The semantics of eating in Afrikaans and Northern Sotho: cross-linguistic variation in metaphor

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ABSTRACT

The abundant and systematic presence of metaphor in language has in particular been explored by departing from the embodied nature of many metaphors. In the current research we investigate the manner in which the concept EATING in two nonrelated languages, namely Afrikaans (a Germanic language) and Northern Sotho (a Bantu language) gives rise to metaphorical expressions in these two languages. The two notions of cultural model and metaphor form the cornerstones of our research. The basic question guiding our research is whether the metaphorical mappings originating from the same source domain (EATING) onto various target domains are the same in the two languages and secondly, whether there is any evidence that differences – if any – are culturally motivated.

Our study is corpus-based. Lexical items belonging to the source domain of eating were used as search nodes in our corpus search. Our analysis indicates that the metaphorical source domain – target domain mappings in the two languages show a large amount of overlap. As far as the metaphors that we identified are concerned, remarkable similarities and very few - and these not significant - differences were found.

KEY WORDS EATING, AFRIKAANS, NORTHERN SOTHO, EMBODIMENT, METAPHOR, CULTURE, CORPUS-BASED RESEARCH.

1.   Introduction

Interest in and respect for the "body in the mind" is one of the characteristic dispositions of not only cognitive semantics but cognitive linguistics in general. The abundant and systematic presence of metaphor in language, as Steen & Gibbs (1999:1) put it, has in particular been explored by departing from the embodied nature of many metaphors.

The theoretical contextualisation of this research is within Conceptual Metaphor Theory as developed initially by Lakoff and Johnson (1980), Lakoff (1987), Lakoff and Turner (1989), Johnson (1987) and articulated in the state of the art article *The contemporary theory of metaphor* by Lakoff (2007).

In our discussion we want to emphasize the embodied nature of metaphorical expressions, or, to borrow Gibbs' formulation, metaphors (that) arise from recurring patterns of embodied experience (Gibbs 1999: 147).

According to Kövecses (1999: 167), two notions that have become extremely influential in recent decades in attempts to describe and characterize the human conceptual system, are cultural model and metaphor. Various studies have been undertaken to explore cross-linguistic variation in different patterns of figurative language use, linking metaphor to culture. This research follows other work that has been done on cross-cultural or cross-linguistic variation in metaphorical mappings (compare amongst others Gibbs (1999), Kövecses (1999), Kövecses (2002), Callies & Zimmerman (2002), Deignan (2003), Boers (2003), Deignan & Potter (2004), Gibbs et al (2004) and Simó (2011).

In addition, recent years have seen an increase in corpus-based metaphor studies, e.g. those undertaken by the Pragglejazz Group (2007), Steen et al (2010), Neuman et al (2013) and Shutova et al (2013).

In the current research we investigate the relationship between embodied experience, culture and metaphorical expressions in two nonrelated languages spoken in South Africa, namely Afrikaans (a Germanic language) and Northern Sotho (a Bantu language (S32)). The manner in which the concept EATING gives rise to metaphorical extensions of meaning in these two languages is the focus of our interest.

Metaphors arising from shared bodily experience are likely to represent cross-linguistic universals. In our research we aim to investigate this claim by comparing data from the above-mentioned languages. The linguistic evidence that we are going to present is surface realizations (metaphorical expressions) of certain metaphorical mappings that we identified by perusing the two corpora. We hope that this investigation will contribute to our understanding of possible cultural influences on these metaphorical mappings that originate from the same source domain (EATING). In particular we want to discover to what extent the mappings that we identified are dependent on different cultural codes.

2. Cross-linguistic variation in metaphor

Within the theoretical paradigm shared by cognitive semanticists, the statement by Lakoff and Johnson (1980:57) that "all experience is cultural through and through" seems not to be contested. Furthermore, cross-linguistic variation is often considered to be the result of different cultural models, as illustrated inter alia by Boers and Demecheleer (1997) in their analysis of HEALTH, WAR and PATH metaphors in English, Dutch and French texts. They surmise that the difference in saliency of these metaphors in the three languages can be the result of cultural differences, in that the salience of the source domain in the speakers' culture influences the choice of metaphor. If it is assumed that metaphors and their underlying concepts are influenced by culture, it follows that metaphorical mappings will vary in universality, a premise supported by Lakoff (2007: 310), who states that some mappings seem to be universal, others are widespread and some seem to be culture-specific.

Our experience of the world forms the basis of our practical and empirical knowledge, but the experience itself might vary quite considerably across cultures and refers to the physical as well as to the cultural world. Eating can be considered to be an instance of a physical reality that is familiar to all human beings. The idea that eating nourishes our bodies is not dependent on a specific cultural code[1].

Regarding the two languages under investigation: it is not far-fetched to argue that speakers of a Bantu language and speakers of Afrikaans do not share all social and cultural habits. Some of these habits are firmly rooted in value systems that emphasize different aspects of our daily existence, like our understanding of time and the role of the individual in society. This being said, we want to steer away from giving a simplistic and stereotypical characterization of the two cultures. We prefer instead to give a short overview of the two languages and the dominant culture shared by their speakers. By doing this, we actually attempt to give more content to the concept of "culture" than is mostly the case in the literature already mentioned, where "language" and "culture" are often very simplistically equated with each other.

Afrikaans and Northern Sotho belong to different language families. Despite showing some creole characteristics (notably the so-called "double negative") Afrikaans is considered to be an Indo-European language and it is grouped together with Dutch, German, Frisian and English in the West Germanic language group. Its 6.85 million mother tongue speakers belong mainly to two ethnic groups, white and coloured. Because of the colonization of South Africa by Britain, the main cultural influence on this group of speakers during the past 200 years was that of the colonizers. The influence of the English language on Afrikaans is mainly noticeable in lexical borrowings, especially in the spoken variety. Broadly speaking, the culture is a modern Western, individualized, and industrialized one.

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[1] It is worth noting that Wierzbicka (2009) does not consider 'eat' and 'drink' to be universal human concepts. She bases her reasoning on the fact that the concepts are not lexicalized as two separate words in Kalam (a Papuan language) and Warlpiri (an Australian language).

Together with Southern Sotho and Tswana, Northern Sotho forms part of the Sotho language group of the South Eastern Bantu languages. Being a Bantu language, it is an agglutinating language with a rich morphology, in which a system of noun class genders underlies the grammatical system. Its 4.62 million mother tongue speakers are almost exclusively black Africans. A large section of the population resides in rural areas, although urbanization is proceeding at a very rapid pace.

Without characterizing it explicitly, there is consensus in South Africa that there is something like a black (South) African culture. In some aspects this culture still exhibits traces of pre-modern customs. In the recent past, for example, the president of South Africa, Mr. Jacob Zuma, has attracted media attention at each of his weddings - he currently has 4 wives - and this custom has repeatedly been called "African". President Zuma has also been known to cite examples of so-called "white, un-African values" like owning and caring for dogs as pets. Other salient aspects of the African culture, often mentioned, are the philosophy of *ubuntu*, (which is sometimes contrasted to a so-called Western philosophy), a different view of time and a communal way of existing, where the individual is less important than or subordinate to society.

3.   Methodology

Although the publication of Johnson and Lakoff's work on metaphor inspired a flowering in metaphor research in the past three decades, the methodological underpinnings of much of this work can at best be described as being somewhat shaky. Steen et al (2010) make out a strong case for more rigorous methods in metaphor research, echoing Gibbs (2007: 41) who argued that cognitive linguists need to pay more attention to empirical methods, of which the use of corpora is but one.

As Steen et al (2010:1) point out, there has not been a "sustained interest" in methodological aspects in earlier scholarly work on metaphor (which spanned a range of disciplines). The majority of these studies were concerned with identifying conceptual metaphors by starting with linguistic expressions that "researchers intuitively take to be

metaphorical (Kövecses 2011: 27 as quoted by Simó 2011: 2898). We can but agree with Simo's argument that "researcher intuition when analyzing and assessing data remains a necessary and unavoidable component of any kind of study" (Simó 2011: 2989) but at the same time we also acknowledge that relying on intuition only is not enough and that access to corpus data can contribute significantly to metaphor research.

Corpus-based research into metaphorical mappings is still relatively new, but perhaps no longer, as Stefanowitsch (2007:12) put it, in its "initial stages". Recent years have seen scholars involved in metaphor research making concerted efforts at improving the methodology for metaphor identification - compare for example the papers brought together in Stefanowitsch and Gries, (2007). The work of the Pragglejazz Group (2007) also deserves attention and will be returned to below. Researchers such as Shutova et al (2013) and Neuman et al (2013) also contribute toward refining corpus linguistic methodology.

In Southern Africa however, there is little evidence of this new interest in corpus linguistic metaphor research. As far as we could ascertain, no such studies have been attempted for either Afrikaans or Northern Sotho or for that matter for any of the approximately 300 Bantu languages spoken in Africa. Steen (2010: 3) points to the "need for massive annotation of language data in corpora", but for lesser resourced languages such as Afrikaans and Northern Sotho, access to annotated corpora is still future music.

The focus of metaphor inquiry naturally directs the type of methodology that is used. In the present study our aim was to identify, for those linguistic expressions where some sort of nonliteral "eating" was evident in the two languages, conceptual mappings. It must be noted that the Pragglejazz Group has a different aim in mind. They are not interested in identifying underlying conceptual mappings (as we are), but in offering a procedure for identifying the linguistic forms of metaphor as they occur in single texts. As Steen et al (2010: 8) note, "linguists have made a methodological separation

between identifying the linguistic forms of metaphor as opposed to specifying its conceptual structure". The latter is the focus of our research.

Utilizing a corpus has a number of advantages, amongst others reducing the dependency on the (intuitive) linguistic knowledge of the researcher. On the other hand, doing corpus-based research in cognitive linguistics poses certain challenges, the main one being identifying and extracting the relevant data from the corpus. In cases where specific lexical items or fixed expressions form the focus of the investigation, this is a relatively simple procedure, since the relevant lexical items can be retrieved directly from the corpus. Corpora which have been part-of-speech tagged make extraction of grammatical phenomena a slightly more sophisticated but still reasonably straightforward procedure. However, in the case of metaphor, retrieving relevant data seems almost impossible, since as Stefanowitsch (2007: 2) indicates, conceptual mappings are not linked to specific linguistic forms. In view of the absence of corpora that have been annotated for whatever conceivable semantic features, Stefanowitsch (2007: 2 - 5) proposes a number of strategies for extracting linguistic expressions representing conceptual mappings from non-annotated corpora. One of these is searching for source domain vocabulary, then analyzing the context within which the relevant lexical item appears, which seemed to be the most feasible option for the purpose of our study and is the approach also taken by Deignan & Potter (2004) and Simó (2011).

Though we make use of corpora, our main aim was not to present quantitative findings, but to provide a quite detailed qualitative analysis of the data. In other words, our aim was not to assess the statistical importance of the mappings that we identified, but to try and ascertain whether a mapping that we identified in one language, is also found in the other.

Since the focus of our investigation is not so much the verb 'to eat', but rather the conceptual notion of eating, search words included not only the lexical items (and their derived forms) *eet* 'eat' (Afrikaans) and *ja* 'eat' (Northern Sotho), but all verbs which are

semantically related to the notion of eating. In order to identify the maximum number of lexical items within the semantic field of 'eating', different kinds of semantic relationships were explored. These relationships include (partial) synonyms, hypernyms, troponyms, verbs of entailment and coordinate terms, roughly based on the schemata proposed by WordNet (http://wordnet.princeton.edu/) for English. The resulting sets of semantically related words form the basis for the exploration of the source domain of 'eating' and its metaphorical mappings – every lexical item appearing in the set can potentially be used as a search node during corpus querying. The set for Northern Sotho, arranged according to the polysemous meanings identified for the item 'to eat' appears in Addendum A and the Afrikaans set in Addendum B.

Using a relatively big corpus, but using a fixed set of search terms, is one of the strategies suggested by Newman (2011: 5) to reduce the amount of manual inspection associated with exploring source and/or target domains. The corpora used are the *University of Pretoria Afrikaans corpus* (UPAC) and the *University of Pretoria Sepedi corpus* (UPSC). These two corpora are organic and are thus in constant evolution. At this stage, both corpora are non-annotated, i.e. 'raw' corpora. Statistical information on these corpora at the point of query is given in Table 1 below, where tokens = actual number of (orthographic) running words in the text, and types = number of distinct words in the text:

	Tokens/Running words	Types	Type/token ratio
University of Pretoria Afrikaans corpus (UPAC)	15 452 173	265 072	1.8
University of Pretoria Sepedi corpus (UPSC)	7 424 335	160 674	2.21

Table 1 *Information on the corpora utilized*

The corpora were queried by using the Concordance tool of *WordSmith Tools* (http://www.lexically.net/wordsmith/) which enables one to see the context in which the

search word occurs, thus making the identification of metaphorical expressions possible. In context, non-literal meanings of the search words were potential indicators of metaphoric expressions. Generally speaking, perusal of the context to the right of the search word would typically reveal object NPs appearing in apposition to the verb, whereas subject NPs collocating with the verb were found to the left of the search word. The occurrence of objects (or patients) that are not usually and/or literally consumed or ingested, or subjects (agents) that do not usually and/or literally consume or ingest, was taken as an indication of metaphorical extensions of the verb in question. This method for extracting metaphors from the data depends on the intuition of the researchers and corresponds to the way in which many other researchers identify metaphors.

An analysis of all patient NPs appearing in metaphoric expressions involving 'consume, ingest' verbs could potentially result in the identification of patient oriented target domain mappings; looking at the agents which appear with these verbs would then lead to the identification of agent oriented domain mappings. The dichotomy of patient oriented versus agent oriented domain mappings as suggested by Newman (1997), is vested in the fact that eating can be viewed as interaction between a person, i.e. the agent (one entity) and food, i.e. the patient (a second, distinct entity).

Compare, by way of illustration, an excerpt from the 297 Northern Sotho concordance lines in which the verb stem *metša* 'swallow', which stands in a relationship of entailment to 'eat', is used as a search node:

Figure 1 *Concordance for* **metša** *'swallow'*

N	Concordance		
5	Ke a itshola ge ke sena go bolela fela nka se sa kgona 84 o	metša	mantšu a ka. Ke be ke sa rate go botšiša potšišo ye
11	wena ka go rata go hwetša seo o se belaetšego, wa leka go	metša	bohloko bjoo o gahlanago le bjona. Bjale wena o . . ."
25	se ile sa oketšega ka bjako. Kgošikgolo Sobhuza I o ile a	metša	ditšhabana tše dingwe tše ntši. Mathomong o ile a ba
41	ntwa gomme a leba phoofolo yeo thwii. Selotsoko se se ile sa	metša	monna yoo. O rile ge a fihla ka gare ga mpa ya sera
46	, ba napa ba meditšwe ke leswiswi la bosego. Leswiswi la ba	metša	bjang? Aowa, ba feta, fela ba fetela ka go la go ja, ba
61	tologa ra bona bohloko bo elela, Coalbrook e šišinyegile ya	metša	masogana, E ahlame ya šwalalanya diphuramaswika
103	ke dijo ka kna gae ke ge kna thabeng Mariri a ithuta go	metša	le go sohlasohla magobjana ao a a hutšweleditšwego
132	Karabo: Aowa. 30. Potšišo: Ge ngwana ka phošo a ka	metša	tše dingwe tša dipilisi tša thibelakimo, a taba ye e tlo
166	e kgotsofale batho ba Modimo. Le re gore Lehuto ge a be a	metša	tšheletiana tša bahloki etšwe a na le ya gagwe ya go
196	. Ka mantšu a mangwe, modirišo wo wa tlhaodi o šetše o	metša	mošomo wa modirišopeelano. Se se ka no ba se
219	. Bjale bona lerato la gago la mabose a lefase le le a go	metša	" Ge a bolela bjalo Sello ke ge mahlo a gagwe a
232	re ka se dirago go fetšiša bothata bjoo ka moo bo tlilego go	metša	rena batswadi le bana ba ba rena? Ke boledišwa ke
263	Ga se ba eme nako ye telele ke ge pese e tla fihla gomme ya	metša	baeng bale. Aowa, le ge e be e le iri ya bohlano

Analysis of the concordance lines above reveals that lines 103 and 132 represent the non-metaphoric, i.e. literal or basic meaning of the verb, since it refers to the concrete, physiological act of swallowing. Cf. line 103 *Mariri a ithuta go <u>metša</u> le go sohlasohla magobjana* 'Mariri taught him-/herself to <u>swallow</u> and to chew a little porridge'; line 132 *Ge ngwana ka phošo a ka metša tše dingwe tša dipilisi tša thibelakimo …* 'If a child accidentally <u>swallows</u> some birth control pills…'. In lines 5, 11, 25, 41, 61, 166, 196, 232 and 263 the NPs representing the objects / patients of the swallowing process all refer to objects that cannot literally be swallowed, cf. *mantšu a ka* 'my words', *bohloko bjoo* 'that pain', *ditšhabana tše dingwe tše dintši* 'many other small nations', *monna yoo* 'that man', *masogana* 'young men', *tšheletiana tša bahloki* 'the little money of the poor', *mošomo wa modirišopeelano* 'the function of the conditional mood', *rena batswadi* 'we, the parents' and *baeng bale* 'those guests'. The subjects / agents appearing in lines 46 (*leswiswi* 'darkness'), 196 (*modirišo wo wa tlhaodi* 'this relative mood'), 219 (*lerato la gago la mabose a lefase le* 'your love for the pleasures of this world'), 232 (*bothata bjoo* 'that problem') and 263 (*pese* 'bus') provide the clues as to the possible metaphorical extension of the verb.

The metaphorical extensions collected for Afrikaans and Northern Sotho verbs appearing in the semantic field of 'eating' form the basis for the identification of possible target domains onto which verbs belonging to the source domain of 'eating' can be mapped, based on the ontological correspondences between the entities in the source domain and those in the target domain. For example: the metaphorical extension represented in line 219 *Bjale, bona lerato la gago la mabose a lefase le le a go metša*

'Now see, your love for the pleasures of this world is swallowing you' may point towards the mapping of the source domain of 'eating' onto a target domain of destruction, thus "*DESTRUCTION IS EATING*". A systematic analysis of the metaphorical extensions of 'eat' should then result in the identification of all possible target domains onto which verbs belonging to the semantic domain of eating, can be mapped.

4.   Data analysis

4.1   Motivation

Conceptual metaphors are mental mappings from a typically concrete source domain to a typically abstract target domain. The mapping itself is rooted in real-world physical experience – it allows us to understand abstract concepts in terms of our embodied, physical experience of the extra-linguistic reality. In trying to make sense of metaphorical expressions, "bodily motivation" (Kövecses 1995: 183) plays an important part. In the case of EAT metaphors, we assume that the physiological process of eating and specific lexicalizations of the different stages of the eating process play an important motivational role in understanding the metaphors. Another important motivational factor is found in visual imagery, which is also linked to our experience of the eating process.

Since eating is a universal human activity which plays a fundamental, life-sustaining role for humans, it is to be expected that verbs belonging to the semantic domain of eating would constitute a rich source for metaphorical imagery.

As will be seen below, the source domain of eating is particularly prolific in metaphorical mappings in both Afrikaans and Northern Sotho

Since the elements basic to the meaning of 'eat' underlie and enable mapping onto a variety of target domains, a logical starting point for our analysis is to take cognizance of the literal meaning of eat, starting with what Newman (1997: 215) refers to as the folk theory according to which the notion of eating is understood and defined, as rooted in

the experiential reality of the language user. Within a typically Western framework, eating is usually preceded by some sensation of hunger, which can be satisfied by the intake of food. This consists of the physical intake of mainly, but not limited to, solid food (cf, Afrikaans *eet sop* 'eat soup'), usually achieved by the eater using his / her hand(s), mostly with utensils, but sometimes also without. The food is then transformed into smaller pieces by biting and chewing, using the teeth, tongue and roof of the mouth. At this stage the eater still has some control over the food, since it can be spat out. Swallowing results in the food passing down the throat into the stomach, from where it can only be cast out by means of an unpleasant and often painful process of vomiting. In the stomach the food is totally transformed through the process of digestion so that it is no longer recognizable in its original form; it is completely absorbed or assimilated into the body, and in a certain sense, disappears. Eating furthermore usually results in nourishment, which leads to a feeling of satiation. When compared to the way in which Northern Sotho speakers conceptualize eating, some differences come to the fore, as realized in the following folk definition of 'eat': *go ngwatha dijo le go di iša ka ganong gomme tša hlahunwa tša metšwa* 'to break off food and to take it into the inside of the mouth, then chewing and swallowing it'. The use of the verb stem *ngwatha* 'break off' emphasizes the notion that the hands are involved in this process, and that food needs to be of manageable size before it can be put in the mouth. Also, the idea of digestion seems to be absent as part of the eating process. However, whether this explanation actually represents a fundamental difference in the way eating is conceptualized, remains debatable.

The basis for our analysis is provided by Newman (2009). He indicates that metaphorical extensions of 'eating' can be categorized into patient oriented and agent oriented extensions, and although not a watertight distinction, it is a useful one for presenting the different target domain mappings in a systematic manner. In the case of agent oriented metaphorical extension, eating is seen as a process during which the eater is the consumer, experiencing the sensation of taste, pleasure or displeasure, thus the experience of the consumer is focused upon. Newman (2009: 5) indicates that this is often, but not exclusively, the case with regard to the intransitive usage of verbs

belonging to the semantic field of eating. Although the food may be present in the larger semantic frame, the amount, quality and nature of what is being eaten is irrelevant. When the agent of the eating process is foremost, there is a strong element of internalization present: food is taken from outside the body, where it is visible, to the inside, where it is invisible. The second element of internalization is swallowing, through which the food is moved from the mouth to the stomach. When the effect of the eating on what is being eaten is foremost, such an extension is patient oriented. When something is eaten, it disappears from sight and becomes inaccessible. The most salient effect of the eating process on the food is the violent processing (chewing, biting) which transforms it to digestible particles.

In the discussion below, the motivation for target domain mappings will be linked to those elements in the central meaning of 'eating' which underpin each target domain mapping. Two big categories of metaphorical extensions were identified, namely extensions based on internalization, which are mainly agent oriented, and extensions based on destruction and / or elimination, which are patient oriented. In addition, we grouped a few examples in a last category that we named "problematic". The extensions in this category involve both patient and agent oriented aspects of eating and some are based on internalization and destruction alike. We start our discussion with a summary of our main findings in table format, followed by a detailed discussion of the data on which these findings are based.

Domain mapping	Afrikaans	Northern Sotho
Internalization [Agent-oriented]		
EMOTIONAL SATISFACTION IS EATING	-	√
INTELLECTUAL SATISFACTION IS EATING	√	√
UNDERSTANDING IS EATING	√	-
INTELLECTUAL ACTIVITY IS EATING	√	√
SEX IS EATING	-	√
UNCRITICAL ACCEPTANCE OF IDEAS IS EATING	√	√
HUMILIATION IS EATING	√	-
ACCUMULATING POSSESSIONS IS EATING	-	√
Destruction and/or elimination [Patient-oriented]		
DIMINISHING IS EATING	√	√
KILLING IS EATING	-	√
DISAPPEARANCE / ABSENCE IS EATING	√	√
TORMENT (PHYSICAL & PSYCHOLOGICAL) IS EATING	√	√
Undecided cases [Possibly both agent and patient oriented]		
DEFEATING IS EATING	√	-
CONCEDING IS EATING	√	√
ENDEARMENT IS EATING	√	-
CHARMING / SUBMISSION IS EATING	√	-

Table 2 *Source – target domain mappings in Afrikaans and Northern Sotho*

4.2   Internalization [Agent-oriented]

Our knowledge and experience of the fact that food is eaten for nourishment and sustenance motivate the expressions that we classify under this heading. The dominant image is that of an eater (the agent) who puts food into his or her mouth, swallows it, digests it and is nourished by it.

"EMOTIONAL SATISFACTION IS EATING"

In cases where eating is metaphorically extended to emotional satisfaction, it usually involves internalization of external stimuli which contribute to a feeling of emotional well-being. Apart from the internalization aspect, there is also the added dimension of (pleasurable) sensation experienced by the agent.

Source domain: EATING	Target domain: EMOTIONAL SATISFACTION
sensation of hunger	desire / need for emotional nourishment
intake of food	taking in (through the senses) of the stimulating object
swallowing act	absorbing the stimulating object
nourishment	stimulating object contributes positively to the emotional state of the eater
enjoyable gustation	feeling of emotional well-being

Table 3 *EMOTIONAL SATISFACTION IS EATING*

A particularly strong metaphorical link between eating and pleasurable emotional sensations has been identified for Northern Sotho; in fact, the meaning of *ja* 'eat' is lexicalized to also include the sense of 'enjoy'. Compare the following examples:

(1)   *O jele bjang mafelelong a beke / Keresemose?*
       'How did you enjoy the weekend / Christmas? (Lit. How did you eat during the weekend / Christmas?')

(2)   *Ke jele monate.* 'I enjoyed it (Lit. I ate well.)

With regard to these examples, the pleasurable experience could certainly include eating as a physical experience, but the satisfying emotional experience is foremost in this metaphoric extension.

Associated with emotional satisfaction or nourishment is the spiritual or religious experience that is so strongly present in the Judeo-Christian rituals surrounding

Passover and Lent. With regard to partaking of Holy Communion, the lexical item *ja* 'eat' in Northern Sotho is used to express the notion of 'partake of, participate in':

(3)   *Re tlo ja Selalelo se Sekgethwa ka Sontaga*. 'We will partake of Holy Communion on Sunday (Lit. We will <u>eat</u> Holy Communion on Sunday)'.

Again, although the physical process of 'eating' is present, the emotional satisfaction and religious nourishment derived from participating in this ritual makes this metaphorical extension possible. All the elements of the target domain as listed in Table 3 above are also present with regard to the religious ritual of Holy Communion.

In Afrikaans the word *eet* 'eat' is never used when referring to Holy Communion. The superordinates *geniet* 'enjoy' and *gebruik* 'consume' are commonly used, removing the focus on eating as a physical act for sustenance. The fact that the lexical item for 'eat' is used in Northern Sotho, seems to suggest a closer conceptual link between the physical act of eating and religious sustenance than is the case for Afrikaans. This link is also evidenced by the metaphorical extension *go ješa badimo* 'to worship the ancestors' (Lit. 'to make the ancestors eat'). On the one hand, sacrificing food to the ancestral spirits sustains them and ensures their continued existence in the afterlife; on the other hand, by the act of feeding the ancestors, the worshipper sustains his link with the world of the spirits, thus drawing spiritual nourishment from the sacrificial act of feeding.

"INTELLECTUAL SATISFACTION AS EATING"
As is the case with emotional satisfaction, humans generally have a need for intellectual stimulation (the 'hunger' element of eating). By reading, listening or observing, whatever provides intellectual stimulation is internalized (intake of food), absorbed (swallowed) and mentally processed (digested), leading to the satisfaction of intellectual curiosity, which is a gratifying experience for the agent.

In Afrikaans many examples were found of this mapping when looking for concordances with *eet* 'eat', *kou* 'chew', *herkou* 'ruminate', *weglê* 'tuck in', 'dig in', *verslind* 'devour' and

verorber 'consume', 'polish off'. Examples include the eating of culture and the devouring, consuming and digesting of books:

(4) *Sy <u>verslind</u> die een boek na die ander.*
     'She <u>devours</u> one book after the other.'

In Northern Sotho, this mapping is mostly realized in examples where the verb *phaka* 'gulp down' is used:

(5) *go <u>phaka</u> monola wa thuto*
     'to <u>gulp down</u> the moisture of learning'.

"UNDERSTANDING IS EATING"

This metaphor, for which we found only Afrikaans examples, differs from the previous one. The verb *verteer* ('digest') is used, and must be interpreted as "to understand" - not 'derive intellectual satisfaction'. It clearly expresses the aspect of internalizing food (figuratively *ideas*) and by digesting the ideas, understanding them. Examples from the corpus include 'to digest a message' or 'to digest luxury and eccentricity'.

"INTELLECTUAL ACTIVITY IS EATING"

Closely related to the mapping of eating onto intellectual stimulation and understanding, is the metaphorical extension of eating onto the domain of intellectual activity and problem solving. The element which distinguishes this domain mapping from the other two, is the work done by the agent during the internalization process. In the case of intellectual activity, the hunger element is represented by the need to solve a problem and the problem is internalized (intake of food), whereas in the case of intellectual satisfaction there is an element of rather effortless absorption (swallowing), the effort made in solving a problem, and the active effort involved is represented by the chewing or gnawing done by the eater. Also, the element of satisfaction derived from solving an intellectual puzzle seems absent, since the chewing is not followed by swallowing, which would provide sustenance. Many of the Northern Sotho verbs used in the

metaphorical extensions of this domain mapping refer to chewing or gnawing: *sohla*, *hlahuna* 'chew (on), *kokona* 'gnaw (on)'), which suggests a repetitive action, which in turn enhances the notion of effort, which seemingly does not always have a successful outcome. This metaphor is often found in references to court cases, where councilors are said to be 'chewing on the sinews of court cases' and 'gnawing on the case'. To think deeply is to 'eat the bones of the head'.

In the Afrikaans examples the words *kou* 'chew' and *herkou* 'ruminate' were found and a subtle difference is noticed: a problem must be chewed on piece by piece or something must be thought over carefully:

(6)   *Die Zimbabwiese kriekettoer het die Suid-Afrikaanse span iets gegee om aan te <u>herkou</u>.* 'The Zimbabwean cricket tour has given the South African team something to <u>ruminate</u> on' (i.e. 'think about').'

In the Afrikaans examples found in the corpus the action of thinking does not necessarily involve much intellectual effort. 'Dwell upon', 'mull over' and 'ponder' are good translation equivalents here.

"SEX IS EATING"
Newman (2009:19) states that sexual intercourse is a pleasurable experience in its prototypical form, and is thus closely linked to the mapping of eating onto the emotional domain. In Northern Sotho, 'eat' is a source concept for sexual intercourse, and the meaning of 'eat' has been lexicalized to also include 'having sex'. There is sexual hunger which is satisfied, resulting in a feeling of satisfaction. The conceptual mapping between eating and having sex is realized in a number of metaphorical expressions containing the lexical item *ja* 'eat': a man 'who does not eat at home' has sex elsewhere, and one 'who does not eat his wife's porridge' does not have sex with her. If a man has eaten chips, he has had sex, as he has done if he has eaten a woman.

However, this particular domain mapping is, by want of a better term, gender specific, in that the agent in these metaphorical extensions can only refer to a male referent, whereas the patient can only ever be female. If it is assumed that the folk definition of sex is 'engagement in the sexual act of intercourse between a male and a female party', this seems to underscore the submissive role of the female, especially within the context of sexual relationships in traditional Northern Sotho society.

No Afrikaans examples of this mapping were found with the search words.

"UNCRITICAL ACCEPTANCE OF IDEAS IS EATING"

The mapping of eating onto the acceptance of ideas is motivated by the swallowing element of eating. Swallowing results in the food being moved from where it is visible to elsewhere in the body where it is invisible and inaccessible. It is significant that one of the verbs utilized in these metaphorical expressions is 'swallow', rather than 'chew' or 'bite'. The latter would suggest some mental processing of ideas before they are internalized. Swallowing implies what Newman (1997:21) refers to as naïve acceptance of what one is told. This is substantiated by examples in both Afrikaans and Northern Sotho.

Afrikaans

(7)   *Elke jaar of twee word daar ook 'n nuwe denkrigting opgedis en jy moet dit <u>sluk</u>.*
       'Every year or two a new school of thought is dished up and you have to <u>swallow</u> it.'

Northern Sotho

(8)   *Se kitimeleng go <u>metša</u> le se la sohla.* 'Do not rush to conclusions, do not uncritically accept ideas' (Lit. Do not rush to <u>swallow</u> before you have chewed) '

"HUMILIATION IS EATING"

This mapping is motivated by the experiential reality that not everything that one eats results in a pleasant sensation and that one may even be forced to eat something that is

decidedly distasteful. The Afrikaans word that introduces this mapping is *sluk,* 'swallow', which conjures an image of bitter medicine (or another unpalatable, probably liquid, substance) being taken against one's will.

(9)   *Sy moet al die beledigings maar <u>sluk</u>.* 'She simply has to <u>swallow</u> all the insults'.

We found no examples in the Northern Sotho corpus for this mapping.

"ACCUMULATING POSSESSIONS IS EATING"

The accumulation of possessions can also be conceptualized in terms of eating, reflecting the contribution that possessions, including money, could make to a person's well-being. Most people have a desire to increase their material possessions (hunger), often by earning a living. Material objects that are acquired become part of one's possessions, entering one's personal sphere (intake of food), providing (emotional) sustenance, resulting in a feeling of well-being. Relevant Northern Sotho examples are:

(10)   *go <u>ja</u> potla* 'to <u>earn</u> a salary' (Lit. to <u>eat</u> the pocket)
(11)   *Bophodisa bo a <u>ješa</u>* 'A career in the Police Service enables one to <u>earn</u> a living' (Lit. lets one <u>eat</u>)

In Northern Sotho, this metaphorical mapping is particularly prominent when an inheritance is involved. Being the beneficiary of an inheritance usually enhances a person's material existence. Note that the verb used in these extensions is mostly *ja* 'eat' (or derived forms thereof), which is relatively neutral with regard to the chewing aspect. This reflects the idea that an inheritance is not something that is worked for, but an effortless increasing of one's possessions. Compare for example:

(12)   *Ngwana yo a ka se ke a <u>ja</u> bohwa le ngwana wa ka.* 'This child will not <u>share</u> an inheritance with my child (Lit. will not <u>eat</u> an inheritance with my child.)'
(13)   *Bailabosodi ba tlo <u>ja</u> lefa le lebotse.* 'Those who avoid sin will <u>receive</u> a good inheritance (Lit. will <u>eat</u> a good inheritance.)'

We found no corresponding expressions in Afrikaans.

4.3   Destruction and / or Elimination [Patient-oriented]

Images of elimination, annihilation and destruction are particularly strong in this category of metaphorical extensions. The expressions discussed below are motivated by the effect of the eating process on the food, which represents the thematic patient of the eating process. During the eating process, food is transformed from something which is visible outside the body to an inaccessible part of the body where it is invisible and ultimately disappears from sight in any recognizable form as a result of the process of digestion. The destruction image is motivated by the fact that eating reduces food to smaller pieces through mastication. Another salient feature of eating is the fact that food is processed rather violently by the acts of biting and chewing, thus making verbs associated with eating especially appropriate as sources for metaphors related to violence, destruction and ultimately, death.

"DIMINISHING AND / OR DESTROYING IS EATING"

This mapping is motivated by our experience of what happens to the food when one starts to consume a whole meal. It is eaten piece by piece, mouthful by mouthful. The eating process literally reduces the food until it disappears completely from sight. The objects of the Afrikaans verbs *eet* and *vreet* that are reduced, diminished or even completely destroyed, are, for example, squatter camps, bandwidth, the earth or tar of road surfaces and, very typically and frequently, money, savings or profit:

(14)   *Vlamme <u>verteer</u> plakkershutte.* 'Flames <u>consume</u> shacks.'

(15)   *Die belasting van 18% <u>vreet</u> aanhoudend in ons swaarverdiende pensioen.* 'The 18% tax is continuously <u>eating</u> into our hard-earned pension'.

Examples from Northern Sotho confirm this mapping. In the corpus examples references are made to a person who has swallowed the little money of the poor, an

expensive programme that eats a lot of money, and if a person eats his money the way he wants to, the meaning is that he spends it the way he wants to.

"KILLING IS EATING"

In contrast to Afrikaans, where we found no examples, the metaphorical mapping *"KILLING IS EATING"* is particularly prominent in Northern Sotho. The permanent disappearance of food as a result and final outcome of the (violent) eating process is most likely the motivation for this metaphorical extension. Warriors eat (i.e. kill) people with spears, and if someone has been swallowed by the insides of the earth, he has died. Compare also:

(16)   *Tatagwe* o <u>*jelwe*</u> / <u>*llwe*</u> / *meditšwe ke phiri (ye ntsho)* 'Her father has died (Lit. <u>was eaten</u> / <u>swallowed</u> by the (black) hyena).'

(17)   *… bagologolo bao marapo a bona a šetšego a* <u>*llwe*</u> *ke mobu* '…old people who have already <u>died</u> …(Lit. whose bones have already been <u>eaten</u> by the soil).'

When the Northern Sotho examples recovered from the corpus are studied, the frequency of occurrence of passive structures in linguistic expressions by means of which this domain mapping is realized is immediately noticeable. Compare examples (16) and (17) above, in which all listed verb stems, i.e.*-jelwe*, *-llwe* and *–meditšwe* contain a passive extension, here realized as *–w-*. Making use of a passive structure is a discourse strategy utilized to foreground the patient of a particular action or process by presenting it in the preverbal (often sentence initial) position. This is clearly a case where the grammatical structure supports the strongly patient-orientedness of the metaphoric extension. Furthermore, closer inspection of the examples listed above reveals that all relevant verbs related to eating appear in the past tense form and refer to the perfective aspect. The acts of eating and swallowing are thus presented as a completed and rounded off whole. Newman (2009:7) points out that the inherent perfective nature of the verb 'eat' makes it particularly suitable for metaphorical extensions where the completion of a change is involved. Thus, the verbs in the above-mentioned examples, apart from being inherently perfective, are also morphologically

marked as past tense forms, and can therefore be said to emphasise the finality of death.

"DISAPPEARANCE / ABSENCE IS EATING"

Related to the mapping of eating onto the domain of death is the mapping of eating onto (inexplicable) disappearance or absence. The salient feature of eating which motivates this domain mapping is the transformation of the patient from being visible to being invisible. Compare:

Afrikaans

(18)   *Dooie swart sonne wat lig insluk.*
          'Dead black suns that swallow light.'

In Northern Sotho, if a person has inexplicably disappeared he 'has been eaten or swallowed by I-don't-know-what'. Also compare (19) in which people have been swallowed by darkness and have thus disappeared:

Northern Sotho

 (19)   *Leswiswi la ba metša bjang?* 'How did the darkness then swallow them?'

"TORMENT (PHYSICAL AND PSYCHOLOGICAL) IS EATING"

A distinction is made between physical and psychological torment. Torture sometimes leads to the complete destruction of the object, indicating an overlap between this mapping and other mappings distinguished in this section.

In Afrikaans examples found in the corpus physical torment is caused by agents such as fists, acid, cancerous growths, the sun or drought that "eat" the patients (a person, a face, a body, the country). Northern Sotho examples include 'eating someone with a fist', resulting in physical harm, and 'being eaten by AIDS'.

Negative emotions and experiences often appear as agents of the eating process, causing psychological torment. In Northern Sotho, one is eaten or consumed by feelings of loneliness, shame, guilt, worry and jealousy. Apart from the verb stem *–ja* 'eat' (or its passive derivation), the verbs stem *–kokona* 'gnaw' is often found in these contexts, suggesting an ongoing discomfort caused by these emotions. This also the case in the Afrikaans examples which are remarkably similar to the ones found in Northern Sotho.

4.4   Problematic cases

Newman (1997, 2009) distinguishes a third category which he names "Extensions based on sensation and destruction". In this category he groups those expressions where the agent and patient are equally involved in the eating process. Newman's characterization however, does not cover all the examples that we came across in the two languages. We would like to discuss them as somewhat problematic examples which defy a too neat categorization.

As will be demonstrated below, the effect on the agent and the patient in the following expressions might in some cases be the complete opposite of each other - the agent for example experiences satisfaction and the patient loss - but not in all cases. Another characteristic of these expressions is that the motivation is not always linked very strongly and is even sometimes counter-intuitive to the pre-linguistic experiential realities associated with the eating process.

"DEFEATING IS EATING"

This mapping includes an aspect of destruction because of the effect of the act of eating on the patient, but at the same time the agent is clearly experiencing a sense of satisfaction and accomplishment.

Afrikaans

(20)   *Ons glo ons kan die Reds eet.* 'We believe we can eat (defeat) the Reds.'

No Northern Sotho examples that attest this mapping could be found in the corpus.

"CONCEDING IS EATING"

The image that these expressions evoke is that of the eater swallowing something that has already left his mouth. The words, allegations or lies that have been told - left the mouth, so to speak - must now once again be swallowed. Although the focus is very clearly on the agent for whom this experience is far from pleasant, the patient (the lies, words, etc.) also undergoes a transformation and disappears.

Afrikaans

(21) *Hy sal sy woorde moet sluk / insluk.* 'He wil have to swallow his words'

Northern Sotho

(22) *A gitla Sohlang ka molamo, a fela a re sohla maaka a gago o be o a metše.* 'He hit Sohlang with a stick, saying, 'Chew on your lies, then swallow them.'

"ENDEARMENT IS EATING"

In the Afrikaans corpus we came across the following somewhat bizarre examples that suggest the complete opposite of the *destruction* mapping, in spite of the literal meaning of the words. Although the agent is doing the "eating", the patient also shares in the satisfaction derived from the show of affection denoted by the word *opeet* 'eat up'. It is not easy to understand the motivation behind these very common expressions, except to link it to a mapping identified in the first category – emotional satisfaction is eating.

(23) *Soos Adam wat aan Eva sê, à la Hennie Aucamp: "Ek kan jou opeet van liefde."'*
      Like Adam that tells Eve, à la Hennie Aucamp: "I can eat you up out of love."'

"CHARMING / SUBMISSION IS EATING"

Another problematic Afrikaans example is the expression *om uit iemand se hand te eet* (to eat out of someone's hand – to be charmed by someone).

(24)   *(…) voordat die pers uit haar hand eet* ' (…) before the press <u>eat</u> out of her hand'

The motivation here seems to be that providing wild animals with food is part of the taming process. In the same way, by providing people with some kind of emotional nourishment (through charming them), one can get them to submit to you.

As a last example in this section we look at the Afrikaans idiom *harde bene / klippe kou* (to chew hard bones or rocks). This expression might also have been discussed in the second category under the mapping "*PSYCHOLOGICAL TORMENT IS EATING*", were it not for the fact that agent and patient alike are involved here and that the focus is not on **what** is being eaten (and possibly destroyed), but on the person doing the eating, or rather the chewing. The idiom has become lexicalised in Afrikaans to either mean "to suffer" or "to nervously await an uncertain outcome / to be on tenterhooks". This meaning might be motivated by the fact that it is not a typical act for a human to chew on a bone or a rock – one's teeth, for one thing, might suffer damage. A related expression is *om naels te kou* ('to chew one's nails'). In a literal sense it looks as if the object (the patient) is being destroyed, but the meaning of the expression makes it quite clear that it is the agent that is suffering or that is experiencing unease - physical or psychological. The patient is actually impervious to the act of eating.

(25)   *Die toertjie is een van die gevaarlikstes in die Moskouse sirkus en laat die gehoor behoorlik naels kou.* 'The act is one of the most dangerous in the Moscow Circus and lets the audience chew (their) nails.'

5.   Conclusion

The aspects concerning EAT metaphors that we were curious about, can be phrased as the following two questions:

do the metaphorical expressions relating to eating in Northern Sotho and in Afrikaans rely in a similar way on bodily experience?

 and

can the metaphors that we discovered be considered to be universal or do they depend on different cultural codes?

The answer to the first question is a clear YES. This was to be expected and in no way surprised us, eating being a universal human act. Regarding the second question our data suggests that the metaphors indeed do not seem to be culture specific to any significant degree. We could find no evidence of dependence on specific and markedly different cultural codes in those cases where we noticed source-target mappings in only one of the two languages.

It is clear from our analysis that there is considerable agreement between the metaphors that we were able to identify in the Northern Sotho and Afrikaans corpora. A second observation is that these metaphors also correspond to a high degree with the metaphorical extensions distinguished by Newman (1997) for English, the metaphor SEX IS EATING being one example. The two main categories that Newman (2009) identified, namely Internalization and Destruction, are found in both languages, indicating the universality of these metaphors. The metaphors are clearly grounded in shared bodily experience, show the same basic folk understanding of the eating process and even share certain religious cultural customs, like the Holy Communion.

The conceptual metaphors that we identified do not appear to be linked to or motivated by a specific belief, tradition or custom and they do not seem to reflect a particular culture (Western versus African). Although we did identify mappings that occurred in only one of the languages, we could not link these mappings to any specific cultural differences. What is clear, is that the metaphors are motivated by the embodied experience of eating itself. Human physiology obviously plays a dominant role in the conceptualizations that we found. In the light of Newman (2009), some metaphorical mappings might even be considered to be universal. Listing a whole body of cross-linguistic research on conceptual metaphor, Deignan and Potter (2004:1232) also point out that "at least some conceptual metaphors are widely shared".

For the following Northern Sotho extensions we found no corresponding examples in the Afrikaans corpus: EMOTIONAL SATISFACTION, SEX, ACCUMULATING POSSESSIONS and KILLING. We want to explore these examples in a bit more detail.

SEX IS EATING

Although we found no examples in the Afrikaans corpus, we are aware that there are expressions linking eating with sex in spoken Afrikaans. Homosexuals, for instance, refer to straight men as "eating fish". The fact that this metaphor does not appear in the corpus does not necessarily mean that it is not found in Afrikaans at all.

Regarding the ACCUMULATING POSSESSIONS mapping, we want to draw attention to the fact that the closely related metaphor MONEY IS FOOD is very prolific in Afrikaans. Compare also the fact that the patient in examples (36) and (37) is often money or profit. Underlying these expressions is another metaphor: MONEY / POSSESSIONS / PROFIT IS FOOD. It therefore does not seem as if this particular metaphor is dependent on an African cultural practice or belief that is different from Western culture.

Not found in the Northern Sotho corpus were the following Afrikaans extensions: UNDERSTANDING, HUMILIATION, DEFEATING and ENDEARMENT.

What are the implications of our findings for metaphor theory?

Judging from the growing body of cross-linguistic research in both conceptual and linguistIc metaphor, the universality of metaphors that are clearly and unambigiously embedded in very basic bodily experiences seems to be a given, and consequently the predictive power of this aspect of conceptual metaphor theory seems to be supported by the results of our investigation. Corpus linguistic methodology that focuses on finding metaphors linked to source domain vocabulary in big bodies of data adds validity to these investigations. It is also relatively easy to analyze huge amounts of data when using source domain lexical units that are clearly linked to or embodied experiences. Although the results are correspondingly satisfying in that they confirm our intuition

about these metaphors, it is perhaps time to move away from the "embodied" metaphors and to try and tease out other, perhaps language specific, metaphors from the available corpora.

When the focus is more on the linguistic expressions themselves, and not on identifying conceptual mappings, findings seem to point to subtle variation that is found internally in languages. Whether this variety provides evidence of possible different conceptualizations in different languages is a problem that needs to be investigated further. It points to the fact that a shift in focus and therefore methodology might be needed. Our findings suggest, as do those of Deignan and Potter (2004: 1233), that "a great deal more work is needed to determine the extent and relative frequencies of shared metaphors". Such an approach can indeed be seen as a step towards a methodology that can refine, modify or verify our present findings. We need to know more about the statistical importance of the linguistic metaphors that we found not only in the two corpora that we used, but preferably in bigger corpora that are more equal in size and scope. With enough statistical data of this kind, one might be able to demonstrate with more certainty the salience of certain linguistic metaphors in a particular language and then attempt to find an explanation for this. In the case of Afrikaans, the question of metaphor transference from English might for example be interesting. Research like this goes beyond the scope of the present article but might be the goal of a follow- up study.

A final observation concerns the notion of "culture" itself, a concept that seems to be treated rather loosely and even a-theoretically in the literature; one of those fuzzy terms that potentially hold many meanings, none of them very clearly defined. In studies like ours, "language" and "culture" are often simply equated. A problem with this lack of clear definition is that the notion of culture does not really serve as a helpful instrument to explain the differences as well as similarities between conceptual metaphors based on bodily experiences (like that of eating) in different languages; nor does it pay enough attention to historical changes in a particular culture that are not necessarily reflected in

metaphoric expressions. Deignan for example suggests "that a simplistic view of metaphors as a reflection of culture raises several problems" (2003 :256).

A valid question to ask is how cultural practices, beliefs and customs might influence the way that we experience very basic bodily acts, like those of eating and drinking. That the notion of "culture" at present does not offer a simple or straightforward explanation seems to be supported by the work of Deignan (2003) and Deignan and Potter (2004). Deignan (2003 : 270) even goes as far as saying that "even though there are a number of cross-domain mappings generated by unique cultural stereotypes in English and presumably other languages, these do not account for most of the differences in metaphorical expressions found across languages". Our study also points to the fact that known cultural differences are not able to explain the remarkable similarities that we found between conceptual metaphors in the two languages under investigation.

A truism often expressed in similar research to ours, is that what is cognitive and embodied is inherently cultural. Our data suggest, as Gibbs (1999: 156) also points out, that "there might be far fewer differences between cognitive and cultural models than often suggested by cognitive linguistics and anthropologists". Our research points out that, as far as the above metaphors and these two particular cultures are concerned, remarkable similarities and very few - and these not significant - differences were found. Perhaps by now scholars in metaphor research can state with more confidence and certainty that the more metaphorical mappings rely on shared physiological experience, i.e. the more embodied they are, the less likely they are to show cultural variation.

6. Bibliography

Boers, F. (2003). Applied Linguistics perspectives on cross-cultural variation in conceptual metaphor. *Metaphor and symbol 18 (4)*, 231 – 238.

Boers, F. & Demecheleer, M. (1997). A few metaphorical models in (western) economic discourse. In W.A. Liebert, G. Redeker, & Waugh, L. (Eds.), *Discourse and Perspective in Cognitive Linguistics*. Amsterdam/Philadelphia: John Benjamins.

Callies, M. & Zimmermann, R. (2002). *Cross-Cultural Metaphors. Investigating Domain Mappings Across Cultures.* Philipps Universitat Marburg: http://www.staff.uni-mainz.de/mcallies/metaphor/complete-report-final.pdf as on 30 September 2011.

Deignan, A. (2003). Metaphorical expressions and culture: an indirect link. *Metaphor and Symbol, 18 (4),* 255-271.

Deignan, A. & L. Potter (2004)**.** A corpus study of metaphors and metonyms in English and Italian. *Journal of Pragmatics* 36: 1231–1252.

Gibbs, R.W. (1999). Taking metaphor out of our heads and putting it in the cultural world. In R.W. Gibbs & G.J. Steen (Eds.), *Metaphor in Cognitive Linguistics* (pp.145 – 166). Amsterdam: John Benjamins.

Gibbs Jr. R.W., P. L. Costa Limab, E. Francozoc. (2004). Metaphor is grounded in embodied experience Journal of Pragmatics 36 (2004) 1189–1210.

Gibbs, R.W. (2007). Why cognitive linguists should care more about empirical methods. In V*.* Evans, B. Bergen & J. Zinken (Eds.), *The cognitive linguistics reader. Advances in cognitive linguistics* (pp.40 – 56). Sheffield: Equinox Publishing.

Johnson, M. (1987). *The body in the mind: The bodily basis of meaning, imagination and reason.* Chicago**:** Chicago University Press.

Kövecses, Z. (1995). *Anger: its language, conceptualization, and psychology in the light of cross-cultural evidence.* In J.R. Taylor & R.E. MacLaury (Eds.), *Language and the cognitive construal of the world.* (pp. 181 – 196). Berlin: Mouton De Gruyter.

Kövecses. Z. (1999). *Metaphor: Does it constitute or reflect cultural models?* In R.W. Gibbs & G.J. Steen (Eds.), *Metaphor in Cognitive Linguistics (*pp.167 – 188). Amsterdam: John Benjamins.

Kövecses, Z. (2002). *Metaphor: a practical introduction.* Oxford: Oxford University Press

Lakoff, G. (1987). *Women, fire, and dangerous things.* Chicago: The University of Chicago Press.

Lakoff, G. (2007). *The contemporary theory of metaphor.* In V. Evans, B. Bergen & J. Zinken (Eds.), *The cognitive linguistics reader. Advances in cognitive linguistics* (pp. 267 – 315). Sheffield: Equinox Publishing.

Lakoff, G., & M. Johnson (1980). *Metaphors we live by.* Chicago: The University of Chicago Press.

Lakoff, G., & M. Turner. (1989). *More than Cool Reason: a Field Guide to Poetic Metaphor.* Chicago: University of Chicago Press.

Neuman Y, Assaf D, Cohen Y, Last M, Argamon S, et al. (2013). Metaphor Identification in Large Texts Corpora. PLoS ONE 8(4): e62343. doi:10.1371/ journal.pone.0062343

Newman, J. (1997). Eating and drinking as sources of metaphor in English. *Cuadernos de Filologia Inglesa*, *6 (2),* 213 -231.

Newman, J. (2009). Preface. In J. Newman (Ed.), *The linguistics of eating and drinking* (pp. vii – xii). Amsterdam: John Benjamins.

Newman, J. (2009). A cross-linguistic overview of 'eat' and 'drink'. In J. Newman (Ed.), *The linguistics of eating and drinking* (pp. 1-26). Amsterdam: John Benjamins.

Newman, J. (2011). Corpora and cognitive linguistics. *Brazilian Journal of Applied Linguistics 11.2*, 521-559. [Special issue on *Corpus studies: future directions*, edited by S. Th. Gries.]

Pragglejaz Group (2007). A practical and flexible method for identifying metaphorically-used words in discourse. *Metaphor and Symbol*, 22, 1-39.

Steen, G. & Gibbs, R.W. (1999). Introduction. In R.W. Gibbs & G.J. Steen (Eds.), *Metaphor in Cognitive Linguistics* (pp. 1 – 8). Amsterdam: John Benjamins.

Stefanowitsch, A. (2007). Corpus-based approaches to metaphor and metonymy. In A. Stefanowitsch, A. & Stephan Th Gries (Eds.) *Corpus-based approaches to metaphor and metonymy* (pp. 1-16). The Hague: Mouton de Gruyter.

Shutova, E. B. J. Devereux, A. Korhonen. 2013. Conceptual metaphor theory meets the data: a corpus-based human annotation study. *Lang Resources & Evaluation* 47: 1261–1284.

Simó, J. 2011. Metaphors of blood in American English and Hungarian: A cross-linguistic corpus investigation. *Journal of Pragmatics* 43: 2897–2910.

Steen, G. J., A. G. Dorst, J.B. Herrmann, A.A. Kaal, T. Krennmayr, . & T. Pasma. (2010). A method for linguistic metaphor identification: From MIP to MIPVU. Amsterdam/Philadelphia: John Benjamins.

Wierzbicka, A. (2009). All people eat and drink. Does this mean that 'eat' and 'drink' are universal human concepts? In J. Newman (Ed.), *The linguistics of eating and drinking* (pp. 65 – 89). Amsterdam: John Benjamins.

7. Addenda

Addendum A: Northern Sotho

Sense 1   *ja* **'take in (mostly solid) food'**

　　Troponym

　　　　kokona 'nibble, gnaw', *phura* 'nibble, gnaw'

　　　　koma 'lick (something dry) (from the hand)'

　　　　phaka 'gulp down (without chewing), bolt down', *goduma* 'gulp down (audibly)'

　　　　gaketla 'devour, tear to pieces'

　　　　hlonka 'peck at, eat little', *thobola* 'peck (at), *kobola* 'peck (at)'

　　　　kgaphola 'eat with hand, e.g. porridge with milk'

　　Entailment

　　　　dulela 'sit down for a meal'

　　　　hlahuna 'chew (in order to swallow), *sohla* 'chew (in order to spit out)'

　　　　loma 'bite', *kgema* 'bite (off)'

　　　　metša 'swallow'

　　　　šila 'digest'

　　Hypernym

　　　　ja 'consume, ingest'

Sense 2   *ja* **'eat a meal, take a meal'**

　　Troponym

　　　　fihlola 'breakfast'

　　　　lalela 'dine'

　　　　ngwatha bogobe / mphago 'break porridge, padkos (with someone)'

　　　　nyakora 'feast on'

　　　　šeba 'eat as a side dish'

　　Hypernym

　　　　ja 'consume, ingest'

Sense 3   *ja* **'feed, eat (said of animals only)'**

　　Troponym

fula 'graze', *garola* 'graze by ripping up grass'

anywa 'suckle'

Hypernym

ja 'consume, ingest'

Sense 4 **tlaiša, ja, tshwenya 'worry, cause anxiety in a persistent way'**

Sense 5 **ja, fetša, šomiša 'use up, consume, finish (off)'**

Sense 6 **bitša, ja, 'cost'**

Sense 7 **ipshina, ja 'enjoy'**

Sense 8 **robala mmogo, ja 'have sex'**

Sense 9 **sora, ja 'drink too much alcohol'**

Sense 10 **ja 'confiscate'**

Addendum B: Afrikaans

Sense 1 **eet 'take in (mostly solid) food'**

Troponym

knaag, knibbel, pik ('gnaw', 'nibble', 'peck')

verorber, opeet ('consume', 'eat up')

slurp, opslurp ('gulp', 'guzzle', 'gobble up')

herkou ('ruminate')

vreet ('eat – an animal'|

Entailment

sluk, insluk ('swallow')

byt, afbyt, hap ('bite', 'bite off')

kou ('chew')

verslind ('devour', 'consume', 'absorb')

verorber ('consume', 'devour')

verteer ('digest', 'consume')

verorber ('gorge')

Hypernym

nuttig (partake, eat)

gebruik (partake, eat)

inneem (consume, ingest)

Sense 2   *eet* **'eat a meal, take a meal'**

Troponym   *uiteet* (to dine out)

Entailment   *aansit* (sit down at a table to eat)

       weglê (start eating)

Hypernym

       nuttig (partake, eat)

       gebruik (consume, ingest)

Sense 3   *eet* **'cause anxiety or worry in a persistent way'**

Troponym   *knaag* (gnaw*)*

Hypernym   *eet* (eat)

       vreet (eat)

Sense 4   *eet* **'use a great quantity of resources or materials'**

Troponym   *verbrand* ('burn')

       uitput ('exhaust')

       spandeer ('spend')

       vreet ('eat in the manner of animals')

Sense 5   *eet* **'corrode, rust'**

Troponym   *byt* (bite)

Hypernym   *vreet* ('eat in the manner of animals')

       verteer ('digest')

       beskadig ('damage')