it conveys the meaning of having power over someone.

(e) OFFENCE

- (46) *A szem-e közé vág-ja: Gazember vagy!*
 The eye-POSS.3SG between.to cut-PRS.3SG: Villain be.PRS.2SG!
 ‘He tells to his face: You are a villain!’

Referring back to Example (42), here there is no physical attack just insulting the other person. The fact that this expression derives from physical offence is evidenced in the verb *vágja* ‘throws’ (originally ‘cuts’), which is used here metaphorically in the meaning of telling the truth to somebody’s face.

(f) SARCASM

- (47) *végül a szem-e közé nézve, gúnyosan megjegyez-te-Ø...*
 finally the eye-POSS.3SG between.to looking ironically comment-PAST-3SG
 ‘finally, looking into his eyes, he commented ironically...’

Again, *szeme közé* conveys a much stronger effect than the same expression would with *szemébe* ‘into his eyes’. It touches upon violating the other’s intimate zone, bearing the sense that the offending person takes hold of the other one.

(g) POWER, CONFRONTATION

- (48) *bátran a szeme közé néz-t-em minden veszedelem-nek*
 bravely the eye-POSS.3SG between.to look-PST-1SG every danger-to
 ‘I looked in the eyes of every danger bravely’

The phrase *szeme közé néz* ‘look into between the eyes of something or someone’ is applied to specific situations like facing danger or difficulties. Hence, again, it cannot be substituted by *szemébe néz* ‘looks into the eyes of something or someone’ because the two take quite different meanings. *Szemébe néz* can express either positive or negative emotional attitude, usually it implies that ‘an honest communication follows on my side or I expect it from the other person’. On the other hand, *szeme közé néz* is always conceptualized as a brave act, alluding to the dominance of the actor, and it entails some negative emotion.

(h) CONSCIENCE

- (49) *a szem-e közé vág-t-ák a mocskos*
 the eye-POSS.3SG between.to throw-PST-3PL the dirty
júdáspénz-ét
 Judah-money- POSS.3SG-ACC
 ‘they threw his dirty Judah money into his eyes’

This conceptualization is similar to the one of offence, but it rather reflects the act of calling someone to account for a (morally) wrong act he is responsible for.

(i) INTIMACY

(50) *a szem-e közé mosolyog-t-am igen barátságosan*
 the eye-POSS.3SG between.to smile-PST-1SG quite friendly
 roughly: 'I smiled at him quite friendly'

(51) *mindenki szem-e közé oda-vigyorog-Ø*
 everybody eye-POSS.3SG between.to there.to-grin-PRS.3SG
 'he grins into everybody's eyes'

In Example (50) *szeme közé mosolyogtam* 'I smiled into between his eyes' refers to a more intimate act than smiling at somebody. It is similar to (51), but it does not have a negative connotation. Example (51) implies taking liberties with other people, so it has clearly negative meaning.

The examples analyzed in this chapter provide evidence in that *szeme közé* 'into between his eyes' is dominantly used in negative context. It has been pointed out that in some instances the expression can be substituted by *szemébe* 'into his eyes', which conveys literally a similar meaning. However, even in those cases, *szeme közé* bears a much stronger emotional effect, and it always emphasizes the negative aspect of the act it is linked to.

Figure 2 represents the conceptualizations of *szeme közé* 'into between-to his eyes'.

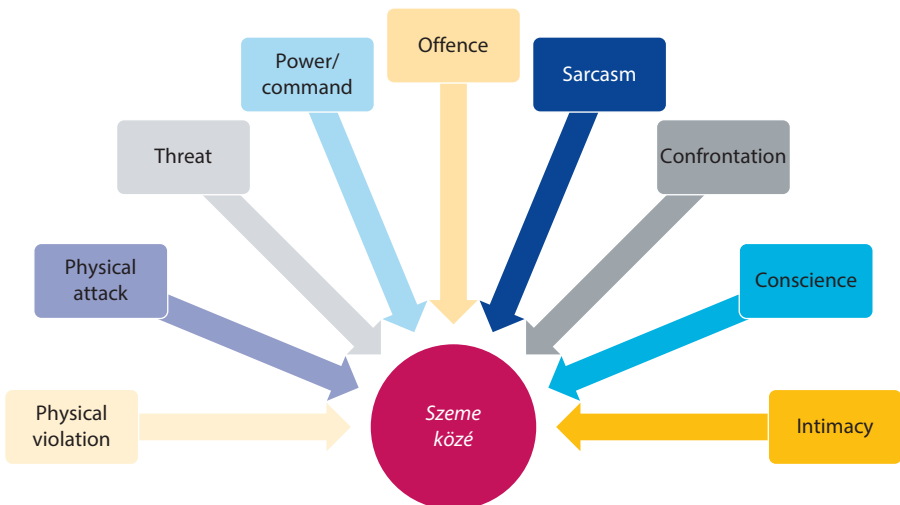


Figure 2. Conceptual domains of *szeme közé*

6. Conclusion

The above discussion evidences that *szem* 'eye' has various conceptualizations in Hungarian. The most important ones include *szem* as the SEAT OF CULTURAL VALUES, including MORALITY, CONSCIENCE and RESPECT; furthermore, it is related to other faculties like PERCEPTION (ALERTNESS), ATTENTION, BEHAVIOR and INTERPERSONAL POWER/CONTROL. It has been evidenced by several examples that the conceptualizations of *szem* as the SEAT OF INTELLECT and also *szem* as the SEAT OF EMOTION (e.g., surprise, anger, desire) are also present in the matrix of conceptualizations of the EYE. Thusly, it is evidenced that the universally prevalent UNDERSTANDING IS SEEING metaphor is represented in the expressions related to the eye in Hungarian, sharing this conceptualization with English, Chinese, Persian and Tunisian Arabic (Maalej 2011; Sharifian 2011; Yu 2004). However, significant differences arise in the degree to which this metaphor is present in each culture. As the analysis of Hungarian expressions show, sociocultural aspects are also proven as dominant (if not more characteristic) in words and collocations including the root 'eye' and the relevant expressions. CULTURAL VALUES is a broad conceptualization connected to the domains of MORALITY, CONSCIENCE and RESPECT. These conceptualizations are reflected in numerous metaphors and metonymies.

The main characteristics of the eye as sources of conception that take part in them are physical (external) characteristics such as setting, shape, size and color, and also its function. Other schematic functions include its internal or external effect, action and movement, and also the center of personal traits. These functions are only partly related to the physiological features of the body part. It has been pointed out that while in the conceptualizations of EMOTIONS, the eye has several schematic roles, the rest of the conceptualizations are correspondent with certain functions: INTELLECTUAL ACTS and EMOTIONS are linked to its external and internal effects, POWER; RESPECT and CONSCIENCE rely on the eye as an instrument of interpersonal contact; in the domains of MORALITY and CONSCIENCE, the eye functions as the metonymical center of personal traits; and finally, the eye may be apparent as an acting or moving agent in the conceptualizations of INTELLECTUAL ACTS, EMOTIONS and POWER.

There are also some eye-related expressions such as *szemmel verés* 'eye beat', *szemfedél* 'eye-cover' and *szemfényvesztés* 'subtleness, deception', which are grounded in cultural traditions and rituals, hence they can be regarded as cultural conceptualizations, similarly to the cultural schemas 'eye-beat' and 'eye-do' found in Persian (Sharifian 2011).

It is further evidenced that, as part of the conceptualization of *szem*, some spatial orientations attached to the eye may take on specific meanings. The analysis of *szeme közé* 'between-to his eyes' shows that various different conceptualizations

derive from the negative act of physically attacking and offending someone in the space referred to as 'between the eyes.' These conceptualizations include PHYSICAL VIOLATION, PHYSICAL OFFENCE, THREAT, POWER/COMMAND, OFFENCE, SARCASM, CONFRONTATION, CONSCIENCE and INTIMACY. Remarkably, most of these conceptualizations convey a negative meaning, which may be explained by their root in a fundamentally negative physical act, which also implies violating a person's respect. The chapter argues that while in some cases *szeme közé* 'between-to his eyes' can be regarded as the synonym of *szemébe* 'into his eyes', there are special instances when the two phrases result in significant alterations in the meaning. As a result, it is proven that the linguistic expressions having connection with the spatial territory near the eyes, particularly when they represent acts that make their ways into this sphere, are dominated by negative conceptualizations.

The discussions prove that while body parts serve a universal source of experience, the conceptualization of body parts is, to a certain degree, culturally different, which also highlights the strong interconnection between language, conceptualization and culture. As Yu notes,

Very often, metonymy and metaphor emerge in the interaction between body and culture. While the body is a potentially universal source domain for metonymies and metaphors that structure abstract concepts, cultural models set up specific perspectives from which certain aspects of bodily experience or certain parts of the body are viewed as especially salient and meaningful in the understanding of those abstract concepts. (Yu 2004: 683)

Hence, this chapter provides further support for the phenomenon called as 'culture-specific embodiment', which relies on the interaction between body, cognition and culture. This theory is based on the concept of *culture-in-the-body* (Gibbs 1999; Maalej 2004), which emphasizes the bi-directional relations between the embodied mind and culture (Maalej 2011: 239).

Although some parallel research on eye have been mentioned in this study, it would be useful to investigate similar conceptualizations in the neighboring languages of Hungarian in order to find loan translations that would prove the contact between them. As they had lived in coexistence in Hungary for a long time, it is assumed that they do have similar conceptualizations, even similar expressions. Furthermore, another target of research would be to explore the languages of cultural communities that live in the Uralian habitation where Hungarians come from. A comparative study on the metaphorical functions of the eye and also other body parts are an effective way to unfold linguistic and cultural differences through the observation of conceptualizations.

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The conceptualization of *ido* ‘eye’ in Hausa

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The human body has been found to be an extremely productive source domain for the expression of various linguistic concepts in diverse languages and cultures of the world. Although previous research on many languages shows that the eyes are one of those body parts terms that are frequently used as a source domain for the conceptualization of other abstract domains, the Hausa *ido* is yet to be studied from the cognitive perspective. Based on the cognitive linguistics framework, this paper analyzes the conceptualization of the Hausa *ido* ‘eye’ and its extension into various target domains, as well as the metaphors and metonymies used in these conceptualizations. The data for this study was collected from a mini-corpus (Will, 2005) and Hausa dictionaries, from which over 150 expressions involving the term *ido* ‘eye’ were elicited and analyzed. Based on the usage, the term *ido* was found to be extensively used in various domains including sight, knowledge, attention, decision-making, emotions, character traits, and so on.

Keywords: Hausa, embodiment, conceptualization, metaphor, metonymy, cultural conceptualization

1. Introduction

Research in cognitive linguistics provides sufficient evidence on the role of human body in linguistic conceptualization, an idea known as the linguistic embodiment hypothesis. Vast amounts of literature prove this hypothesis, which was first proposed by Lakoff and Johnson (1980) and further developed by subsequent research such as Lakoff and Johnson (1999, 1987), Johnson (1987), Gibbs (2006), Kövecses (2005), Kraska-Szlenk (2014), Rohrer (2007), Sharifian, et al. (2008), Maalej and Yu (2011), McPherron and Ramanathan (2011), Yu (2008), among others. The experiential perspective of linguistics considers the human body, environment and culture as fundamental to human linguistic conceptualization. Thus, speakers draw elements from these experiences in order to express various notions that are otherwise difficult to express. Yu notes that:

[O]ur body, with its experiences and functions, is a potentially universal source domain for metaphorical mappings from bodily experiences onto more abstract and subjective domains. This is because humans, despite their racial or ethnical peculiarities, all have the same basic body structure, and all share many common bodily experiences and functions, which fundamentally define us as being human. (2008: 250)

Lakoff and Johnson (1980) and indeed other scholars show that conceptual metaphor and metonymy are the major cognitive mechanisms that aid the process of exploiting basic, bodily human experiences to understand other abstract domains of experience. It is in this perspective that this chapter analyzes the extension of the term *ido* 'eye' as a source domain for the understanding and expression of various other domains of experience.

Hausa is genetically a Chadic language, widely spoken in several West African countries, predominantly in Nigeria, but also in Niger, Chad, Ghana and Cameroon. The exact number of Hausa speakers is not certain, but Simons and Fennig (2017) estimate both its first and second language speakers to be around 60 million. The seven Hausa regional dialects are divided into Eastern (Kano, Zaria, Bauchi, and Daura) and Western (Sokoto and Gobir) dialects, all in Northern Nigeria and Southern Niger. The data used in this study, however, is based on the Kano dialect, which is approximate to the standard variety used in formal writing and the media.

The chronicles of Hausa literature by Newman (1991) and Yakasai and Mu'azu (2016) prove that the language is well described, but most of these works were structural descriptions, as the field of cognitive linguistics in general, and in African languages in particular, is still in its infant stage. There are, nevertheless, some relevant cognitive studies on Hausa body part terms. Among these, Pawlak (2016) dealt with the concept of reflexivity in Hausa, whereas Almajir (2013) discussed the polysemy of body part terms, just as Gwarzo (2015) and Ibrahim (2018) focus on metaphor and emotions, respectively, and Will (2019) discusses the conceptualization of the term *kai* 'head' in Hausa. While these are impressive studies of Hausa body part terms, there is so far no study dedicated to the 'eye', and it is in this regard that the current study contributes to the study of Hausa embodiment.

The data used in this study was collected from various texts. Most of the expressions were extracted from a 217,674 worded mini-corpus compiled by Will (2005), in which a search for the term *ido* yielded over a hundred expressions. The corpus data was supplemented by expressions extracted from dictionaries and other text materials. In total, 150 expressions involving *ido* were collected from which the examples used in this paper were selected. These expressions were first grouped into 'bodily' and 'figurative', based on the context in which the term was used. Since bodily usage precedes figurative extensions, I present the bodily expressions first before proceeding to the figurative expressions.

2. *Ido* 'eye' as body part

Some Hausa dictionaries provide many entries for the term *ido* /*iddo*/ (pl. *idanu* /*idaaniuu*/). For instance, Abraham (1962: 395) literally defines the term as 'eye', but as seen in later sections of this chapter, both Abraham (1962) and other Hausa dictionaries such as (Newman, 2007; Bargery, 1934; Dikko & Maccido, 1991; Kamusun Hausa na Jami'ar Bayero, 2006) provide other lexicalized entries and figurative meanings of the term. The 'eye' as a physical body part is made up of other physical parts such as the 'eyeball' and 'eye sockets' called *kwaryar-ido* (lit. calabash of the eye) and *gurbin-ido* (lit. location of the eye), respectively.

Though 'eyes' are a paired body organ, the singular form *ido* is often used to refer to either one or two eyes, and as Abraham (1962: 395) notes, the plural form, too, is sometimes used in a singular sense. In this data, however, the singular form *ido* is more frequent, appearing in most of the one-hundred and eleven expressions from the corpus. In some cases, the singular form occurs with a number specifier, such as (1a), while in instances where this specifier is not used, the singular form could refer to both eyes, or conceptually mapped onto an abstract concept as in (1b).

- (1) a. *tana da ido daya*
 3SG.POSS POSS eye one
 'she has one eye'
 b. *ido na bude*
 eye 1SG.POSS open
 'my eyes are open'

Their colour and size are the most visible physical attributes of the eyes, which frequently occur in discourse, in both literal and figurative senses. Even though expressions such as (2a)–(c) are used in a literal sense, the colour and size of 'eyes' may connote a number of culturally motivated perceptions. For instance, in Hausa, and indeed many other African cultures, the eyes are described as either white or red, in reference to the colour of the retina, as opposed to the usual description of the eyes of people of Caucasian origin whose eyes are usually described as brown, blue, or green based on the color of the iris. Secondly, white and large/bold eyes are culturally associated with beauty as opposed to 'red' and 'small' eyes, which are usually perceived as ugly or unpleasant.

- (2) a. *idanu-n-sa ko fari fat*
 eye-GEN-3SG.POSS.M pat. white idiom
 'and his eyes are extremely white'

- b. *idanu-n-sa kamar garwashi-n wuta*
 eye-GEN-3SG.POSS.M like charcoal-GEN fire
 'his eyes are [red] like charcoal'
- c. *ga idanu dara-dara*
 with eyes idiophone
 'and he has big eyes'

The eyes are an active organ in the functioning of the human body, giving rise to many literal expressions, where *ido* is structurally the subject or object of the constructions, often occurring with an active verbal phrase. These kinds of constructions express a wide range of bodily interactions with the eyes as shown in (3a)–(f). In all of these expressions, *ido* occurs as an object of a given action of the subject: they are opened, closed, slightly closed, blinked, raised, or squeezed, etc.

- (3) a. *ya bude ido*
 3SG.M open eye
 'he opened eyes'
- b. *ta rufe ido-n-ta*
 3SG.F close eye-GEN-3SG.POSS.F
 'she closed her eye'
- c. *ya lunshe ido*
 3SG.M close eye
 'he slowly closed his eyes'
- d. *ya rintse ido-n-sa*
 3SG.M close eye-GEN-3SG.POSS.M
 'he tightly closed his eyes'
- e. *ta daga ido sama*
 3SG.F raised eye up
 'she raised her eyes'
- f. *suka murje idanu-n-su*
 3PL.PF.REL rub eyes-GEN-3PL.POSS.
 'they rubbed their eyes'
- g. *ya sauka bisa ido-n-sa*
 3SG landed on eye-GEN-2SG
 'he [the bird] landed on his [cow] eye'

Apart from constructions in which *ido* serves as a syntactic category, other literal expressions associate the eyes with 'tears', which indicate the common bodily association between crying, tears and the eyes as in (4a). Other bodily expressions associate *ido* with disease, as in (4b).

- (4) a. *ido-n-sa suka cika da hawaye*
 eye-GEN-3SGM 3PL.PF.REL fill with tears
 'his eyes full of tears'
- b. *yana da matsala ta ciwo-n ido-n-sa*
 3SG.POSS.M with problem 3SG.F pain-GEN eye-GEN-2SG.POSS.M
 'he has a problem with his eye disease'

3. The figurative uses of *ido* 'eye'

The physical attributes of eyes, such as size and color as well as their sensory function are utilized in expressing various abstract concepts. These extensions occur *via* various conceptual mechanisms, including metaphors and metonymies. Previous studies on the figurative extensions of 'eyes' in various languages and cultures such as Baş (2015), Kraska-Szlenk (2014), Maalej (2011), Occhi (2011), Sharifian (2011), Vainik (2011), Yu (2002), among others, show that the eyes are frequently used as a source domain for the conceptualization of other abstract domains. In a more recent study, Kóczy (*this volume*) shows various basic and cultural conceptualizations of eyes in Hungarian.

From the data in this study, the term *ido* appears to be very much entrenched in Hausa figurative speech. For instance, 70% (105) of the 150 expressions collected in this study were judged as figurative, based on whether or not the term was used to refer to non-bodily, more abstract concepts through a given conceptual mechanism such as metaphor or metonymy. This shows the productivity of the term in coding abstract concepts in the language. As seen in this section, figurative expressions are categorized and discussed based on the conceptual domains of usage, *vis*: lexicalization, domains of looking, sight, character traits, emotions, attention, knowledge, decision and measurement.

3.1. The lexicalization of *ido* in compounds

The prevalence of the lexicalized forms of the term *ido* is notable in all Hausa dictionaries. Apart from the basic form, Abraham (1962: 397) provides separate entries for numerous compound nominals derived from the term. The extension of eyes in naming various other objects is quite prevalent in other languages as shown for Swahili (Kraska-Szlenk, 2014), Hungarian (Kóczy, *this volume*), among others. As will be seen in subsequent examples, the derivation that led to these lexicalized compounds involves some conceptual mapping. For instance, since both the eyes and ankles are physical organs of the human body, it would seem at first, that the eyes are metonymically extended to name these less conspicuous parts of the body.

However, this conceptualization involves a metaphoric extension of the round, physical shape of the eyes to name the protuberance of the bone on the foot and hand, which very much resembles the shape of an eye, from where *idon-sawu* (lit. eye of the legs) and *idon-hannu* (lit. eye of the hand), in (5a)–(b) derive.

- (5) a. *ido-n-kafa/idon-sawu (sau)*
 eye-GEN-leg/eye-GEN-legs
 ‘ankle’
 b. *ido-n-hannu*
 eye-GEN-hand
 ‘distal end of the ulna’

The same imagery of the physical characteristics of *ido* provides the basis for the derivation of several compound nominals for inanimate objects such as plants, cloth, food and landmarks. For instance, the small size and round shape of an eye are mapped onto various kinds of grains and cereals such as maize, millet, etc. as in (6a). The expressions in (6b)–(d) represent the case in which the color and size of an animal’s eye are used in order to name various plants, further confirming the role of culture and environment in linguistic conceptualizations – in this case, not only human eyes, but also those of animals, are productive as a conceptual source domain. The use of *ido* in nominal derivation extends to embroidery, where in (6f) the size and shape of eyes are mapped to name certain kinds of traditional cloths. In (6g) the physical attributes of ‘eyes’ are used to refer to a traditional Hausa dish, whereas in (6h)–(i) the glittering nature of an eye is mapped to name some landmarks.

- (6) a. *hatsi ya yi ido*
 grain 3SG do eye
 ‘the grain has been formed in the head of the corn’
 b. *ido-n-zakara*
 eye-GEN-cock
 ‘the twiner or its seed’
 c. *ido-n-doki*
 eye-GEN-horse
 ‘chestnut’
 d. *ido-n-saniya*
 eye-GEN-cow
 ‘a type of grass or plant’
 e. *ido-n-itace*
 eye-GEN-tree
 ‘a knot in the wood’

- f. *ido-n-zaki*
eye-GEN-lion
'a type of cultural dress with eye-like design'
- g. *ido-n-kwadi*
eye-GEN-frog
'very watery farau-farau¹'
- h. *ido-n-ruwa*
eye-GEN-water
'water spring'
- i. *yau ido-n rana ya bude*
today eye- GEN sun 3SG open
'the sun is shining today'

3.2. Ido as an instrument for looking

The most important bodily function of the eyes is seeing, which is achieved through the act of looking. The equivalent term for looking in Hausa is *kallo*, but as we can see in the following examples, many kinds of looking could be identified using the term *ido*, with each of them not only connoting a different type of looking, but also used to express distinct kinds of emotions, feelings, opinions and or decisions. These expressions are associated with the functions of the eyes, particularly vision, in which each kind of looking describes a particular kind of view, achieves a different kind of vision, and conveys a different message.

The conceptualization of *ido* within the domain of looking is based on the conceptual metaphor EYES ARE AN INSTRUMENT FOR SEEING which itself is based on various models of the ontological metaphor: EYE IS AN OBJECT. The models of this metaphor include EYE IS A SHARP OBJECT, EYE IS A LONG OBJECT, EYE IS A TINY OBJECT and EYE IS A SUBSTANCE instantiated in Examples (7)–(13). The motivation for these variations of the metaphor seems to come from the type of vision made with the eyes, which in turn motivates the kind of “object” the eyes are modelled after, and since objects vary, actions done with these objects must also differ, and this finally motivates the choice of the specific action verb used in each case. For instance, while both a “pin” and a “substance” are objects, the manner of manipulating these objects differs in the real world – thus, while a pin is thought of being fixed on a surface, a “substance”, such as liquid, is usually poured out. The various models of these conceptualizations are discussed, in turn.

The expression *kura ido* (lit. constrict eye) in (7a)–(b) simply means ‘looking straight’ at a scene, but as was seen in (7b), this kind of “look” must be constant

1. Farau-farau is a traditional drink made either with yoghurt or flour and water

and non-deflected for a sustained, long period of time in an attempt to see a specific event, whether out of curiosity or expectation. The intention of the observer performing this kind of gaze is very specific, paying total attention to the scene and the target event.

- (7) a. *ya kura wa sa ido*
 3SG.M extreme for cow eye
 ‘he looked intently at the cow’
 b. *ya kura ido hanya-r Musa*
 3SG.M extreme eye road-GEN Musa
 ‘he looked curiously in Musa’s direction’

Similarly, the expression *kafa ido* (lit. nail eye) in (8a) basically entails ‘looking without blinking’, or a fixed gaze, which is usually an attempt to gain a clearer vision of a scene, to capture or visualize specific details. In such expressions, the eye is viewed as a sharp, pointed object that could be fixed and rigidly placed on the scene, which in turn is viewed as a surface on which the sharp object is fixed. In many instances, the phrases *kura ido* and *kafa ido* are used in expressing a myriad of emotions of the viewer about his/her interlocutor. For instance, the viewer’s curiosity which might have been borne out of fear, interest or admiration, etc. was captured by the use of the expression *kura ido* in Example (7) above, whereas an attempt to recognize the details of an individual was expressed by *kafa ido* in (8) below.

- (8) *suka kafa masa ido kuri amma ba su gane shi ba*
 3PL.PF.REL fix 3SG eye idiom but NEG. 3PL recognize 3SG NEG.
 ‘they constantly looked at him but couldn’t recognize him’

In a similar way, the expression *zura ido* (lit. stretch eye) in (9a)–(b) basically connotes ‘looking directly’ into a given scene, implying keen interest from the onlooker towards the happenings in a given scene. As would be seen in (9b), this expression extends to a lack of control of the viewer on the scene or the actions of the object in view. In these expressions, the eye is conceptualized as a “long object” that could be stretched out to reach a destination/location to perform the function of seeing a target scene. This kind of understanding of the term *zura* ‘stretch’ as an act of stretching a long object over a long distance in order to fetch something is found in many other contexts such as *zura guga cikin rijiya* ‘stretch the well-bucket in the well’, *zura moda cikin randa* ‘stretch the cup in the water-pot’ etc.

- (9) a. *suka zura mata ido*
 3PL.PF.REL stretch 3SG.F.PF eye
 ‘they kept looking at her’

- b. *kawai ya zura wa Kyauta ido*
 only 3SG stretch for SBJ eye
 'he only helplessly looked at Kyauta'

The expression in (10) presents another model of the ontological metaphor of the eyes as an object, in which *zare ido* (lit. pull eye) is used to express anger or other negative emotions. In this expression, the eye is seen as an object that can be “pulled out”, describing the fact that in such a gaze, the eyes are made bolder, wider and bigger by pulling them out in order to intimidate the other person who is viewed as an opponent. Actually, various objects of different shapes are “pulled out” in different ways but the term *zare* ‘pullout’ only applies to long or thin objects that form part of a bunch, as in *zare tsinke* ‘pull out a stick’, *zare zare* ‘pull out a thread’, and so on. This provides the basis for the EYE IS A TINY OBJECT metaphor instantiated in (10). This kind of “look” is usually confrontational with an attempt to frighten an opponent to comply with the demands of the speaker. Here, anger is inferred *via* visual attributes of the eyes, so that “the perceiver’s vision is affected by the strong emotion of anger” (Maalej, 2011: 226). When *ido* is “pulled out”, emotions are believed to be more vivid the opponent, and even though these expressions do not necessarily occur simultaneously with the gestures of the eyes, they are nevertheless understood as harsh and intimidating.

- (10) *sai da na zare idanu*
 until and GEN pullout eyes
 ‘...until I became harsh’

The act of “looking”, however, could be coincidental as in (11a)–(b) where the expression *kyalla ido* is used to denote swift (often coincidental) act of looking. In such expressions, the eyes are conceptualized as movable objects that can be swiftly sent out and moved around the space in order to coincidentally capture a scene.

- (11) a. *ya kyalla ido ya ga dukiya,*
 3SG.M glimpsed eye 3SG.M see wealth
 ‘he glimpsed and saw the wealth’
 b. *ya kyalla ido ya ga-n-su*
 3SG.M glimpsed eye 3SG.M see-GEN-3PL
 ‘he glimpsed his eyes and saw them’

The expression *kiftawar ido* (lit. blink of eye) in (12) instantiates the BLINK OF AN EYE FOR SHORT TERM SPAN metonymy which is mapped from the momentary movement of an eye and connotes the speed or swiftness of an action. In Hausa, the physical movements of eyes are exploited to describe various actions, in which case the swiftness in the blink of an eye is used in describing swift actions that occur in less time than expected, or in expressing surprise at a given speed.

- (12) *kamar kiftawa-r ido*
 like blink-GEN eye
 'like the blink of an eye'

The expression *zuba ido* 'pour eye' instantiates another model of the EYE IS AN OBJECT metaphor. This expression instantiates the EYES ARE SUBSTANCE metaphor in which the eyes are conceptualized as a substance that could be poured out onto a scene. *Zuba ido* basically refers to 'looking intently' at a scene, but is also understood as 'looking directly' at a scene with keen interest as in *na zuba mata ido kuru-kuru* (lit. I poured her for eyes) 'I looked directly at her'. It could also refer to 'constant starring' due to certain emotions, such as surprise, as in *mamakinta ya kama shi kawai sai zuba mata ido ya yi* (lit. her surprise caught him only pouring eyes he did) 'he was looking at her with surprise'. This phrase could also mean 'paying attention' to a scene in such expressions as *na zuba wa abin da kake yi ido* (lit. I poured for what you are doing eyes) 'I paid attention to what you are doing'. However, even though the aforementioned expressions are prevalent in other sources of data, all the expressions that involve *zuba ido* found in the corpus allude to 'expectation', 'helplessness', and 'indifference' as in (13b)–(d).

- (13) a. *zuba ido*
 our eye
 'looking intently at'
- b. *duniya dai ta zuba ido ta ga abi-n...*
 world part. 3SG.F pour eye 3SG.F see thing-GEN
 'the world is curiously waiting to see...'
- c. *na zuba ido ga iko-n Allah*
 1SG pour eye to power-GEN God
 'I am helplessly watching what the power of God can do'
- d. *bai kamata mutane su zuba ido ana kashe mana tarihi ba*
 NEG proper people 3SG pour eye 4.IMPF kill 1PL.POSS history NEG
 'it is not proper for people to be indifferent when our history is being destroyed'

3.3. Ido and the conceptualization of sight

The focus of our discussion has, so far, been on the various actions of the eyes in the act of looking. However, some expressions attest to the conceptualization of *ido* in the domain of seeing *via* the EYE FOR SIGHT metonymy, in which case the eyes as an instrument for seeing stand for sight. The expressions in (14a)–(b) derive from an ontological metaphor EYE IS A CONTAINER and de-personification metaphor HUMAN BEING IS AN OBJECT where the eyes are understood as a container which

an object could be put in or out of. When an object is put into the eyes, as in *sa ta a ido* (lit. put her in eyes) that object is seen, whereas the negated form of this expression such as in (14a)–(b) connotes what is unseen.

The expression in (14c) instantiates the PART FOR WHOLE metonymy in which the eyes stand for the person, and INFORMATION IS FOOD metaphor in which a piece of information is viewed as “food” on which the eyes feed. Thus, when an individual watches an event, his eyes (metonymically, himself) feed on the information he gains from the scene. Similarly, the conceptualization of *ido* exemplified in (14d)–(e) is based on the EYE FOR SIGHT metonymy mentioned above. In these expressions, *ido* stands for sight or presence, so that *kan ido* (lit. on eye) connotes ‘in the presence of...’. A similar metonymy is found in (14f) but this time involving the metaphor EYE IS AN OBJECT that has many angles, and could either be met or avoided. The expression *kaikaici ido* refers to avoiding the eyes (sight) of an onlooker by taking the non-visual angle of the eyes.

- (14) a. *rabo-n da wakili-n-mu ya sa ta a ido*
 separate-GEN and representative-GEN-1PL.POSS 3SG.M put 3SG.F at eye
tun rana-r aure-n-ta
 since day-GEN marriage-GEN-3SG.F
 ‘the last time our representative saw her was on her wedding day’
- b. *ba-n sa shi a ido na ba*
 NEG.SBJ put 3SG.M at eye GEN NEG
 ‘I haven’t seen him’
- c. *su ba ido-n-su abinci*
 3PL give eye-GEN-3PL.POSS food
 ‘to be entertained’
- d. *a kan ido-n-mu*
 at LOC. eye-GEN-1PL.POSS
 ‘in our presence’
- e. *a kan idon mara lafiya aka yi shi*
 at LOC. eye lack health 4.PF.REL do 3SG.M
 ‘it happened in the presence of the patient’
- f. *ta kaikaici ido-n liman*
 3SG.F avoid eye-GEN SBJ
 ‘she avoided the eyes of the Imam’
- g. *ya faki ido-n bakauye*
 3SG.M block eye-GEN villager
 ‘he avoided the eyes of the villager’

In (15a)–(d) the metonymy EYE FOR PERSON is at play where *yi ido* (lit. make eye) and *hada ido* (lit. connect eye) refer to ‘seeing’ and ‘meeting’ another person or

object, respectively. These metonymic extensions present an interesting contrast with the English expression *face to face* where unlike in English, it is the eyes that are salient for the Hausa speakers and not the whole face. The expression in (15e) instantiates the PERCEPTUAL ORGAN FOR PERCEPTION metonymy where the eyes stand for sight.

- (15) a. *mu-n yi ido da shi*
 1PL.GEN do eye and 3SG
 ‘we met’
- b. *ba ya so-n hada ido da ni*
 NEG 3SG.M like-GEN combine eye and 1SG
 ‘he does not want us to see’
- c. *ido-hudu*
 eye-four
 ‘face to face contact’
- d. *ido-n sani*
 eye-GEN knowledge
 ‘an acquaintance’
- e. *ido-n-sa ya dushe*
 eye-GEN-3SG.POSS 3SG.M
 ‘he got bad sight’

3.4. Ido in the domain of knowledge

The function of *ido* as an organ for seeing also provides the basis for the widely attested metaphor: KNOWING IS SEEING (Sweetser, 1990: 28). This metaphor forms the basis for the conceptualization of a more complex metaphor INSTRUMENT OF KNOWING IS INSTRUMENT OF SEEING instantiated by the conceptualization of knowing or understanding a concept or object through the act of seeing. Sweetser (1990) claims that the KNOWING IS SEEING metaphor is nearly universal, as the conceptual link between the human sense of vision and the intellectual faculty which provides the basis for this metaphor, is found in almost all languages. Evans and Wilkins (2000), and subsequent studies show that this metaphor, although widely prevalent, is not universal, as it is not found in many Australian as well as other languages and cultures across the world.

In Hausa, it seems that *ido* and indeed the verbs of vision – *gani* ‘seeing’ and *kallo* ‘looking’ – are very productive in deriving a wide range of conceptualizations in the intellectual and mental domains. For instance, the term *yi(n) ido* (lit. make eye) means ‘the ability of a learner to read’, which has been conventionalized to mean fast learning abilities, as in (16a). This lexicalization process evokes the use of the eye as an instrument of “knowing” so that making an eye is to make

knowledge. The EYE IS A CONTAINER metaphor allows for such expressions as (16b)–(c) in which *bude ido* (lit. open eyes) refers to 'enlightenment' 'understanding' or 'familiarity' so that an enlightened person has "opened eyes", and a place where one opened his eyes is the place she/he is familiar with. The relationship between knowledge and wisdom is very much entrenched in many cultures (cf. Occhi, 2011), and in Hausa in particular, the lexicalized compound noun for 'discernment' in (16d) derives from *ido*. The expression *idon basira* (lit. eye of discernment) could be applied to various related senses loosely translatable as 'wisdom, intelligently, cautiously, etc. as in (16e).

- (16) a. *yi ido ciki-n karatu*
do eye stomach-GEN reading
'learn fast/to progress in (lit. stomach) learning'
- b. *inda ya fi wayo da bude ido*
where 3SG more clever and open eye
'where he is more familiar with'
- c. *ido-n basira*
eye-GEN insight
'carefully/intelligently'
- d. *na saurari sako-n-ku da ido-n basira*
1SG listened message-GEN-2PL.POSS and eye-GEN carefully
'I have listened to your message cautiously'

While the examples in (16) above indicate clearly that, the eyes and their bodily function of seeing are connected to the domain of intellect, the body part terms *kunne* 'ear' and their bodily function of *ji* 'hearing' are also extended into the domain of intellect. In fact, the Hausa equivalent of the English 'I see' which implies "I understand" is *na ji* (lit. I heard) instead of *na gani* (lit. I see). Consider (17a)–(b):

- (17) a. *bude kunne-n-ka don ka fahimta*
open ear-GEN-2SG.M.POSS to 2SG.M understanding
'open your ears well to understand'
- b. *na ji na fahimta*
GEN.SBJ hear GEN.SBJ understand
'I have heard and understood'

3.5. Ido in the domain of attention

In this domain, *ido* is conceptualized as a locus of attention, again based on the fact that the eyes are used for looking and seeing. This provides the basis for the EYE FOR ATTENTION metonymy widely found in other languages. This conceptualization also involves the metaphor EYE IS AN OBJECT which could be placed at

a scene. For instance, in (18a) *sa ido* (lit. put eye) is basically to ‘wait expectantly’, but in (18b) the same phrase refers to ‘paying attention’ to a particular thing. In (18c), however, the expression doesn’t only allude to waiting, but also points to curiosity and attention. The usage of the expression in (18d) provides an even more figurative sense because *sa ido* connotes not only attention but also some negative impressions that allude to interference in one’s private life.

- (18) a. *sa ido*
 put eye
 ‘wait expectantly’
 b. *ka sa ido*
 2SG put eye
 ‘pay attention’
 c. *na sa ido kan fitowa-r-sa*
 GEN.SBJ put eye on appear-GEN-3SG.M
 ‘I’m curiously waiting for its appearance’
 d. *daina sa min ido*
 stop put 1SG.POSS eye
 ‘stop intruding in my personal life’

3.6. Ido in the domains of decision and measurement

The eyes provide the possibility for humans to gain vision, and also to perceive various sizes and quantities of objects and substances in their environment. It is this function of the eyes that provides the grounding for the EYE IS AN INSTRUMENT FOR MEASUREMENT metaphor instantiated in (19a), a conceptualization that is also attested in Tunisian Arabic (Maalej, 2011: 222). Because Hausa speakers understand *ido* as a gauge or scale on which both physical and abstract concepts are measured, it is logical, therefore, that the eyes become an instrument for decision making as exemplified in (19b). But the abilities of the eyes to make apt decisions might be affected by a “substance”, such as “water”, so that *ruwan ido* (lit. water of eye) connotes ‘indecisiveness’.

- (19) a. *ido ba muɗu ba ya san kima*
 eye NEG gauge NEG 3SG.M know amount
 ‘though not a gauge, the eyes still predict the amount’
 b. *ya na da ruwa-n ido*
 3SG.M GEN and water-GEN eye
 ‘he finds it difficult to make a choice’

3.7. *Ido* as indicator of emotions

In Hausa, the channels of communicating emotions are divided between *ido* 'eyes' and *fuska* 'face'. Whereas the "heart" is generally understood as the locus of most emotion concepts in Hausa, some of these emotions are expressed through the eyes which serve as the window to one's heart. The fact that *ido* 'eye' is connected to the "heart" in the conceptualization of emotions has been reported in other languages such as Hungarian (Kóczy, *this volume*), Tunisian Arabic (Maalej, 2011) and Persian (Sharifian, 2011: 199). As far as Sharifian is concerned, however, the connection between the eyes and the heart in Persian is influenced by Sufi traditions in the Persian culture. While this might be true for Persian, the scope of this study does not reach the conclusion whether the Hausa conceptualization of the eyes as indicator of emotions is influenced by Islamic culture. It is worthy of note, however, that like Persian, Islam (particularly Sufism) has a very long history of influencing Hausa culture.

Whatever the case, this conceptualization reflects the EYE IS THE LOCUS OF EMOTIONS metaphor (Sharifian, 2011: 197), which is instantiated by the popular Hausa idiom: *ido ya raina fata* (lit. eye looks down on skin) 'he landed himself in trouble' (Abraham, 1962: 395). This idiom denotes a wide range of conceptually connected emotions. It is used in various contexts to describe the remorseful reaction of an individual involved in a shameful, guilty, frightening, embarrassing, difficult, regretful or helpless act or situation as in (20a)–(c). The understanding of these emotions *via* the eye has an experiential basis, in that, the visual expression of a person affected by these emotions provides a clue to that person's emotional state and feelings. It seems that the close conceptual relationship between these emotions is what allows for their coding by the same expression, since they are all perceived as negative, and entertain a cause-effect relationship.

- (20) a. *ido-n-sa ya raina fata don kunya*
 eye-GEN-3SG.POSS 3SG.M unsatisfied skin because insolence
 'he was embarrassed'
- b. *ido-n-sa ya raina fata don tsoro*
 eye-GEN-3SG.POSS 3SG.M unsatisfied skin because fear
 'he was frightened'
- c. *rana-r kiyama sai ido ya raina fata*
 day-GEN resurrection eye 3SG.M unsatisfied skin
 'there will be regret on the day of resurrection'

One of the emotions expressed *via ido* is *kunya* 'shyness'. Not only that shyness manifests through the eyes, but that it is located in the eyes, as in *kunya a ido* (lit. shame in eyes). This is shown in (21a) which is an instance of the LOCUS OF

SHYNESS IS EYES metaphor. Associating *ido* with ‘shyness’ is also rooted in other metaphoric conceptualizations such as in (21b) *ta ido* (lit. that for the eyes) where shyness is metaphorically understood as an object owned by the eyes, so that a shameless person’s eyes lack *kunya*. The same ontological metaphor is evoked in (21c) where shyness is understood as a substance that softens the eyes, lack of which entails shamelessness or fearlessness. Unlike the concept of shyness, however, Hausa exhibits a dualistic conceptualization of the locus of “fear”. For instance, in expressions such as *ya sa masa tsoro a zuciyarsa* (lit. he puts fear in his heart) ‘he frightened him’, the concept of “fear” is understood to be located in the heart. However, the expression *ba tsoro a idonsa* (lit. there is no fear in his eyes) in (21d) indicates that, like the heart, *ido* also serves as locus of fear.

- (21) a. *ba kunya a ido-n yaro-n*
 NEG insolence in eye-GEN boy-GEN
 ‘the boy is totally shameless’
- b. *ba shi da ta ido*
 NEG 3SG.M POSS 3SG.F eye
 ‘he is insolent’
- c. *ido ba raba*
 eye NEG dew
 ‘s/he lacks shame’
- d. *ba tsoro a ido-n-sa*
 NEG fear in eye-GEN-3SG.M
 ‘he is fearless’

3.8. Ido as character traits

The fact that “sight” is one of the most valued human senses, and that the eyes are responsible for seeing, the term *ido* has been extended into the domain of character traits. The sense of “seeing” is regarded as the most important sensory aspect of human life which provides the basis for the conceptual metaphor IMPORTANCE IS EYE by mapping the role of the eyes in seeing and the relevance and value of seeing/sight in human life, onto the domain of importance. Whereas *na idon duniya* (lit. for the eyes of the people) in (22a) connotes something excellent, *idon mu* (lit. our eyes) in (22b) indicates a valuable, indispensable person. This idea is further expatiated in (22c) where *idon gari* (lit. eyes of the town) connote the most important person in a community.

- (22) a. *na ido-n duniya*
 GEN.SBJ eye-GEN world
 ‘it is excellent’

- b. *shi ne ido-n-mu*
 3SG.M is eye-GEN-1PL.POSS
 'he is our leader'
- c. *shi ne ido-n gari-n*
 3SG.M is eye-GEN TOWN-GEN
 'he is the most important person in the town'

Further in this domain, *ido* is associated with insolence. This conceptualization is grounded in a primary metaphor: EYE IS AN OBJECT which can be soft or hard. The cultural connection between eyes, sight, character and morality is widely attested in other languages (cf. Kóczy, *this volume*, Yu, 2002, among others). The Hausa culture requires one to lower his gaze as a sign of deference, and since in human experience, soft things are easy to manipulate as opposed to hard things, this negative attribute of objects is mapped onto the eyes to code insolence as a negative trait. As can be seen in (23), 'a hard eye' refers to negative character traits such as disrespect, disobedience and arrogance. In fact, Bargery's (1934) online dictionary defines the compound *tsaurin ido* in (23) as 'impudence, insolence' which instantiate the metaphor: ORGAN OF VISION IS AN UNPLEASANT INSTRUMENT.

- (23) *ya na da tsauri-n ido*
 3SG.M GEN POSS hard-GEN eye
 'he is insolent'

The expression *ido rufe* (lit. eye closed) in (24) connotes 'desperation' and is based on EYE IS AN INSTRUMENT FOR REASONING metaphor which derives from SEEING FOR REASONING metonymy, because when the eyes are closed, one loses his sight and therefore acts randomly and desperately.

- (24) *ido rufe*
 eye closed
 'desperately'

However, even though the phrase *rufe idonmu* (lit. close our eyes) in (25) is similar to the one in (24b), and both are grounded in the EYE FOR SEEING metonymy, the former embodies a different conceptualization, in that, it refers to 'perseverance' not desperation. This conceptualization is based on the idea that to persevere, one has to ignore (refuse to see) some unpleasant things, which in literal terms is achieved by closing the eyes.

- (25) *mu rufe ido-n-mu mu hukunta su*
 1PL close eye-GEN.1PL.POSS 1PL sentence 3PL
 'we should persevere and sentence/judge them'

In a similar way, naiveté and alertness are also located in the eyes. Whereas the eyes are conceptualized as being bigger and more widely open for alertness, they are made smaller or closed for naiveté (see also Kóczy, *this volume*). The expressions *bude mata ido* (lit. open her eye) and *idonta ya bude* (lit. her eyes are open) in (26a)–(c) are based on the conceptual metaphor ALERTNESS IS AN INCREASE IN EYE SIZE while the negated form in (26c) instantiates that NAIVETÉ IS A DECREASE IN EYE SIZE.

- (26) a. *dukiya ta bude mata ido*
 wealth 3.SG.F open 3.SG.F.PF eye
 ‘money has exposed her’
- b. *ido-n-sa ya bude*
 eye-GEN-3PL.M 3PL.M open
 ‘he is no novice’
- c. *ido-n-ta bai bude ba*
 eye-GEN-3PL.F NEG. open NEG.
 ‘she is too naïve to understand’

4. Reflexivity

In what seems to be an early stage of grammaticalization, Pawlak (2014: 145) illustrates how “various body part terms can also be used in expressions involving certain degrees of grammaticalization towards reflexive markers” in which she provides the example in (28a) involving the use of the eyes in marking reflexivity. This reflexive extension seems to be motivated by several metonymic chains connecting the body part to its specific function in human life, such as MOUTH FOR SPEECH, LEGS FOR MOVEMENT, EYES FOR SEEING, etc. which is further extended through a PART FOR WHOLE metonymy, allowing the particular body part responsible for the action referred to in the sentence to stand for the person himself. In this regard, the expressions in (28a) – (c) literally mean ‘for eyes’, but are contextually referent to the subject of the sentence – thus, the eyes stand for the person in reference. It is worth noting, however, that the extension of the term into reflexivity only indicates the possibility of its evolution into a grammatical marker, but the current usage might not be strictly described as grammaticalization, at least in its narrow sense.

- (27) a. *mu gano wa ida-n-mu!*
 1PL see for eye-GEN-1PL.POSS
 ‘let us see for ourselves!’ (lit. for our eyes)

- b. *na gani wa ido-na*
 GEN.SBJ saw for eye-1SG.POSS
 'I saw this thing by myself' (lit. by my eyes)
- c. *ku gane wa ido-n-ku*
 3PL see for eye-GEN-3PL.POSS
 'to see for yourselves' (lit. for your eyes)

5. Conclusion

The aim of this chapter is to study the conceptualization of the term *ido* 'eye' in Hausa. The linguistic embodiment hypothesis proposed by Lakoff and Johnson (1980) shows that the human body is central to cognition and in turn shapes the human linguistic conceptualization, as has been proven by the vast literature not just in cognitive linguistics but also in other human sciences. The truth is, different cultures code various domains based on their peculiar cultural experiences. The fact that 'face' is more salient for the English conceptualization of 'person', whereas the 'eye' is more salient for Hausa in the conceptualization of the same domain, is a case in point.

It appears from the prevalence of the term in the sources used for this study, that the Hausa *ido* 'eye' is widely extended into many domains of experience, and is used in expressing many abstract domains, which in some cases have led to the lexicalization and possible grammaticalization of the term. For instance, only in the relatively small corpus used in this study, there are at least 111 expressions involving the term *ido*. Of the total 150 expressions collected for this study, 45 (30%) are judged as bodily while 105 (70%) as figurative expressions which indicate that the term extends widely into various domains of conceptualization. The conceptual extensions of the term as discussed in this paper are largely based on metonymy, metaphor and in some cases, metaphonymy. Similarly, it seems that the term has a wide range of figurative entries in the Hausa dictionaries.

As seen in the data presented in this chapter, the term *ido* 'eyes' has been extended into numerous conceptual domains. Based on various metaphoric and metonymic processes, the term *ido* has been used in the formation of various compounds. Another prevalent extension of the term *ido* is in the domain of seeing based on the EYES ARE AN INSTRUMENT FOR SEEING metaphor which itself has various models of conceptualization. The EYE FOR SIGHT metonymy provides the basis for the conceptualization of *ido* in the domain of sight whereas the KNOWING IS SEEING metaphor extends the term *ido* into the domain of knowledge and learning. Because of the function of the eyes as an instrument of seeing, the term *ido* has been further extended into the domain of attention *via* EYE FOR ATTENTION

metonymy. Similarly, various emotion concepts and character traits such as shyness, fear, insolence, desperation, alertness, naiveté, etc. are understood to be located in the eyes.

However, while the 150 expressions collected for this study provide enough figurative contexts in which the term *ido* is extended into various domains, it should be kept in mind that new figurative usages might have emerged over time, and these might not have been captured in the texts used in this study. Similarly, since Hausa is a lingua franca in northern Nigeria spoken by millions of non-native speakers, it is likely, therefore, that some figurative usages of the term may not be analyzed in this study. This provides interesting motivation for further research.

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Conceptualisations of entrails in English and Polish

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The paper discusses various conceptualisations of the intestines in the English and Polish language system and examines the surface linguistic expressions that make explicit the position which the body part occupies within the two conceptual systems. The study, by no means exhaustive, is an attempt to analyse the various roles that the guts play in the human experience, explain how these diverse perceptions came to function in our thoughts and language, and demonstrate the parallels that can be drawn between the conceptualisation of the bowels in the two distantly related languages.

Keywords: entrails, grammaticalisation, intestines, gut, metaphor, metonymy

1. Introduction

The paper discusses particular patterns of cognitive transfer by means of which the use of various terms describing entrails, in particular the term *gut*, has extended to convey concepts from other domains of human experience. The transfer patterns which contribute to instances of meaning extension examined in this chapter can be described in terms of two cognitive strategies: *metonymy* and *metaphor*. The first one is defined as a figure of speech where a linguistic expression (the *vehicle* or *source*) that typically designates one entity is used to designate a different yet related entity (the *target*) (Lakoff and Johnson 1980/2003; Langacker 2000; Kövecses 2002); on the other hand, metaphor can be best described as transfer of meaning from one conceptual domain (*source*) to the other (*target*), where, while the target entity is understood in terms of the source entity, there is no obvious connection between the two (Lakoff and Johnson 1980/2003; Kövecses 2000; 2002). Grammaticalisation theory is used as a framework for the reconstruction of these patterns of transfer, based on the analysis of linguistic examples in English quoted from the Corpus of Contemporary American English (COCA), and examples in Polish from Narodowy Korpus Języka Polskiego (NKJP).

2. Conceptualisations of guts in the English language

The English language is surprisingly abundant in linguistic expressions involving the guts, which points to a special place that this body part occupies in the conceptual system. According to the Online Etymology Dictionary, the word ‘guts’ itself, meaning ‘bowels, entrails’, emerged in the English language relatively early in the form of Old English *guttas*, and can be traced back to the Proto-Indo-European root **gheu* meaning “to pour” (Etymonline.com, 2018). The original meaning expanded to “abdomen, belly” through the CONTENT-FOR-CONTAINER metonymy in the late 14th century, and, through metaphorical extension, “channel” (a narrow body of water) in the 1530s. Finally, in the 1570s, ‘guts’ gained new meaning as “the insides of anything”, and is still used in that form today.

2.1. The bowels as the seat of emotions

In contemporary European languages emotions are typically associated with the heart; however, according to a hypothesis put forward by Richard Trim, a shift in the conceptualisation of emotions in Western culture must have occurred relatively early after the period of Antiquity, when the centre of human feelings moved from the abdomen region to the heart (Trim 2014, 104). The change in perception probably stems from the rise in the importance of “mental thinking” in Western culture (Trim, 2014 105). This hypothesis is supported by linguistic evidence present in Old English poetry and literature, which established the heart as the dominant locus of human feelings (cf. Jager 1990). In contrast, in Ancient Greece the intestines played a special role in the conceptual system, as they were considered the seat of human emotion (Padel 2016, 12-13). *Splanchnon* (singular *splanchna*), a term used to denote the innards in general, including the principal internal organs such as the heart, liver, gallbladder, lungs, along with the intestines and attendant blood vessels, was seen as the body part responsible for various feelings, including anxiety, fear, grief, love, desire, and pity, as well as the location of a person’s character (Padel 2016, 13). This conceptualisation seems to have arisen from the belief that, while the emotion visible on the outside (controlled with *phrene*, the mind) may be deceiving, the entrails, being the most central, hidden part of the body, do in fact represent the *true self* (Padel 2016, 14).

In the Judaic tradition, guts were considered the location of tender affections, such as kindness, pity, compassion, and benevolence (Hillman 2007, 15-16). Interestingly, it was the Greek word *splanchnon* that was used in the Septuagint to render a Hebrew term. Early Bibles in English rendered it in its literal sense as *bowels*, which consequently led to the word acquiring a secondary meaning of ‘pity, compassion’ in the late fourteenth century (in later editions the word was

translated as *heart*) (Etymonline.com, 2018). For instance, the phrase *me'ay hamu 'alav* from the Song of Songs (5: 4), which could be literally translated as “my entrails welled up for him”, were rendered in the King James Version (1611) as “my bowels were moved for him” (Hillman 2007, 16). In the New International Version (1978) the passage is translated as “my heart began to pound for him” (which demonstrates the aforementioned shift in the perceived location of emotions), while the International Standard Version (2011) interprets the phrase as “my feelings for him were aroused”. The bowels were represented as the seat of tender affections both in the Old and New Testament, as shown in Examples (1)–(4). The passages from the King James Version are compared with their more recent translations in the New International Version.

- (1) And Joseph made haste; for his bowels did yearn upon his brother: and he sought where to weep; and he entered into his chamber, and wept there. (KJV, Genesis 43: 30)
 Deeply moved at the sight of his brother, Joseph hurried out and looked for a place to weep. He went into his private room and wept there. (NIV)
- (2) Then spake the woman whose the living child *was* unto the king, for her bowels yearned upon her son, and she said, O my lord, give her the living child, and in no wise slay it. (KJV, 1 Kings 3: 26)
 The woman whose son was alive was deeply moved out of love for her son and said to the king, “Please, my lord, give her the living baby! Don't kill him!” (NIV)
- (3) For we have great joy and consolation in thy love, because the bowels of the saints are refreshed by thee, brother. (KJV, Philemon 1: 7)
 Your love has given me great joy and encouragement, because you, brother, have refreshed the hearts of the Lord's people. (NIV)
- (4) Whom I have sent again: thou therefore receive him, that is, mine own bowels: (KJV, Philemon 1: 12)
 I am sending him—who is my very heart—back to you. (NIV)

It can be speculated, that it is through early Bible translations that the guts came to be conceptualised as the locus of emotions in the English language. There is a number of linguistic expressions that point to the special role attributed to the abdominal area; however, they are by no means limited to the positive and benevolent feelings originally placed in this region in the Greek and Judaic traditions. The multitude of linguistic expressions establishing the gut as the seat of negative emotions is motivated, first and foremost, by the intense bodily experience of sickness or indigestion that could be metaphorically compared to analogical emotional troubles. Secondly, there is a strong link between psychological

distress and unpleasant sensations in the abdominal region, as many of us have indeed experienced problems with the digestive tract caused by strong negative emotions. Thirdly, these visceral responses tend to be immediate and hard to overlook; vomiting or diarrhoea typically occur shortly after ingesting a pathogen, just as emotional distress directly follows a stressful or upsetting situation. In fact, circumstances that are difficult to cope with can sometimes be referred to as *hard to digest* (a more popular version of the expression is *a hard pill to swallow*). This connection between negative emotions and intestinal troubles is reflected in a number of linguistic expressions in English describing a negative emotional response to something:

- (5) To a man who had spent most of his adult life teaching others the joys of God's eternal presence in their lives, the sense of abandonment must have been gut wrenching.
- (6) We don't want our subjects to come in here and get their bowels in an uproar.
- (7) Well, of all the things I saw, the thing that hits me the hardest, that twisted my guts the hardest was when I walked into a low, dark barn in Iowa.
- (8) In John, God washed feet, smelled extravagant perfume, made abundant wine, had his guts churned in weeping, raised a putrid Lazarus, asked a friend to stick a hand in his wounded side and ate grilled fish on the lakeshore.
- (9) Greg's guts tightened. He wanted to crawl under his desk and hide but he had to help the guy out.
- (10) Every time Crow thought about how Ruger invaded the Guthrie house, brutalized the family, and nearly killed Val – his Val! – Crow felt his guts turn to ice.
- (11) (...) he stared at him and hated him with a hatred that wracked his entire body, from his head to his feet, his brain, his guts.
- (12) It wasn't until I'd finished with the front door that the knot I'd had in my guts since my first foray into the joint with Anja finally loosened.
- (13) Anger billowed up from her guts, making her face hot.

On the other hand, the guts are also conceptualised as the seat of positive emotions, such as hope or excitement (14), delight (15) or attraction (16)–(17):

- (14) “God,” she fumed as she sat, inching up behind the delivery truck, thinking of Myles, hating that each time her phone buzzed her guts roiled – that die-hard ping of hope.
- (15) The cozy parlor, where you hang out waiting for the lobsterman from beyond the stars, reading books, looking through the windows, absentminded and content. My guts went to water.
- (16) Her eyes were like drill bits in steel, and I felt the sparks all the way down in my guts. Usually it’s only Mason who makes me feel that.
- (17) The spark of fire in her eyes tightened his guts, accelerated his heart.

Still, the number of expressions in English where the intestines are portrayed as the locus of positive emotions is considerably lower than of those connected with negative feelings, and can therefore be considered marginal. This disproportion can, again, be linked to the inherent unpleasantness of sensations felt in that region of the body. What is more, the intestines can hardly be described as the most “romantic” body part, and therefore do not lend themselves easily to the coinage of figurative expressions connected with higher emotions such as love. Still, even though the emotions located in this region may not be pleasant, they are nevertheless valid and genuine, as discussed in the next section.

2.2. Entrails as the location of true feelings and emotions

This conceptualisation is deeply rooted in culture in general and can be traced back to the beginnings of humankind. At least from the Bronze Age onwards, the guts were used for divination, as the intestines of animals (and occasionally humans) were “read” in search of divine signs that would allow our ancestors to connect with the gods and access knowledge beyond the visible reality (Padel 2016, 14). In Ancient Greece, it was the intestines of the animal that were extracted first in the context of ritualistic sacrifice, and, as the meat was divided for the gods and the humans, the guts were eaten by the participants and symbolically marked by the deities (Padel 2016, 15). It can therefore be assumed that the guts were the locus not only of emotions, but also of truth, knowledge and the sacred, and conceptualised as the actual *centre of being*.

This idea of centrality is reflected in English, where the intestines and abdomen are also seen as the core of being: either of a human or, metaphorically, of an idea or problem, as suggested by adjectives such as *visceral* or *gut*:

- (18) The gut issue is whether the Menominees want to live under a corporate or tribal way of life.

- (19) I understand it on an intellectual level. But on a deep, visceral level, I don't get it.

In English, the gut can be conceptualised as the locus of true feelings, thoughts and emotions, as in phrases such as *gut check* (the point at which one stops to honestly consider the situation and the feelings connected with it) or *gut reaction* (a spontaneous emotional reaction to something):

- (20) And, of course, always do a gut check before you post anything.
- (21) Her immediate response, her gut reaction when she sees someone, is to start justifying what she did.

The idioms involving guts could often be paraphrased as *deep down*, further emphasising the central, fundamental and innermost quality of the body part:

- (22) And all of these people understood it in their guts and was realizing that, Franklin Roosevelt wasn't going to get everything he wanted on Social Security.

The gut region is not only considered the most central to the human body (and, metaphorically speaking, being in general) but is also conceptualised as the most delicate and sensitive part. This is mirrored by a popular expression 'a kick in the guts', which conveys the idea of a severe and painful blow to somebody's body (as BODY PART FOR PERSON metonymy) or spirit (motivated by the metaphorical extension of the term to the emotional or spiritual sphere):

- (23) There's no doubt about it, it's a big kick in the guts, isn't it, for the sport.

This prevalent metaphorical association of the viscera with emotions and feelings is discussed in more detail in the subsequent section.

2.3. The GUTS ARE KNOWLEDGE/ EMOTIONS metaphor

The guts themselves are also conceptualised as true feelings, emotions and knowledge, and are typically metaphorically portrayed as liquid CONTENTS that can be spilled. The GUTS ARE KNOWLEDGE/ EMOTIONS metaphor, which conforms to the larger CONTAINER image schema, is reflected in several linguistic expressions in English, such as *to spew one's guts out*, meaning 'to tell everything that one knows, to give a full confession', or *to spill one's guts*, which is to truthfully share all details or feelings about something. In this context, not only do the guts provide access to deeper, typically hidden information, thoughts and emotions, but the act of ejecting the contents of the abdomen is also a metaphorical ritual of cleansing. It can be suspected that, just as in indigenous purification rituals (cf. Boyd 1996,

127; Knight 2008, 166;), the contents of the gut are expelled through the oral cavity rather than the rectum, as suggested by the mode by which the insides are metaphorically emptied, namely by means of speech:

- (24) We are living in a society where people complain about 1984, people spying on you. Meanwhile, we pour our guts out on television, on Facebook, on Twitter.
- (25) Now, if you want to talk about hocus-pocus, psychiatrists are right up there. You lie on their couch spilling your guts.

Last but not least, the abdominal region is conceptualised as the locus of instinctive, irrational and intuitive knowledge, which falls in line with the Ancient idea of the entrails holding a truth that extends beyond what is accessible through intellectual processing or empirical enquiry. In this case, the gut or guts are conceptualised rather as a CONTAINER capable of carrying CONTENTS such as feelings or instincts. The linguistic expressions in English that fall in line with this conceptualisation are used in reference to a feeling or reaction based on an instinctive emotional response as opposed to logical thought:

- (26) My gut tells me that the economy is plenty strong, we will be able to withstand it.
- (27) The detectives' guts told them that Yolanda knew way more than she was saying.
- (28) There was a gut feeling, right from the get-go that something was wrong.
- (29) Any decent detective would say, it's all about gut instinct.
- (30) The detectives' guts told them that Yolanda knew way more than she was saying.
- (31) My gut tells me that there's something catastrophically wrong with this scenario.

In summary, a large number of linguistic expressions following the metaphorical conceptualisation of the abdominal region and the entrails as the locus of thoughts, feelings, emotions, and knowledge point to the significant role that these body parts play in our conceptual system. The emotions located in the gut are typically intense, spontaneous and, in the large part, negative, which reflects the bodily experience related to illness and discomfort felt in that region. At the same time, the impact of cultural connotations stemming from philosophical and religious systems established centuries ago is not to be underestimated.

2.4. Metonymical and metaphorical extensions

As mentioned above, the word ‘gut’ itself can be treated as an example of the CONTENTS FOR CONTAINER metonymical extension of meaning. However, this cognitive process goes beyond the obvious extension to the closest region; the guts can stand for not only the abdomen but also the whole person. The BODY PART FOR PERSON metonymy is most commonly employed to denote one’s personal attributes, including both physical traits and defining features of character. For instance, terms *greedy guts* and *gutbucket* signify a person who is greedy, gluttonous or has a voracious appetite, *guzzle-guts* is a heavy drinker and the phrase *blubber gut(s)* is used to describe someone who is severely overweight. Again, the BODY PART FOR PERSON metonymy seems to be motivated by the aforementioned conceptual centrality of the gut region and the idea that it somehow holds the “essence” of human character. This is also reflected in the aforementioned expression *a kick in the guts*, where the guts metonymically stand for the whole body or spirit of a person; another such idiom is *to hate someone’s guts*, meaning ‘to utterly despise somebody’:

(32) Richard told me the whole time, I don’t know Monica, but I hate her guts.

Even though guts and the belly are typically associated with humans, or least animals that physically possess these body parts, the words came to denote a number of inanimate objects and entities through the process of metaphorical extension of meaning. Firstly, the term *guts* can be applied to the insides of anything:

(33) Gray stalls, a speckled floor, two porcelain sinks, their rusty guts exposed from her vantage point.

(34) I am bent way over, trying to see deep into the kayak’s guts.

What is more, the metaphorical guts of objects are typically arranged in a disorderly fashion, or are otherwise perceived as messy, drawing on the visual similarity between the insides of an item and human or animal intestines:

(35) “I’m a lot better with jack-o-lanterns than pies,” I say to my red tick hound, Sweetie Pie Delaney, who wisely sleeps under the kitchen table, an area still free of pumpkin guts.

(36) The guts of a volcano are complicated, and the signs of moving magma and superheated water are difficult to interpret.

(37) They were house guts – ruined furniture, ruined books, ruined pictures, ruined carpet.

Interestingly, just as in the case of humans, the guts also came to signify the most central and essential part of an object, oftentimes one that is relatively abstract and hard to define:

- (38) They seemed to spend significant time looking into the guts of a problem, blocking out the world around them, a perceptible purpose and direction to every step.
- (39) But the “back end” – the guts of the system, which required far more computing power and integration across other federal networks – was built by a traditional contractor, CGI Federal (...).
- (40) Minstrel, as we know, was – historically has been – in the guts of the civil rights movement (...).

The functional aspect of the intestines (their role in the processing of food) is reflected in expressions that fall in line with the metaphorical conceptualisation of the inner working parts of a machine or device as its *guts*:

- (41) The guts of these projectors consist of a prism that splits light into red, green, and blue wavelengths.
- (42) Both platters are formed from high-density polymer that traps and dissipates the resonant energy caused by all the spinning and humming and turning of the machine’s intricate guts.

The abundance of metaphors and metonymies involving the gut and intestines can be explained by the fact that the terms have undergone the process of grammaticalisation at a relatively early stage in the English language. This may also indicate that the frequent usage of a term and the high importance of the source in our conceptual system encourages and stimulates the natural human tendency to make such extensions of meaning.

2.5. The figurative association between entrails and courage

A significant number of linguistic expressions suggest that there is a strong cultural association between intestines and courage. The first recorded usage of *guts* in the figurative meaning of ‘spirit’ or ‘courage’ comes from 1893 (Etymonline.com, 2018). Intestines also came to symbolise bravery, pluck, nerve, determination, stamina, readiness to take risks, and perseverance in the face of adversity. The connection between bowels and these character traits can be explained in a similar way to the one between the heart and courage present in many languages (cf. Kraska-Szlenk 2014, 56-57). The metaphorical conceptualisation of entrails as the locus (CONTAINER) of emotions discussed in Section 2.2 initiates a chain of

metonymies: first, the metonymy GUTS FOR EMOTIONS within the highly conventionalised CONTAINER FOR CONTENTS schema; next, the more specific metonymy GUTS FOR SPECIFIC EMOTIONS within the GENERIC FOR SPECIFIC schema. In this context, courage itself can be interpreted as a temporary ability to control one's fear in a particular situation, or as a permanent character trait which defines a person in general. The association of guts and courage is articulated through several English expressions, set phrases and idioms containing the noun *guts* and its derivatives (adjectives such as *gutsy* or *gutless*, the phrasal verb *gut it out*, etc.), as shown in Examples (43)–(50), arranged from the most to the least conventionalised:

- (43) It needed stitches, but he didn't have the guts to stick a needle so close to his eye.
- (44) Believe me, it takes guts to run for president. It's not easy.
- (45) The president continues to weaken his image as a gutsy, straight-talking outsider.
- (46) This matters because if Republican senators, gutless creatures that they are (...).
- (47) So far, Trump's political campaign operates with a no guts, no glory approach.
- (48) (...) an analytical mind and guts of steel, say insiders, are far more important than scholarship.
- (49) One learned to bandage up, ice down, and gut it out.
- (50) They are the only commissioners who had the intestinal fortitude to stand up for the taxpayers.

In this context, guts are also interchanged for *balls* (testicles), regardless of the biological gender of the person described:

- (51) She has the balls to go in the hardest place on the face.

In contrast to guts, testicles are typically associated with stereotypically male behaviours, such as aggression and readiness to take risks. Still, as both the gut and the male genitalia are particularly sensitive regions of the body, it may be hypothesised that the metaphorical “exposure” of these areas is considered an act of courage in the face of adversity.

2.6. Guts in the process of grammaticalisation and word formation

Grammaticalisation can be defined as the process of “development from lexical to grammatical forms, and from grammatical to even more grammatical forms” (Heine 2014, 16). Typically, the process is assumed to be unidirectional, leading from concrete lexical to abstract grammatical forms, although several exceptions to this rule have been discovered (Heine and Kuteva 2002, 4–5). From a synchronic perspective, the process of grammaticalisation typically follows the path of metaphorical transfer from more concrete to more abstract domains, as meaning extension most commonly involves metaphor and metonymy (Heine 2003, 586); therefore, a parallel can be drawn between the hierarchical organisation of conceptual domains proposed by Heine and the consecutive stages of grammaticalisation of a term:

(52) Person > Object > Activity > Space > Time > Quality (Heine et al. 1991, 48)

The term *gut* seems to have undergone this process only to a certain degree; the extension of meaning of the *body part* only reached the stage of *activity* (*to gut*) and the derived participial adjective (*gutted*). As discussed in the previous section, at the first stage the meaning of guts extended from ‘bowels’ to ‘abdomen’ in the late 14th century through the CONTENT FOR CONTAINER metonymy. Surprisingly, the next stage did not involve the metaphorical extension from the body part to part of an object, as *guts* came to denote ‘the insides of anything’ only in the 1570s (Etymonline.com, 2018); the verb *gut*, meaning to ‘remove the entrails of’ was attested in the late 14th century (53), preceding the expected metaphorical extension by over a century. The figurative use of the verb as ‘plundering the contents of an object’ can be traced back to the 1680s (54), and since then the meaning extended to ‘devastate, destroy or demolish the insides of a structure’, both of concrete entities (55)–(56) and abstract concepts (57)–(58), and, informally, ‘to make somebody feel extremely upset or disappointed’ (59), leading to the emergence of the participial adjective *gutted*, signifying ‘bitterly disappointed or upset’ (60):

(53) (...) hauls in the shark and guts it with a savagery that would have made Norman Bates envious.

(54) He was thinking now that the wallet was likely stolen, then gutted and left on a stranger’s car roof, a clever way to dispose of it randomly.

(55) I wanted to live on the water, away from the city, as natural as I could get without a long commute to work, so I bought it from Petey, who moved to a condo in Miami. I then had it gutted and remodeled before I moved in, with a full bedroom added to the second floor.

- (56) At right is a row of furniture stores which were gutted by fire.
- (57) Because U.S. policies gutted the economies in their countries, they came years ago to do low wage work (...).
- (58) The measure was so gutted during the legislative process that it has meant virtually no meaningful changes in the way elementary schools are operated.
- (59) The fact that a middle class gutted by unemployment doesn't bode well for gadget sales likely isn't lost on them either.
- (60) I'm-sad- I'm just – I'm wrecked by it. I'm gutted by it, and the – he's a man...

In the future, due to the popularity of linguistic expressions involving guts, the process of grammaticalisation is likely to encompass also the *SPACE* domain; the guts will probably be conceptualised as the 'core' or 'centre' of a particular place. For the time being, the number of linguistic expressions motivated by this conceptualisation is rather scarce and seems to be restricted to isolated instances of idiolect, as in (61):

- (61) I steer the Civic to 676, cutting through the guts of the city (...).

Due to the strong visual image evoked by the exposed intestines, the conceptualisation is expected to be limited to space organised in a chaotic and complicated manner.

2.7. Other conceptualisations

The conceptualisations discussed so far rely on strong connotations that the guts have in Western culture, and are easily explained by the role of the intestines as the digestive tract and their visual qualities. Surprisingly, in the English language the guts also seem to be connected with the idea of hard work, both physical and intellectual. It is worth noting that the gut area does not, in fact, play any role in labour; it is typically the hands and arms (used as tools), or the back (the body part that carries the burden) that fulfil that role in the conceptual system. However, there are multiple expressions connecting the intestines with the concept of hard work, such as *work one's guts out*, *flog one's guts out*, or *slog one's guts out*. All three rely on the aforementioned qualities of centrality and sensitivity, and point to the gutting of a person as one of the worst kinds of torture. Additionally, because of their anatomical construction, extracting the intestines is a long process, which may explain why the expressions involving the gut are typically used in the contexts where a great deal of effort has been consistently put into completing a task over a long period of time:

- (62) Q: Given that some of these block parties go for hours and hours, how do you keep energized and stay focused? A: They don't occur that often, so you just gut it out for 10 hours. Then you go home and sleep for 12 hours.
- (63) The truth is you work your guts out in how many jobs, and you scrimp up the extra coin and you give it over to Central Wage, and they take it and screw you in the bargain.
- (64) We talked about the game, his sons, the players.... Both teams played their guts out.

Interestingly, most conceptualisations discussed so far are by no means confined to one culture and language. As demonstrated in subsequent sections, multiple parallels can be drawn between the role of guts in English and in the distantly related Polish language.

3. Conceptualisations of guts in Polish

Just as in the English language, the multitude of expressions connected with guts in Polish point to the special position that the body part occupies in the conceptual system. In Polish, multiple equivalents for the term *guts* can be found, including *jelita* (the medical term for intestines), *flaki*, *kiszki*, *bebechy* (all three used informally in the context of the human anatomy), *wnętrzości* (the insides), and *trzewia* (an archaic term for the viscera). The etymology and usage of selected terms denoting the body part is discussed in Table 1.

It is worth mentioning, that in many cases the etymology of Polish terms denoting guts is hard to determine; for instance, the term *flak* may possibly stem

Table 1. Selected Polish terms denoting bowels

singular	plural	English equivalent	etymology
jelito [jɛ'litɔ]	jelita	bowel, intestine	Latin <i>ilia</i> Proto-Slavic * <i>elito</i>
flak [flak]	flaki	gut, bowel	German <i>Fleck</i> Latin <i>flaccus</i>
kiszka ['kʲɨʃka]	kiszki	gut, bowel	Proto-Slavic <i>kyša</i>
bebech ['bebɛx]	bebechy	gut, bowel	regional <i>belch</i> (the gut/ belly)
–	wnętrzości [vnɛn'tʂnɔɕ.ʦɛi]	insides, entrails	Polish <i>wnętrze</i> (the inside)
† trzewo ['tʃɛvɔ]	trzewia ['tʃɛvʲja]	viscera	Proto-Slavic * <i>červo</i>

from the German term *Fleck*, meaning ‘dot, point, blemish’, from Middle German *vlęc* or *vlęcke* (‘piece of cut animal intestine’). However, it seems more likely that the word can be traced back to the Latin *flaccus*, meaning ‘flaccid, flabby’, based on the quality of the intestine (cf. Bańkowski 2000; Malmor 2009). On the other hand, the term *kiszka* seems to have arisen from the Proto-Slavic *kyša*, meaning ‘spoilt, sour’, possibly because animal intestines have a tendency to spoil and ferment quickly (cf. Brückner 1927). Last but not least, in the case of *bebechy*, a reverse etymological process to the English term *guts* can be observed: the plural noun is rooted in the cant word *belch*, denoting the belly or the gut; it can be thus concluded, that the form used today arose through a CONTAINER-FOR-CONTENT metonymy.

Even though nowadays the Polish equivalents of the English term *gut* are typically used in informal contexts, some of them gave rise to official medical terminology; for instance, *trzewia* produced the term *otrzewna* (the peritoneum), while *kiszka stolcowa* (‘stool gut’) is used in medical jargon to denote the rectum and *ślepa kiszka* (‘blind gut’) is used for the appendix. There is also a number of folk medical terms derived from the term *flaki*, such as *odrzytni flak* (‘intestine from the arse’) for the rectum, *ciężkie flaki* (‘thin guts’) for the small intestine and *grube flaki* (‘thick guts’) for the large intestine. On the other hand, *mieć bebech* (‘have a gut’) means ‘to be pregnant’. However, these names are highly informal and used only in certain dialects of Polish.

Interestingly, many of the conceptualisations observed in English can also be found in Polish, despite the fact that the languages belong to two different language groups (Germanic and Slavic, respectively). For instance, both in English and Polish the guts are considered a locus of negative affections, such as outrage and indignation (65)–(66), anger (67), envy (68), sadness (69), and hatred (70):

- (65) Nie pieprz, człowieku, bo się flaki wywracają od takiego gadania.
‘Stop this shit man, my guts are turning from this kind of talk.’
- (66) Nie chcę już mówić o zubażaniu języka i myśli, mnie się po prostu bebechy przewracają jak coś takiego widzę.
‘I don’t even want to talk about impoverishing the language and thoughts, my guts are simply turning when I see something like this.’
- (67) Nie bocz się na mnie, bo mi się już flaki skręcają ze złości.
‘Stop sulking at me because my guts are twisting in anger.’
- (68) Dla innych kobiet, żeby posiniały z zazdrości. Żeby flaki im się skręciły na twój widok.
‘For other women, so they turn blue with envy. So their guts twist when they see you.’

- (69) Kto nie zna chandry? Niespodziewanej, ostrej deprymującej takiej, że się wszystkiego odechciewa, że jest jakoś smutno i źle po same bebechy.
‘Who hasn’t had the blues? Unexpected, sharp, so disheartening that you don’t feel like doing anything, that you feel somewhat sad and bad down to your guts.’
- (70) (...) i w tej właśnie chwili poczuł sam w trzewiach taką samą nienawiść zimną, mściwą i nieubłaganą (...).
‘and it was at that moment that he felt in his insides that same hatred, cold, vengeful and merciless’

Just as in English, the guts are also the location of strong emotions and affections (not necessarily negative, as in (71)–(72):

- (71) Opowiadanie, którego akcję można streścić dosłownie sześcioma słowami (...), a które mimo to chwytą czytelnika mocno za flaki i nie odpuszcza aż do kropki po ostatnim słowie (...).
‘A short story, whose plot can be summarised in literally six words, which nevertheless grabs the reader strongly by the guts and doesn’t let go until the full stop after the last word.’
- (72) I śmiałyśmy się obie ze łzami w oczach – tak duże to były emocje. Film wywraca bebechy do góry nogami.
‘And we were laughing with tears in our eyes – so overwhelming were the emotions. The movie turns your guts upside down.’

In the Polish language system, the guts are also metaphorically connected with hard work and putting a lot of effort into something, just as in English. This is reflected in linguistic expressions such as *wypruwać sobie flaki/bebechy* (‘rip one’s guts out’), equivalent to the English phrase *work/flog/slog your guts out*:

- (73) Obawiam się jednak, że wraz z upływem pór roku zobaczę, że wypruwam sobie flaki za mniejszy zysk niż dają mi te beznadziejne sukinsyny z AIG.
‘I am afraid that, as seasons change, I will notice that I’m ripping my guts out for a lesser profit that these hopeless sons of bitches from AIG are offering me.’
- (74) “Niefachowcy” wypruwali ostatnie bebechy, żeby opłacić swą nieobecność na liście redukccyjnej.
“Non-specialists” were ripping their last guts out not to find themselves on the redundancy list.’

The metaphorical extensions observable in English can also be found in the Polish language system. Both *flaki* and *bebechy* are commonly used to denote the contents of a container (a suitcase, etc.) as in (75), the insides of any object (76)–(77) and

the inner mechanism of not only concrete objects such as mechanical, electronic or electrical devices (78)–(80), but also abstract concepts, like a language in (81).

- (75) Następnie obejrzano bebechy mego plecaka i zabrano się za mnie samego.
‘Next, they examined the guts of my backpack and moved on to examining me.’
- (76) (...) bebechy pościeli: pierzyn, kocy, poduszek (...).
‘the guts of the bedding: comforters, blankets, pillows’
- (77) (...) narta taliowana musi być sztywniejsza poprzecznie stąd musi mieć mocniejsze flaki (...).
‘a sidecut ski must be sturdier crosswise, and therefore must have stronger guts’
- (78) Akordy dociśnięte do oporu, jakby próbowały wypruć flaki z fortepianu.
‘Chords pushed down all the way as if they were trying to rip the guts out of the piano.’
- (79) Dla nich firma NZXT produkuje przezroczyste obudowy PC, które dodatkowo podświetlają i eksponują elektroniczne bebechy, kostki pamięci i plątaninę kabelków.
‘The NZXT company produces transparent PC casings, which additionally illuminate and show off the electronic guts, memory chips and the entanglement of wires.’
- (80) Zrobiłem tak: rozwaliłem starą lampę (w miarę mocną) i wyciągnąłem z niej bebechy.
‘Here’s what I did: I smashed up an old lamp (relatively sturdy) and pulled out its guts.’
- (81) Jego zaś pisanstwo w ogóle świadczy, że obchodzą go głównie żywe bebechy języka polskiego.
‘His writing generally indicates that he is mostly interested in the live guts of the Polish language.’

It is worth noting that, just as in English, the conceptualisation applies mostly to contents or insides that are disorganised, messy, entangled, arranged in a complicated manner, or, in the case of abstract concepts, convoluted and complex, probably due to the visual image of the intestines as a chaotic mass of tissue.

Another similarity between English and Polish in the conceptualisation of the intestines is the fact that in both languages they are seen as the locus of true feelings and emotions. The expression *wybebeszać się komuś* (‘rip the guts out to somebody’) and its different variants are the exact equivalent of the English phrase *spill (one’s) guts (to somebody)*, meaning ‘to confess or confide in somebody’:

- (82) (...) człowieku, obudź się, nie mam zamiaru tu się wybebeszać (...).
'man, wake up, I'm not going to spill my guts out here'
- (83) Zwracacie na siebie uwagę za wszelką cenę i sami – tak naprawdę – robicie z siebie „nienormalnych” wywalając bebechy swojej prywatności i intymności.
'You try to get attention at any cost, and- actually- make yourselves look “messed up”, exposing the guts of your privacy and intimacy.'
- (84) Nie wszystkie flaki trzeba wypruć, nie wszystkie bebechy nadają się do tego, by je wyłożyć przed oczy publiki.
'Not all guts need to be spilled, not all guts are meant to be exposed in the public eye.'

The guts are also conceptualised as the location of intuitive knowledge, or, more precisely, the organ that “senses” what is hidden to the eye, as in Examples (85)–(86):

- (85) Sorki bebechami wyczuwam, że czas najwyższy usunąć się z Twego pola widzenia (...).
'I'm sorry, I sense with my guts that it's high time for me to get out of your sight.'
- (86) Płonęła ta stodoła, a ja, sługa boży, chyba już wtedy, gdzieś w trzewiach, odczuwałem, że dzieje się Zło.
'The barn was burning and I, god's servant, probably even then, somewhere in my insides, felt that Evil is going on.'

The conceptualisation of the guts as the true character of a person is also present in Polish; however, the idea is expressed through the phrase *z bebechami* ('with guts') rather than the BODY PART FOR PERSON metonymy observed in English:

- (87) Mówię mu bez wstępu, że zostałem antysemitą i to nie takim sobie dla kawału, ale zaciekłym, antysemitą z bebechami (...).
'I tell him bluntly that I became an anti-Semite, and not just for laughs, but a fierce anti-Semite with guts.'

The usage of the term *guts* in the translation of the example above may be interpreted as a conceptualisation stemming from the figurative association of guts and courage; however, the metaphorical connection between intestines and bravery and fearlessness is absent in the Polish language system. Still, the BODY PART FOR PERSON metonymy can also be observed in Polish. Again, the phrase *z bebechami* is employed, this time with the added rhetorical function of strengthening the emotional impact of a sentence. In this context, the idiom means 'the person in their entirety', as in the examples below:

- (88) Żyd korzystając z próżności i naiwności goja, opanował go bez wysiłku z bebeciami, do szpiku kości.
‘Taking advantage of the gentile’s vanity and naivety, the Jew effortlessly took control over him with guts, to the bone (marrow).’
- (89) Z bebeciami jużes mi obrzydła, z każdej strony.
‘I’m fed up with you with your guts, from every side.’

The BODY PART FOR PERSON metonymy discussed above may also take a similar shape as in English, where the gut or guts metonymically stands for the entire person and is used to draw attention to a person’s characteristics, describing both physical features, as in the regionalism *bebecz* (‘gut’) denoting an obese person (especially male, due to the grammatical gender of the term), as well as their character or typical behaviour:

- (90) Obaj byli jak flaki i to ich najmocniej łączyło. Taka w nich była nieruchawość jakaś, niechęć i przemożne poczucie nudy.
‘They were both like guts, and that’s what related them the most. Such was their sluggishness, reluctance and the overwhelming feeling of boredom.’
- (91) Z żalem patrzył na szczyty, po których chodził we wczesnej młodości. “Teraz bym tam nie wylazł, jestem zupełny flak” (...).
‘He looked regretfully at the peaks he walked on in his early youth. “I wouldn’t climb up there now, I’m a total gut.”’

In Example (90), the term *flak* symbolises human character traits such as the general lack of energy and assertiveness, while in (91) the focus is shifted towards the lack of physical fitness. These conceptualisations appear to be motivated by the limpness of the intestines, which also supports the theory that the term *flak* came into usage through a borrowing from the Latin term *flaccus* (as discussed at the beginning of this section). In fact, in Polish the word also applies to any entity that shares that same quality, as in Examples (92)–(93):

- (92) Przed moim domem stoi stary samochód – od dawna nikt nim nie jeździ, opony zamieniają się we flaki, a karoserię pokrywa gruba warstwa brudu i ptasich „pamiątek”.
‘In front of my house stands an old car- nobody’s driven it for a long time, tyres are turning into guts and the body is covered in a thick layer of dirt and bird “souvenirs.”’
- (93) Fakt, że używałam kremów ujędrniających biust by z DD nie zostały flaki (...).
‘It’ true that I used bust firming creams so that the double D’s don’t turn into guts.’

In Polish, the terms denoting the intestines have undergone the same grammaticalisation process as in English, with the meaning extending to non-human entities at the first stage, and later expanding to describe an activity. Interestingly, only one of the aforementioned terms for guts, *bebechy*, seems to have undergone the process. While in English the verb form *to gut* is identical to the noun, in Polish the root *bebech* takes on multiple suffixes in order to transform into a verb. In accordance with the Polish word formation rules, the root *bebech* is altered to *bebesz* and takes on various verb suffixes to accommodate tense and person, as well as the prefix *wy-* to mark perfective forms. Due to the complex Polish morphological rules applied in the word formation process, the precise translation of the verb is nearly impossible. Still, just as in English, the verb form *bebeszyć* can be used in its literal meaning ‘to remove the guts of’ (94), as well as in the sense of ‘to remove the insides of’ (95), ‘to devastate, destroy or demolish the insides of’ both concrete (96) and abstract entities (97)–(98):

- (94) Trzeba zatopić ich kryjówki, zedrzeć łuskę, wybebeszyć wnętrzności i zasypać piaskiem.
‘You need to sink their hideouts, tear off their scales, gut their insides and cover them with sand.’
- (95) Musiałem wybebeszać plecak i gęsto się tłumaczyć (...).
‘I had to gut my backpack and do a lot of explaining.’
- (96) Potężny dynamitowany ładunek wybebeszył z bramy wysoką barykadę.
‘A powerful dynamite charge gutted the tall barricade from the gate.’
- (97) Rzeczywiście, kilkoma precyzyjnymi cięciami wybebeszyłeś moje inspiracje literackie.
‘Indeed, with a few precise cuts you gutted my literary inspirations.’
- (98) Zawzięłem się, by wybebeszyć ten niezwykły życiorys.
‘I was bent on gutting this extraordinary biography.’

Despite the many similarities in the conceptualisations of guts in Polish and English, there are several ones that can be found solely in the Polish language system. These include the intestines as material possessions in general (not necessarily resembling the guts in any shape or form). The metaphorical conceptualisation appears to be rooted in the idea of the intestines being an indispensable and integral part of the human body, just as a person’s belongings become essential to their existence:

- (99) Wyrzucili ich ze wszystkimi bebechami do komórek!
‘They were thrown out with all their guts to the storage compartments!’

The guts serve as source for metaphors denoting physical locations; *kiszka* is commonly used to describe a long and narrow space, especially a room or hallway (100), while the terms *trzewia* and *flaki* represent a central location within a larger structure, for instance, a city in (101)–(102) conceptualised as the human body:

- (100) Miał to być apartament o wielkości ponad 30 m kwadratowych. A po przyjeździe okazało się, że to długa kiszka.
‘It was supposed to be a suite of over 30 square meters. And after our arrival, it turned out that it was a long gut.’
- (101) Żołądkiem, czyli miejscem, gdzie zaczyna trawić się pokarm (turyści), jest Rynek, Sukiennice to flaki, przełyk to ulica Grodzka.
‘The stomach, which is the place where the food (the tourists) starts being digested, is the Market, the Cloth Hall are the guts, the oesophagus is Grodzka street.’
- (102) To sterylne podziemie, bazaltowy tunel w trzewiach miasta (...).
‘It’s a sterile underground, a basalt tunnel in the guts of the city.’

4. Summary

In both English and Polish several identical conceptualisations of the bowels can be observed, despite the fact that the two languages are only remotely related. As discussed in the previous sections, guts are seen as the centre of feeling and emotions, which attributes to them the function typically reserved for the heart. On the surface level, on rare occasions the guts are even used interchangeably with the heart in expressions originally involving the latter:

- (103) She’s a walking pharmacopeia, yes, but is literate, or her editor is, and she’s got a story, plus she is honest, hilarious, self-righteous, kind. She wears her guts on her sleeve.

However, these emotions and sensations typically tend to be stronger and more negative in nature than those experienced by that organ. Interestingly, in both English and Polish the expressions reflecting this conceptualisation involving the intestines are also more emotionally charged and more expressive phonetically than those connected to the heart. This may be explained by the intensity and shamefulness of any physical ailments experienced in the abdominal region; the discomfort and bodily reactions to medical problems such as indigestion or food poisoning are also rather sudden and unexpected. Therefore, the feelings metaphorically experienced in the gut region are usually more violent and unpleasant than those felt in the heart. In both English and Polish, the guts play a part in the

CONTAINER schema, where they may be conceptualised as the CONTAINER with CONTENTS (for instance, feelings and emotions), a PRESSURISED CONTAINER (as observed in expressions such as *bust a gut*), or the CONTENTS of a CONTAINER (the gut). What is more, the intestines are also perceived as the locus of irrational, intuitive knowledge, which might be motivated by the idea that what is hidden from the naked eye may also contain information that is inaccessible by the senses or by means of reasoning. Additionally, the terms denoting the body part have undergone the process of grammaticalisation in both languages, extending from a body part, through a part of an object (contents of a container or the inner working mechanism of a machine), to finally encompass the activity of literal or figurative removal of said contents. Apart from that, in both languages the guts seem to be related to the idea of hard work, both physical and intellectual, which might be connected to the aforementioned discomfort connected with the abdomen. Intestines and the surrounding cavity are frequently used as a source for the BODY PART FOR PERSON metonymy, where they are used to describe a human referent, often pointing to (typically negative) physical and character traits.

Still, there are several examples of discrepancies between the Polish and English conceptual systems, for instance, the English association between the guts and courage, or the Polish GUTS ARE MATERIAL POSSESSIONS metaphor. Nevertheless, the many similarities found between the different conceptualisations of guts in English and Polish point to possible universality of the role that intestines play in our conceptual system, although more data from unrelated languages would be needed to draw such a conclusion. Of course, one has to wonder whether this conceptualisation is not the result of linguistic transfer from the dominant Anglo-Saxon culture, especially considering the widespread use of some of the English expressions involving guts, and the extent to which Poles are exposed to them.

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Cultural conceptualisations of *nawsk* ‘belly/stomach’ in Kurdish

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Conceptualisations of body parts across languages have received a great deal of attention in recent years (Ameka, 2002; Frank et al., 2008; Maalej & Yu, 2011; Sharifian et al., 2008; Yu, 2009). Nevertheless, there have been no systematic studies examining the conceptualisations of body parts, and in particular *nawsk* ‘belly/stomach’, in Kurdish. To that end, the present study employs the analytical framework of Cultural Linguistics (Sharifian, 2011, 2017b) to explore Kurdish expressions of *nawsk* and their underlying cultural conceptualisations. The data consists of naturally occurring expressions collected through a variety of sources including a questionnaire, Kurdish online data, dictionaries, and narratives. Other sources included the author’s intuition as a native speaker and a number of Kurdish native speaker interviews. The results indicate that the body part *nawsk* functions as the main conceptual basis for a large number of conceptualisations in Kurdish. *Nawsk* is conceptualised as the locus of a wide range of emotions, attitudes, and moods. It is associated with both positive and negative emotions such as love, courage, sadness, curse, and anger. Overall, it is revealed that in Kurdish, *nawsk* is conceptually associated with expressing feeling, wanting, and thinking. *Nawsk* is metaphorically conceptualised as a container.

Keywords: Kurdish, belly/stomach, Cultural Linguistics, cultural conceptualisations, emotion

1. Introduction

A considerable number of cross-linguistic studies have been conducted on embodiment, that is, the role of bodily experiences in conceptualisation, and the majority of these studies view the conceptualisation of the body to somehow interact with culture (e.g., Ameka, 2002; Blakeslee, 1996; Gibbs, 1999; Maalej, 2004; Mayer, 2011; Sharifian, 2011, 2017b; Yu 2002, 2003). It has been found that

the conceptualisation of various human body parts in different languages reveals different cultural conceptualisations that have been developed and shared by their speakers. Nevertheless, no detailed study to date has looked into figurative embodiment in Kurdish from the perspective of Cultural Linguistics.

As indicated by this new cultural embodiment approach, most researchers have explored the cultural and historical basis of human experiences and cognition by considering cultural conceptualisations and traditions commonly shared in speech communities. It has been highlighted that the ways in which different languages employ body terms to conceptualise human experiences such as emotions, feelings, moods, and thoughts are different and culture specific (Enfield and Wierzbicka 2002; Hasada, 2002; Kövecses 2002, and Yu 2002). For instance, some languages such as Indonesian (Siahaan, 2008), Malay (Goddard, 2008), Kuuk Thaayorre (Gaby, 2008), and Vietnamese (Ly & Le 2013) tend to locate emotions and intellect in the abdominal region.

The body term belly/stomach plays a central role in some languages. In a study conducted on the Kuuk Thaayorre language, Gaby (2008) found that feelings and emotions are mainly located in the abdomen. Moreover, she also realized that this body part was connected to spiritual and physical health in the Thaayorre due to the important place food has in the aboriginal worldview. Notably, the abdomen was found to be central in the embodiment of emotions, spirit and life force. Furthermore, Dinh and Le (2016) have provided an array of cultural conceptualisations and expressions for the belly from Vietnamese idioms and proverbs which reinforce former studies by Vietnamese scholars including Ly (2011), Ly and Le (2013), and Nguyen (2010), who had also emphasized that the belly/stomach signifies the center of emotions and thoughts for the Vietnamese speech community.

Nevertheless, no systematic study has examined the conceptualisations of body parts, and in particular the *nawsk* 'belly/stomach', in Kurdish. Therefore, this chapter aims to contribute to the knowledge of how body-part terms can form the basis for abstract conceptualisations of emotions, desires, feelings, and thoughts by investigating the use of the body-part term *nawsk*, 'belly/stomach' in Kurdish, which enjoys a central position in the Kurdish language and culture. The following section provides brief background information about Kurdish and examines some conceptualisations reflected in expressions that include the word *nawsk*.

2. The language and its speakers

Kurdish is an Indo-European language mainly spoken in Turkey, Syria, Iraq, and Iran. Kurdistan is a nation divided among these four countries. It spans the southeast of Turkey, the north of Syria, the north of Iraq, and the west of Iran. The

Kurdish language has been subject to influences from the languages spoken in those four countries and it has also influenced those languages. For instance, the Persian language has borrowed the word *asman* 'sky' from Kurdish.

The Kurdish language has a variety of dialects, categorized into four main groups: Northern Kormanji, Middle Kormanji, Southern Kormanji, and Goran (Kormanji means Kurdish). Each of these main dialects comprises many other dialects. Most of the Kurds in Iran, particularly those in the Kurdistan Province where this study was conducted, speak the Middle Kormanji dialect, which includes many subcategories such as Ardalani, Sorani, Mukri, Soleimaniyeie, and Garmiani. Besides, the people in some Iranian provinces such as Kermanshah and Ilam speak Southern Kormanji made up of Kalhori, Laki, Kohgoluyeie, Bakhtiari, and Lori.

3. Synopsis of the research design, method, and sources of data

In this study, an ethnographic approach was employed to identify the conceptualisations of the body-term *nawsk* 'belly/stomach' that might be specific to the culture of Kurdish speakers. The investigation consisted of two phases. In the first phase, a number of expressions containing this body-term in Kurdish were used as prompts to evoke conceptualisations in the Kurdish speakers. The research data was drawn from four main sources: a questionnaire, dictionaries, online sources, and focus group interviews. In the second phase, the data was analyzed by means of the analytical tools of Cultural Linguistics (Sharifian, 2011, 2017b) to unpack the cultural conceptualisations (cultural schemas, cultural categories, and cultural metaphors) of the Kurdish body-term *nawsk* 'belly/stomach'. Sharifian (2011, 2017b) has described this methodology as Association-Interpretation. The analysis and identification of these conceptualisations is further supported by different sources of knowledge, such as the intuition and experience of other members of the cultural group (cultural insiders), a deep review of the relevant literature, and consultation with experts.

4. Cultural linguistics

The paradigm of Cultural Linguistics is multidisciplinary in nature combining elements of cognitive linguistics and cognitive anthropology in order to analyse and understand the relationship between language, culture and cognition (Sharifian, 2013, 2011, 2017b). Language and culture are so inextricably intertwined that in order to establish effective communication in any given language, one should be

aware of the existing cultural differences among the people who speak that language. This close connection between culture and language has been emphatically explored in numerous linguistic, cultural, and social studies (e.g. Alptekin, 2002; Brown, 1994; Bygate, 2005; Jiang, 2000; MacKenzie, 2012; Risager, 2007; Sharifian, 2013, 2017a, 2017b).

The purpose of Cultural Linguistics is to analyse conceptualisations that are culturally based, and are encoded and communicated through human languages (Sharifian, 2011, 2014). Sharifian (2015) offers linguists an analytical and theoretical framework for understanding culture at a cognitive level. To Sharifian, physical proximity is not the only element in defining a cultural group. Rather, it is the individuals' willingness to participate in interactions with the cultural group which plays a crucial role and determines their membership. He contends that cognition is a property of cultural groups and designates cultural conceptualisations as emergent and heterogeneously distributed (Sharifian, 2011, 2015, 2017b).

According to Sharifian (2013), language is a cultural resource which both stores and represents *cultural conceptualisations* (Sharifian, 2011, 2013; Sharifian & Palmer, 2007). He defines cultural conceptualisations as "cultural schemas, categories, metaphors, etc. that are emergent at the level of cultural cognition" (Sharifian, 2011, p. 40). Cultural conceptualisations in language are most obvious in the area of lexical semantics (Dayyan et al., 2015; Sharifian, 2011, 2013; Sharifian & Palmer, 2007). There has been a raft of research into the cultural conceptualisations of schemas, metaphors, idioms, and symbols within different domains such as bodily organs, emotions, family, and kinship (e.g. Gaby, 2008; Mayer, 2011; Sharifian, 2011, 2013; Sharifian et al., 2008; Xu, 2014; Yu, 2008, 2009).

Cultural schemas, cultural categories, and cultural metaphors are formed on the basis of various cognitive processes where the experiential basis for linguistic interaction is cultural (rather than idiosyncratic and individualistic). The notions of cultural schema, cultural category, and cultural metaphor provide analytical tools for examining features of language that instantiate culturally constructed conceptualisations of experiences. This way, cultural conceptualisations and language in general offer an analytical framework for Cultural Linguistics, complementing its theoretical basis in cultural cognition.

Cultural schemas are culturally constructed conceptual structures which people rely on while communicating (Sharifian, 2013). These schemas empower their users to share and construct "cultural experiences and knowledge that is determined by cultural norms" (Sharifian, 2011, p. 48). Cultural metaphors are conceptual metaphors that are rooted in cultural systems such as customs, traditions, religion, history and the like (Sharifian, 2013). Cultural metaphors are defined as cognitive structures that allow us to understand one conceptual domain in terms of another (Sharifian, 2011). Cognitive categories that have a cultural basis are

viewed as cultural categories. The human mind classifies objects, processes, events, and experiences into categories based on similarities and differences, and individuals tend to take these categories for granted throughout their lives (Sharifian, 2013, 2017b).

The following diagram demonstrates the theoretical and analytical framework of Cultural Linguistics (Sharifian, 2017b, p. 6) to be employed in this research for the analysis of the data from the phase of data collection:

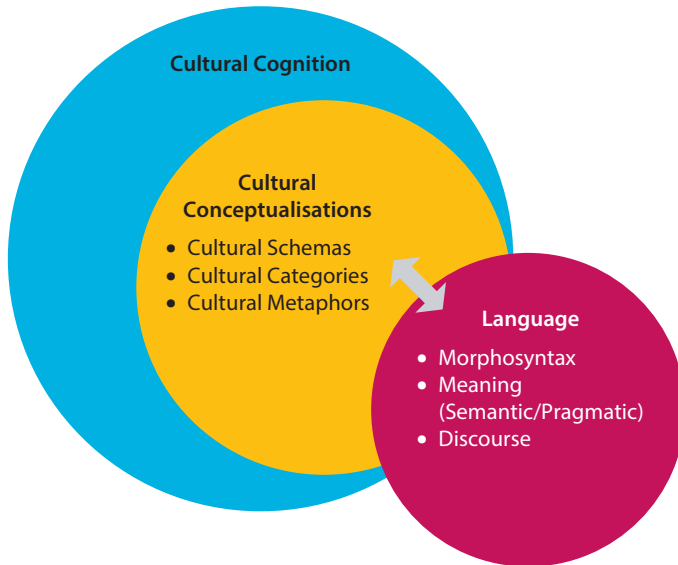


Figure 1. The theoretical and analytical framework of cultural linguistics (Sharifian, 2017b, p. 6)

As the diagram shows, various language forms such as morpho-syntax, semantic and pragmatic meaning may be embedded in the three forms of cultural conceptualisation of cultural schema, cultural metaphor, or cultural category.

5. *Sk* and *Nawsk* conceptual categories

According to the framework of Cultural Linguistics (Sharifian, 2011, 2017b), cultural categories are considered a sub-class of cultural conceptualisations providing us with in-depth information about the bond between language and culture. Different languages give their speakers the tools to label their cultural categories often through lexical items and grammatical markers (Hercus, 1994; Lakoff, 1987). For instance, in Kurdish there are two different words for referring to the stomach including *nawsk* and *sk*. The *sk* category has to do with the physical dimension

of the abdomen, whereas the *nawsk* category introduces it as an abstract and metaphorical concept.

5.1 *Sk* category

Due to dialectal differences, the pronunciation of the word for ‘belly/stomach’ alternates between *sk* and *zk* across Kurdish dialects. For example, Ardalani Kurds say *sk* while Sorani Kurds pronounce the same word as *zk*. The point is they can be used interchangeably without affecting the meaning.

Therefore, *sk* in the Kurdish language means ‘belly/stomach.’ Based on what the participants said, the expressions people utter, examples, and literary texts, the word *sk* bears concrete signification. In expressions that contain *sk*, the concept is not implied as metaphorical. In this case, the abdomen as a mere body part on the outside matters. It can feel pain, heart-burn, hunger, or anything related to its physical dimension. Take the following excerpt from a highly appreciated and narrative poem entitled *The Old Tree* by Jalal Malakshah, a contemporary poet based in Sanandaj, the capital of Kurdistan Province in Iran:

- (1) *Sk-m ter-a-o jamei zarin la-bar-akam, ghad nam-diwi,*
 Belly-my full-is-and cloth golden wear, not see –you,
naaisht-nasm, ragaz chi-ya, baawan kaam-a
 not-also-you-know, Ancestry what-is, dear what-is
 ‘My stomach is full, I’m wearing golden garments, haven’t seen you at all, I
 (do not know you, what is ancestry, what is the fatherland?)’

Here the physical gut matters. When satiated, the person in question has no other concern simply because his stomach feels full. In this category, the belly is just a container not a ground for metaphorical connotations. There are dozens of other instances of expressions in the daily conversations of the Kurdish speech community that confirm the basis of this physical dimension.

- (2) *Sk-m esh-e*
 Belly-my pain-is
 ‘I have pain in my belly.’

Or:

- (3) *Sk-m baa-y krga*
 Belly-my wind-is become
 ‘I have eaten too much.’

5.2 Nawsk category

In the Kurdish language, *naw* means inside and when combined with *sk*, it takes on metaphorical meanings which can be used to address people. Expressions that introduce the belly as metaphorical and abstract do not sound real when taken literally. For example, the belly can be set on fire as in the expression *nawsk-m agri grd* meaning 'hatred'. In another example:

To xawaro chas la nawsk mn which means 'what do you know about what happened to me?' Or 'How sad am I?' When a person is addressed *nawsk -akam*, 'He/She is your love'. Here *nawsk* is a seat for love and passion.

Here is a famous poem by a classical Kurdish poet (Aakhol, 1980) which metaphorically signifies the belly as the locus of emotions and feelings:

- (4) *Nawsk-t krd-m ba khwenaw, jgar wenei kabab, dookal-i aah-i*
 Belly-you make-me to bleed, liver like kabab, smoke-is sigh
daroon-m, taa ba aasman-m bas-a
 inside-my, till to sky enough-is
 'You made my stomach bleed, barbecued my liver, the smoke of my sigh
 inside, reaches the sky, enough' (I don't quite understand this)

The stomach is of pivotal importance in the Kurdish speech community. It is used for the purposes of endearment, love, hatred, frustration, etc. In this poem, the beloved is torturing the lover. In this situation, Kurdish people say *nawsk-m-o rash-aw krga* which literally means 'you have darkened my belly'. And that is the main point of the abovementioned poem.

6. *Nawsk* and conceptualisations of emotions in Kurdish

All languages reveal a tendency to employ the domain of internal body organs as a source of conceptualisation for human experiences and emotions. However, a body part signifying a peculiar concept in one language may not imply the same concept in another language due to differences in the underlying cultural conceptualisations. The Persian speech community, which is in the immediate vicinity of the Kurds, conceptualizes the heart or the eyes as the seat of human emotions (Sharifian, 2011, 2017b) while, in Kurdish society, it is the belly that serves this purpose. Therefore, the body part *nawsk* is used very frequently in conceptualisations of emotions in Kurdish.

6.1 Nawsk as love, passion, and intimacy

In Kurdish, *nawsk* is conceptualized as the seat of the love felt for the beloved. An outstanding usage of the word *nawsk* is *nawsk-akam* which means ‘My Love’. The degree of this affection is so strong that the speaker considers the beloved as equivalent to their central organ that is the belly. Literally speaking, the above expression means ‘my belly’. It connotes love. The speaker wants the beloved to be as close as possible to them to show the intimacy between them.

As mentioned earlier *nawsk* plays a central role in the hierarchy importance vis-à-vis the human organs in Kurdish. By the same token, the lover shows their willingness to sacrifice themselves for the beloved. For example, the expression *dard-t kafet la nawsk-m*, which literally means ‘your pain fall in my belly/stomach’ (May your pain be mine), indicates the intensity of the passion felt for the beloved.

6.2 Nawsk as sympathy, empathy, and pity

In Kurdish culture, the belly/stomach is also the source of sympathy, empathy, and pity. This conceptualisation corresponds to the usage of *nawsk* in the following examples: Sometimes, the speaker, considering the belly/stomach as the central organ, upon recognizing the beloved’s grief says *nawsk-m aagri grd bo-i*, which literally means ‘my stomach has been set on fire’. It means that ‘I cannot evade the burden of your sorrow and be indifferent to you,’ or, to put it simply, ‘I share your pain.’ The other expression is *nawsk-m konas bo-i*. It means news of the beloved’s sorrow perforated the lover’s belly. Namely, ‘I feel pity for him/her.’ As demonstrated here, it is the belly that feels sympathy for others. Whatever happens to others leaves a mark on the lover’s stomach.

6.3 Nawsk as hate, curse, and revenge

In Kurdish, the worst wishes directed at people on hate contain expressions that target the belly. As mentioned earlier, it is an organ that attracts much attention. Expressions like *nawsk-t da kafet* is used when a person commits a wrong deed or a vice. For instance, when a person breaks a glass or forgets to bring something, an angry speaker may use this expression which literally means ‘I hope you lose your stomach,’ that is the speaker wishes the loss of everything upon the person who has made a mistake. In a sense it equals wishing for their death. It could also be interpreted as a curse that means, ‘Down with you.’ To lessen the degree of anger, the assertion *zhan bchet-a nawsk-t* ‘May your belly be filled with pain,’ can be used. Here, the speaker wishes pain on a wrong-doer while addressing them directly. It can also be used to curse others. In this case, the belly or stomach acts as the

storehouse of good and bad feelings instead of food. It is a container that is always imagined to be filled with something either physical or metaphorical. It seems that a person whose belly is filled with something good is blessed, and if not, they will be unable to enjoy it.

6.4 Nawsk as complain, fear, and anger

At some point, Kurdish speakers may have conceptualized *nawsk* as the main seat of emotions like complaint, fear, and anger. To show fear, they say *nawsk -m da kaft* 'My belly has dropped.' Sometimes the speaker, upon getting angry, may use this same expression to mean 'You have frightened me.'

Besides, the word 'stomach' has a special place in the expressions that represent profound anger accompanied by sadness like *nawsk-m rasho buga ba das-io* 'My belly has turned black because of him/her.' That expression is used when a person states that their belly has turned black to demonstrate profound sadness and anger. The image is that the wrongdoings of others stain the speaker's belly.

7. *Nawsk* conceptualisations and personality traits, character and mood

Some expressions reflect conceptualisations of *nawsk* as the centre of personality traits, character and mood. Most human characteristics are described with reference to the belly in the Kurdish speech community. Due to the fact that the belly is the most significant body part, in terms of producing linguistic expressions, a great many human characteristics are associated with *nawsk* or *sk*. Every culture makes use of a peculiar body part. For instance, in the Persian speech community, the heart and eyes are given importance (Sharifian, 2008a, 2011) whereas in the Kurdish community, because of its worldly world view, the belly is highlighted. Here are some examples that support the conceptualisations of *nawsk* in relation to personality traits.

7.1 Wicked and devilish

- (5) *Nawsk esh-a-ya*
 Belly pain-is-he/she
 'He has pain in his belly.'

A person doing harm to others is referred to as *nawsk esh-a-ya* which means 'He has pain in his belly'. This type of person abuses people for no specific reason. Perhaps they take pleasure in doing so or maybe it is in his nature to harm others.

7.2 Gluttonous and insatiable

- (6) *Nawsk bryag-a*
 Belly cut-is
 ‘His/her belly is cut into pieces.’

This expression can have both physical and metaphorical applications. In the case of the former, the person is characterized as insatiable. And in the latter, they are an insatiable person never content with what they have.

7.3 Opportunistic and greedy

- (7) *Nawsk dre-ya*
 Belly tear-is
 ‘His/her belly is torn.’

This type of person envies other people because they have something he/she does not. At times, they can be very opportunistic. *Nawsk dre-ya* literally means ‘His belly is torn’, and in order to stitch the pieces together, they take advantage of other people or situations in a strategic manner (at the right time, in the right place).

- (8) *Nawsk-i kona-s ter nawe*
 Belly-his/her hole-is full not-can
 ‘He/she has a hole in his belly and is never satiated.’

Once again, it is applied both abstractly and concretely. If taken physically, it means someone is insatiable and can never be filled. Metaphorically, they never get what they want, which is considered a personal failure.

7.4 An abusive person

- (9) *Nawsk-a shora-ya*
 Belly-is sour
 ‘He/she has sour stomach.’

This expression literally means ‘He/She has a sour stomach’. As mentioned in the first one ‘*nawsk esh-a*’, this person intentionally or unintentionally hurts people.

7.5 A nag

- (10) *Nawsk-mi rash-aw krga*
 Belly-my black do
 ‘He/she blackened my belly’

When a person repeatedly asks for something like a pampered child, they are described as *Nawsk-mi rash-aw krga*, literally meaning ‘He/She blackened my belly’. It is mostly used pejoratively by men to describe their wives.

- (11) *Nawsk-t axwa*
 Belly-your eat
 ‘He/she devours your stomach.’

Some people are believed to grumble about everything. They nag all the time and are very abusive. Many participants agreed that people tell their friends not to marry a *nawsk-t axwa* – someone who ‘devours your stomach’. This type of person sucks your spirit dry.

8. *Nawsk* and conceptual metaphor

Conceptual metaphors refer to a mapping between a source domain, which is usually concrete, and a target domain, which is generally abstract (Lakoff, 1992). Research in cultural linguistics has brought ‘conceptual metaphors that are culturally constructed’ into focus (Palmer, 1996; Sharifian, 2011, 2017b). These metaphors are termed *cultural metaphors* in Sharifian (2015). According to Sharifian (2017b), “Cultural metaphors are cross-domain conceptualisations that have their conceptual basis in cultural traditions, such as folk medicine, worldview, or a spiritual belief system” (p. 15). Cultural metaphors exist in relation to different domains of the human experience, including the body parts.

Several studies have investigated the impact of culture on conceptual metaphors (Lovick, 2012; Pasamonik, 2012; Sharifian, et al., 2008; Yu, 2009). In a study on the metaphorical conceptualisations of body parts and emotions, Pasamonik (2012) revealed that although the physiological basis plays a significant role in the formation of many metaphorical expressions, there are many others constructed based on cultural associations between body parts and emotions. Therefore, exploring the cultural metaphors associated with body parts in any particular language can provide information about the conceptual system of the speakers of that language.

8.1 *Nawsk* can be filled or emptied

As mentioned before, in Kurdish expressions, the belly/stomach is also regarded as a container of abstract things like feelings and emotions rather than concrete ones like food. There is a direct relation between the actions of a person and the belly of the observer. The cultural metaphor of *pr nawsk-m-t krd la zhan*, indicates one speaker’s dissatisfaction with the other. It means ‘You filled my belly with pain

(you distressed me).’ *Nawsk* can be metaphorically emptied, too. Upon observing a disgusting scene, a person may say *nawsk -m hata-daraw*. It means they are overcome by nausea. The expression implies both physical and the metaphorical regurgitation.

8.2 *Nawsk* can be tightened or torn

In the Kurdish speech community, it is the belly/stomach, rather than the heart (as it is in Persian culture) that can be tightened or torn, at a time of disaster. The metaphor *nawsk-m kona buga ba das-io*, literally meaning ‘He/She has pierced my stomach’, implies that the speaker is indignant over the behavior of another person. It signifies, ‘You have upset me very much.’ This expression is used when the speaker wants to express their disappointment when they cannot find a way to discipline someone. The doer’s actions act as a corrosive element for the speaker’s soul. Here, the stomach is a metaphor for the soul.

Moreover, when a person is overcome by heartbreak, they may say *ezhi kas-ek dast akhat-a nawsk-m*. Its literal meaning is, ‘I am too sad as if someone clapperclaws my gut’. It is obvious that at the hidden level, it metaphorically means, ‘The order and discipline of my stomach (my disposition) is ruined by the existence of the sorrow.’

9. Conceptualisations of *Nawsk* in Kurdish literature

In Kurdish Literature, *nawsk* ‘belly/stomach’ plays a central role. It is the storehouse of agony, love, wishes, desires, and secrets. That is while in cultures such as Persian, it is the heart that is the doer (Sharifian, 2011, 2017b). This body term is so significant, it is used by poets to express affection and love for others as in ‘You are my stomach’. It is also used in expressions that express both fear and a feeling of vomiting as in ‘My stomach poured forth’. This linguistic feature can be found in texts associated with Mithra – the god worshipped by the Kurds many years before Zarathustra.

Before the ancient religious reformer Zarathustra gained influence in the west of Iran, Persians had a polytheistic belief system, and among their gods, Mithra was their main deity. Mithra was worshipped by the Kurds who inhabited the western part of Iran. According to that tradition, Mithra was born out of the heart of rocks and that the first thing he did was to hunt the sun and to kill the holy bull. In short, Mithra symbolizes interpersonal relations and whatever initiates healthy relations between people. The connection between Mithraism and the conceptualisations of *nawsk* ‘belly/stomach’ can be found in the schemas of eating,

drinking and dancing among Kurds. It reveals the significant role of *nawsk* and the way it has been the storehouse of agony, love, wishes, and desires.

In stark contrast with religions that are characterized by prayer, worship, sacrifice, and asking God for a reward, Mithraism is a sociopolitical creed the award for which is granted by following or breaking a contract. Heaven and hell are considered aspects of mundane reality and all that exists is right here on earth. Mithraists celebrated the tragic realities of life by eating, drinking, and dancing to music – things which Zarathustra called Evil.

Despite their ancient origins, these ideas continue to influence Kurds today. They have culminated in expressions commonly used interpersonally. *Nawsk* 'belly/stomach' signifies worldly pleasures; therefore it is considered the most important body part in the formation of linguistic expressions in the Kurdish literature and speech community.

The conceptualisations of *nawsk* are repeatedly used by great Kurdish poets. In one of his poems, Mahwi (1836-1906), a classical Kurdish poet, describes a woman used to attracting men. He made use of the stomach to convey what he had in mind.

- (12) *Chi-ya donya? zhn-e-ka har shaw-i sk pr ba sad fitna, sbein-i*
 What-is world? woman a is each night belly fill with hundred sedition,
zoo ba khwen-i jarg-i ahl-i dl daka bizoo
 mornings-in early with blood liver people-from heart crave
 'What is the world? She is a woman whose stomach is filled with sedition at
 nights, and in the mornings she craves for the blood of the lovers'

Sherko Bekas (1940-2013), known as the emperor of modern poetry, refers to the belly/stomach many times in his poems. As an example:

- (13) *Sk boo ba gorg, prs-i nakrd, na ba Khani, na ba Nali, na*
 Belly become to wolf, ask-he/she not-did, not to Khani, not to Nali, not
ba Goran
 to Goran
 'The belly/Stomach became a wolf, didn't ask, neither Khani, nor Nali, nor
 Goran'

This poem states that a hungry belly/stomach does not pay attention even to the most influential Kurdish poets like Xani, Nali, or Goran. An empty belly/stomach, like a wolf that devours, does not pay heed to culture and will not act in a socially accepted manner. It is somehow the representative of the id. Sherko Bekas refers to the stomach as something that denotes worldly pleasures.

Moreover, in another poem, Mofti Penjweni (1881-1952), a classical Kurdish poet, explains there's no end to the desires of a person, which those desires are like a belly/stomach that is never sated.

- (14) *Na sk ter abe, na aalosh amre, na yaridei kas kalkt bo agre*
 Not belly full become, not uncle die, not help people hand for take
 ‘Neither does the stomach gets full, nor does die the uncle, nor does people’s
 help take your hand’

Kurdish poet, writer and translator, Mamosta Hazhar (1921-91), has translated Khayam’s Rubaiyat (a classical Persian poet); but the way he has done it is highly interpretative. He came up with a new version of Khayam, the more earthly and Kurdish kind, in the Kurdish language, by changing a great many concepts to correspond with Kurdish subjectivity. In particular, he made references to earthly pleasures the representation of which is *nawsk*. Here is one example:

- (15) *Sk koopa niya, la mei jamei be dam-o zham, bo*
 Belly pot not, for wine glass without food, for quench
lampar-i kham, dam-dam-o kam-kam khosh-a
 sadness, bit-bit-and little-little nice-is
 ‘The stomach is not a pot, for a pile of wine and food, for drowning sadness,
 bit by bit and sip by sip is nice’

There are many other instances where the *nawsk* ‘belly/stomach’ body part is used as a symbol of worldly pleasures.

As can be seen, *sk/nawsk* ‘belly/stomach’ is considered the most important body organ when it comes to the linguistic production of expressions. Among the Kurds, the ‘belly/stomach’ is regarded a source of concepts associated with earthly pleasures and powers. To Kurds, eating and drinking are considered standing up for pleasures that they set great store by. There are many feasts and rituals that bring people together to enjoy numerous dishes, wine and/or other alcoholic beverages. The Kurds are generally considered happy people enjoying life notwithstanding the disasters imposed on them, natural or man-made.

Besides the linguistic usages of the word ‘belly/stomach’, a local system of medical treatment makes use of the stomach to heal people with illnesses. By prescribing local herbs growing on high mountains surrounding the Kurdish-populated region, they try to heal the sick because they consider the stomach as the cause and source of every illness. In stark contrast, people view the stomach as the source of pleasures existing in the domain of this world – happiness, lust, excitement, love, and fear. This is why there are so many linguistic expressions pertinent to the stomach uttered by people to refer to others.

In conclusion, the following figure provides a snapshot of the various conceptualisations relating to the *nawsk* body part in the Kurdish language. It demonstrates a relatively wide range of domains and concepts relying on expressions involving *nawsk* in Kurdish.

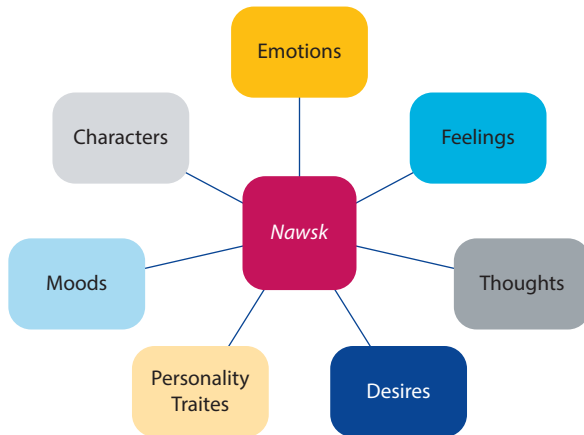


Figure 2. Conceptualisations associated with *nawsk* 'belly/stomach' in Kurdish

10. Concluding remarks

This chapter has traced some conceptualisations of *nawsk* 'belly/stomach' in the Kurdish language back to the Mithra tradition and its influence on the Kurdish literature and language. The data presented and analysed throughout the chapter strongly suggests that the body part *nawsk* 'belly/stomach' functions as the main conceptual basis for a large number of conceptualisations in Kurdish. *Nawsk* is conceptualised as the locus of a wide range of emotions, attitudes, and moods. It is associated with both positive and negative emotions such as love, courage, sadness, curse, and anger.

As a whole, the chapter presents an account culturally constructed conceptualisations of *nawsk* and suggests a strong role for the belly/stomach body part in the human conceptualisation of internal and external experiences. In line with the observations of Gaby (2008) and Dinh and Le (2016) in the cases of the Kuuk Thaayorre and the Vietnamese language, the findings of this chapter point to the interconnection between the conceptualisation of *nawsk* 'belly/stomach' and those of emotion, thinking, character, and mood, in Kurdish. In summary, the analysis of these Kurdish conceptualisations of *nawsk* presents a considerable case study which signifies the role of language as a 'memory bank' for the cultural conceptualisations (Sharifian, 2011) being developed throughout the history of a particular speech community.

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The volume focuses on body part terms as the vehicle of embodied cognition and conceptualization. It explores the relationship between universal embodiment, language-specific cultural models and linguistic usage practices. The chapters of the volume add to the previous research in a novel way. The presentation of original data from previously undescribed languages spoken by small communities in Africa and South America allows to discover unknown aspects of embodiment and to propose new interpretations. Well-known languages are analyzed from a new perspective relying on the benefits of linguistic corpora. Contrastive and theoretically oriented studies help to pinpoint similarities and differences among languages, as well as tendencies in conceptualization patterns and semantic development of the lexis of body part terms. The volume contributes to the field of linguistics, but also to cognitive science, anthropology and cultural studies.

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