A Cross-Linguistic Study of BLOOD Metaphors in Afrikaans and Northern Sotho

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Abstract

Although a considerable body of corpus-based metaphor research—with conceptual metaphor theory as theoretical framework and heuristic tool—has been published internationally, South African studies in this field are lagging behind. This article aims to demonstrate how cross-linguistic metaphor research within a cognitive semantics framework can benefit from lexical and corpus-linguistic methodologies, with specific reference to two lesser-resourced languages, namely, Afrikaans and Northern Sotho. Criticism against the so-called lexical approach that characterised the early work on conceptual metaphor led to an increase in corpus-based investigation. Corpus-based research into metaphor has many advantages, but it depends on the availability of large, annotated corpora, which is not a resource that indigenous South African languages, including Afrikaans, can rely upon. Our article demonstrates how metaphor research can benefit from both methodologies. Relying also on another conceptual tool, metonymy, we identified three conceptual metaphors, namely LIFE IS BLOOD, EMOTIONS ARE BLOOD and INHERITANCE IS BLOOD.

Keywords: Conceptual Metaphor Theory (CMT); metaphor identification; lexical approach; corpus linguistics approach; BLOOD metaphors; metonymy

1. Introduction

In this article a cognitive linguistics framework, specifically Conceptual Metaphor Theory (CMT) is used for the analysis of linguistic data. The article aims to demonstrate how cross-linguistic metaphor research within a cognitive semantics framework can benefit from lexical and corpus-linguistic methodologies, with specific reference to two lesser-resourced languages, i.e. Afrikaans and Northern Sotho.[1] We start by providing some background regarding the theory, then move on to methodological issues, offering a critical analysis of the two dominant approaches to data collection within CMT. Finally, by using both approaches, we offer a cross-linguistic analysis and present findings regarding metaphors that originate within the source domain of a bodily substance—blood.

2. Cognitive Semantics and Conceptual Metaphor Theory

Metaphors We Live By, by George Lakoff and Mark Johnson, changed, in a fundamental sense, the way in which metaphor would henceforth be seen: not as "a device of the poetic imagination and the rhetorical flourish" as Lakoff and Johnson (1980, 3) so eloquently put it, but as a powerful conceptual tool: "Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphoric in nature" (Lakoff and Johnson 1980, 3).

Lakoff and Johnson's seminal work is considered to be the foundational text in cognitive semantics and serves as the source of Conceptual Metaphor Theory (CMT), which was elucidated in greater detail in Lakoff's 1987 tome *Women, Fire and Dangerous Things*. The basic premise of CMT is that conceptual metaphors consist of a set of systematic mappings between two domains of experience, a target and a source domain. The former is typically more abstract, whereas the source domain is more concrete or physical. The more concrete domain is used to understand the abstract domain. As pointed out by Kövecses (2018b), conceptual metaphors have a variety of manifestations in various modalities, including linguistic manifestations. The linguistic manifestation of BLOOD metaphors is the focus of this investigation.

CMT views metaphor as experientially grounded and reflecting embodied cognition (Lakoff and Johnson 1999; Leung et al. 2011). These two features would point towards the universal nature of (some) metaphorical mappings, since human beings share the same bodily features. However, metaphor as meaning making tool is often also closely

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1   We are aware of the ongoing debate regarding the preferred designation for this language, but following this journal's instructions to authors, we use the term listed in Ethnologue (https://www.ethnologue.com/), i.e. "Northern Sotho." Autonyms are "Sepedi" and "Sesotho sa leboa."

linked to the culture of the speakers of the languages in which the metaphors find realisation (Gibbs 1999, 153).

CMT also utilises a related concept, that of metonymy. Clear-cut definitions of metonymy are hard to come by—the focus is rather on its cognitive function. Metonymy allows us to think of an entity in terms of its relation to something else (Lakoff and Johnson 1980, 36; Geeraerts 2010, 214). Lakoff (1987, 77) explains it thus: "It is extremely common for people to take one well-understood or easy-to-perceive aspect of something and use it to stand either for the thing as a whole or for some other aspect or part of it". The entities in question do not belong to different domains (a more basic and a more abstract domain), as is the case with metaphor. Evans and Green explain the difference between the two concepts: "while metonymy is the conceptual relation 'X stands for Y', metaphor is the conceptual relation 'X understood in terms of Y'" (Evans and Green 2006, 311).

Geeraerts (2010) discusses the following examples:

to drink a whole bottle (receptacle for contents) (p. 27)
to fill up the car (part-whole relation) (p. 32)
the whole theatre was in tears (a spatial location for what is located there) (p. 32)

What interests us in this article is the relationship between metonymy and metaphor. Deignan (2005a, 72) refers to a cline from metonymy to metaphor, explicating the relationship between these two conceptual tools. Metonymy often functions as a link between bodily experience and metaphor in the process of mapping a concrete experience onto an abstract one. Metonymy and metaphor are seen to occupy two opposite poles on a continuum, which corresponds with another continuum concerning two types of embodiment, viz. physiological and cultural embodiment. Metonymy tends to exhibit a closer relationship with physiological embodiment, whereas metaphor has closer links to a more culturally oriented kind of embodiment.

We concur with the following statement by Maalej and Yu (2011, 8):

The boundaries between metaphor and metonymy are somewhat fuzzy and there is a specific kind of interaction between these two concepts: metonymy often functions as a link between bodily experience and metaphor in the process of mapping a concrete experience onto an abstract one.

Although CMT, as a theory that links metaphor and thought in a systematic and intuitively valid way, does not seem to be fundamentally contested, with many scholars still exploring the insights into human thought that it offers (Deignan 2015, Kövecses 2015, 2018a, 2018b, Simó 2011), metaphor identification in ongoing discourse is an issue which is still debated (cf. Pragglejaz Group 2007; Kövecses 2008; Deignan 2015;

Kövecses et al 2019).[2] Furthermore, the debate has thus far centred on metaphor identification in English, a language that is well resourced in terms of electronic resources such as huge, freely available corpora and computational processing tools such as POS (part-of-speech) taggers, syntactic parsers, morphological analysers, information extraction systems and semantic annotators. Although it could be argued that the theory regarding metaphor identification will be a constant, we argue that the practicalities of metaphor identification for lesser-resourced languages such as Afrikaans and Northern Sotho pose specific challenges. In the following section a critical analysis of two methodological approaches is given, followed by a case study on BLOOD metaphors in Afrikaans and Northern Sotho, utilising elements of both methodological approaches.

3. Metaphor Research: Two Methodological Approaches

Despite the success of CMT, certain shortcomings have been identified, most notably the lack of a reliable methodology that can be utilised for the identification of metaphorical expressions in discourse. Kövecses, referring to the Pragglejaz Group, states: "One of the most often heard criticisms of CMT is that most researchers in CMT set up conceptual metaphors on the basis of intuitive and unsystematically found linguistic metaphors" (Kövecses 2008, 168–169). Kövecses (2008, 169) summarises the criticism thus: "They propose that we need to construct a reliable methodology to identify metaphorical expressions and we need to use real corpora in the course of identifying such expressions." Already in 2002, Steen (2002, 386) identified the reliable identification of metaphorical expressions in ongoing discourse as an urgent problem in CMT: "If cognitive metaphor theories are to be tested or applied to authentic language use, the reliable identification of linguistic metaphors is a *conditio sine qua non*." He argues that linguistic research does not use a preconceived set of conceptual metaphors as point of departure, but rather deals with spontaneous metaphorical expressions as they are encountered in real life language use.

Kövecses (2008, 169) distinguishes three levels of metaphor: at a subindividual level, metaphors are motivated by a bodily or cultural basis; at an individual level, metaphorical linguistic expressions are used by specific speakers and at a supraindividual level, decontextualised expressions are found on the basis of which conceptual metaphors can be suggested. Based on this distinction, we accept for the purposes of this article that there is a connection between bodily experience, metaphorical expressions and conceptual metaphors.

The realisation of the methodological shortcomings of CMT gradually crystallised into clearly delineated points of criticism, mostly aimed at the selective and introspection-based data selection. Stefanowitsch (2007) puts forward a strong argument for

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2   The debate centres around the identification of *linguistic* metaphors.

establishing a firm empirical basis for studying conceptual metaphor from a (corpus) linguistic perspective. He consequently designed and tested an experimental procedure to semi-automatically retrieve metaphorical mappings from corpora, termed "metaphorical pattern analysis." He concludes that this method is superior to the traditional introspective method and that it facilitates a more complete exploration of metaphorical mappings associated with a specific target domain.

From the literature concerning methodological issues, one can identify two approaches that can be used with success: the lexical approach and the corpus-based approach. These two approaches are very briefly discussed below.

3.1 The Lexical Approach

At the outset, it needs to be stated that the two approaches under discussion have different goals, and that their methodologies are therefore different. They should be seen not as conflicting methodologies, but as complementary ones. According to Kövecses (in Simó 2011, 2897) the aim of the traditional (or lexical) approach is not to provide a full list of conceptual metaphors for a given target, but to "propose conceptual metaphors on the basis of linguistic expressions that researchers intuitively take to be metaphorical." These potentially metaphorical linguistic expressions often take the form of decontextualised examples, sourced from various kinds of dictionaries (preferably corpus-based), thesauri, collocation dictionaries, idiom dictionaries and WordNet analyses (Kövecses et al. 2019, 151) or even invented or remembered by the authors themselves (Semino 2017, 464). The lexical approach proposes hypotheses about conceptual metaphors that can then be verified, modified or refined, based on comprehensive linguistic and non-linguistic data. This approach is also termed a top-down approach: conceptual metaphors are postulated on the basis of a small number of decontextualised examples, followed by an examination of the internal structure of these metaphors, which usually entails the identification of cross-domain mappings.

Criticism against this top-down approach is related to the central role played by the intuition of the researcher. As pointed out by Sinclair (1991), language intuition is not reliable when judging language use. Data selection based on the researcher's intuition is deemed to be introspective and selective. Stefanowitsch (2007) further states that it is impossible to determine the importance of a given metaphor in a given language, or to decide when all conceptual metaphorical mappings for a specific domain have been charted exhaustively. The main concern regarding the lexical method of studying metaphor is therefore the lack of a firm empirical basis.

Possibly as a reaction to the criticism levelled at the lexical method, the Pragglejaz Group (2007) proposed a protocol to identify metaphorical expressions, the metaphor identification procedure (MIP). This was consequently further developed by Steen (2010) as MIPVU (Metaphor Identification Procedure VU University Amsterdam).

While the MIPVU does reduce reliance on a single researcher's intuition in identifying linguistic expressions containing metaphors, some criticism against the lexical method remains. It relies heavily on dictionaries to aid researchers in

(i) finding figurative linguistic expressions by looking for source domain items and

(ii) helping to determine the sense(s) of a lexical item which might have a figurative meaning within a certain context (Step 3 in the Pragglejaz protocol).

Another problem with the lexical approach as set out in MIPVU is that it is in essence a time-consuming manual annotation process (Stefanowitsch 2020, 398) and thus unable to analyse large quantities of data—the MIPVU method is only suitable when perusing one entire text word for word. As Stefanowitsch points out, the manual annotation of texts severely limits the amount of data that are available for research, making alternative methods highly desirable (Stefanowitch 2020, 349). If one is interested in identifying conceptual metaphors originating in a particular source domain, and wishes to use as much evidence as possible, as is the case in this article, the MIPVU approach is much too time and resource intensive to be considered realistically. An alternative method needs to be considered. Deignan (2015, 145) states her true preference in an ideal world as "the direct, unfiltered use of corpora to inform decisions about meaning."

3.2 The Corpus-Linguistics Approach

Central to the corpus-linguistics approach is the use of electronic text corpora as primary data source. Using corpora has distinct advantages. In the first instance, if the aim is to chart as exhaustively as possible all relevant metaphors related to a particular source domain, using corpora gives the researcher access to a huge amount of data, thus increasing the chances of capturing all metaphors. Secondly, since the identification of linguistic metaphors as (surface) realisations of conceptual metaphors often relies on contextual information, making use of a corpus which can provide as much context as is needed is particularly useful. Thirdly, it is doubtful whether any language user and/or linguist would intuitively be able to identify all possible lexicalisations of any specific metaphor. Fourthly, as stated by Deignan (2005b, 96), "it seems unlikely that intuition would adequately predict more delicate features of metaphorical expressions," especially since it has been shown that linguists' intuition regarding a seemingly simple issue such as the frequency of a particular linguistic metaphor is often widely off the mark. In the fifth instance, a corpus-based analysis may reveal patterns of usage which may be linguistically significant and which could easily be overlooked in a purely introspection-based investigation. Finally, as pointed out by Simó (2011), corpora can also provide extra-linguistic information, e.g. source, genre, recency—variables which need to be considered in the analysis of conceptual metaphors.

Corpus-based studies on metaphor usually start by using the lexical item from the source domain as search node in the corpus query software. (Body parts and substances, like blood, are good candidates for source domain items.)

Linguists use concordancing tools to provide each instance of the search term in the corpus on a separate line, accompanied by the immediately preceding and following co-text (Semino 2017, 466). The context then enables researchers to identify metaphorical uses, target domains and underlying metaphors.

Perusing 600 KWIC (keyword-in-context) lines, as in our case, our intuition and knowledge of the basic sense of *blood*, as well as our experience with the lexical approach (see section 4) were invaluable. However, the decision of whether a particular instance of use of the lexical item in question represents metaphorical use still rests on the judgement of the researchers. Therefore, as researchers such as Deignan (2005b) and Simó (2011) indicate, researcher intuition when analysing and assessing data remains a necessary and unavoidable component of any kind of linguistic study.

Whichever method the researcher decides to use, certain resources are needed, the three most important ones being highly skilled linguists, an array of typologically diverse dictionaries, and in the case of the corpus-linguistics approach, electronic text corpora. A lack of any of these resources will undoubtedly affect the ability of the (South African) researcher working in languages other than English to fully utilise the possibilities offered by either of the two approaches to metaphor studies, however methodologically sound these approaches may be.

3.3 Available Resources for Afrikaans and Northern Sotho

Table 1 sums up the resources needed for both methods and indicates to what extent these resources are currently available in the two languages under investigation:

Table 1: Resources currently available in Afrikaans and Northern Sotho

Resource	Availability (Afrikaans)	Availability (Northern Sotho)
Skilled linguists	Possibly enough, but difficult to quantify	Not enough, but difficult to quantify
An array of preferably corpus-based monolingual dictionaries	Satisfactory, but not optimal	Extremely limited, not of good quality
Big, freely available, preferably annotated and downloadable corpora	Satisfactory although not ideal. Relatively big, 85 million tokens, available to bona fide researchers, POS annotated (75% accurate), not downloadable	Not ideal, especially in comparison to Afrikaans. Relatively small, 7.7 million tokens, not generally available, not annotated for POS, not downloadable

There are many types of dictionaries available in Afrikaans: The most comprehensive dictionary (once completed) will be the *Woordeboek van die Afrikaanse Taal* (WAT). However, this dictionary has only been completed up to the lemma *Sri Lankaans*

(Part XV). Two comprehensive monolingual dictionaries are the *Handwoordboek van die Afrikaanse Taal (HAT)* and the *Pharos Verklarende Afrikaanse Woordeboek.* Also available are an Afrikaans thesaurus, synonym and antonym dictionaries and quite a few idiom dictionaries. To date there is no collocation dictionary available.

The situation is markedly different for Northern Sotho, which has a limited range of dictionaries available. There are no comprehensive, monolingual dictionary, no thesauri, synonym or collocations dictionaries available in the language. The most extensive dictionary, the *Groot Noord-Sothowoordeboek* by Ziervogel and Mokgokong (1975) is a trilingual Northern Sotho–Afrikaans–English dictionary, but it has been out of print for the last four decades. An online monolingual dictionary, the *Pukuntšutlhaloši ya Sesotho sa Leboa ka Inthanete* is available (https://africanlanguages .com/psl/), but it is of extremely limited scope and turned out to be of very little use in the current project. Researchers also have access to a bilingual school dictionary, the *Oxford Northern Sotho English Bilingual School Dictionary*, but, being a translation dictionary, its usefulness for this project was limited. Sources for the lexical method of metaphor identification are therefore rather scarce, and not always of good quality.

"It is probably fair to say that over the past fifteen years, corpus-based methods have established themselves as the major empirical paradigm in linguistics," states Stefanowitsch (2007, 1), and it is true that it is becoming easier to use corpora when doing research on Afrikaans and Northern Sotho, compared to just a few years ago. However, when Deignan (2015, 145) mentions "the huge amount of corpora" that are now freely available online, she is referring to English corpora, arguably the most resource-rich language in existence. This is not the case for 10 of the 11 official languages in South Africa, as we will demonstrate below with specific reference to Afrikaans and Northern Sotho.

The easiest way to access free online corpora for Afrikaans is *Korpusportaal* (Corpus Portal) on the VivA website (https://viva-afrikaans.org), which offers a variety of corpora. These corpora are available to bona fide researchers but they cannot be downloaded. They are automatically lemmatised and annotated, but with an accuracy of only 75%, which is far below what is generally acceptable for POS tagging. The high frequency of incorrect annotation makes any corpus-based research difficult and time-consuming. Table 2 sums up the available corpora on this website. Note that a potentially highly valuable corpus of contemporary Afrikaans—that of Media24, a newspaper corpus—is not available to researchers.

Table 2: Corpora on the VivA website

Name	Size
NCHLT-Afrikaanse korpus	2 229 214 words
Afrikaanse Leipzig-korpus	66 740 411 words
NWU/Maroela Media-korpus	13 676 057 words
NWU/Lapa-korpus	14 765 318 words
PUK/Protea Boekhuis-korpus	10 475 499 words
RSG-nuuskorpus	16 230 082 words
Taalkommissiekorpus	47 321 344 words
Wikipedia Afrikaanse korpus	17 001 677 words

A problematic aspect of these corpora is that most source texts are quite recent, dating from 1995 to 2015.

Northern Sotho corpora are not freely available. Researchers are therefore left to their own devices and have to compile their own corpora which are not POS-tagged and do not contain any kind of mark-up. It is also highly unlikely that these self-compiled corpora are balanced and representative, inter alia because of data scarceness. These DIY corpora cannot be made available to other researchers, due to copyright issues—researchers usually obtain copyright clearance for very specific research projects. The untagged nature of these corpora limits the usability of corpus-query software such as Sketch Engine (https://www.sketchengine.eu/). The corpus used for this particular study does not contain any speech component, and in terms of size it is rather small, consisting of 7,7 million tokens. It mainly consists of textual material such as literary texts, textbooks, academic texts, and magazines that has been scanned by means of Optical Character Recognition (OCR) and converted to .txt format. Electronic texts from, e.g., government websites are also included.

As can be seen above, Afrikaans and Northern Sotho are not well-resourced languages, with the latter being in a worse position than Afrikaans—to such an extent that it is impossible to compare the data regarding frequency and salience, for example. This fact also has an impact on our analysis below. The lack of an abundance of data limits our cross-linguistic investigation and prohibits a definite conclusion on cross-linguistic variety.

Having set the scene regarding available resources, we now present a case study in which we made optimal use of available resources in order to maximally utilise the possibilities offered by both approaches.

4. Case Study: Blood Metaphors in Afrikaans and Northern Sotho

Our aims in undertaking the case study were to

- identify metaphorical uses of the lexical source domain items *bloed* (Afrikaans) and *madi* (Northern Sotho) respectively, using the two approaches outlined above

- identify conceptual metaphors based on the identification of metaphorical expressions

- explore the relationship between metonymy and metaphor, and

- ascertain whether cross-linguistic variation exists regarding the metaphors.

4.1 Cross-Linguistic Analysis

4.1.1 Data Sampling

To gather our examples (figurative meanings of *blood*), we made use of both lexical and corpus-based approaches. Table 3 lists the sources that were used in the lexical approach. Two Afrikaans dictionaries and two Northern Sotho dictionaries were consulted.

Table 3: Data sources for the lexical approach

Afrikaans	Northern Sotho
Woordeboek van die Afrikaanse Taal (*Dictionary of the Afrikaans language*) Available online: https://viva-afrikaans.org/portale/woordeboekportaal	*Groot Noord-Sotho Woordeboek* by Ziervogel and Mokgokong (1975)
Handwoordeboek van die Afrikaanse Taal (HAT) (6th edition) Available online: https://viva-afrikaans.org/portale/woordeboekportaal	*Pukuntšutlhaloši ya Sesotho sa leboa ka inthanete* (Online Northern Sotho dictionary) https://africanlanguages.com/psl/

Table 4 summarises the main features of the corpora that were used to augment the scant data found using the lexical approach.

Table 4: Corpora used

	Afrikaans	Northern Sotho
Name	A collection of different corpora on the VivA website https://korpus.viva-afrikaans.org	Bespoke corpus, compiled by the researcher
Size	85 million words	7.7 million words
Annotated	Yes (75% accurate)	No

	Afrikaans	**Northern Sotho**
Access	Bona fide researchers Four levels of access: → simple → extended → advanced → exclusive	No
Downloadable	No	No
Metadata	Yes: → subcorpus → genre → author → publication date	Yes: → genre → author → publication date
Textual data	Yes	Yes
Edited	Yes	No
Spoken component	No	No
Different genres	Yes	Yes
Time-frame	Contemporary Afrikaans (1995–2015)	Contemporary Northern Sotho (1951–2018)

In each corpus a sample of 600 KWIC lines (out of 19 697 hits for Afrikaans *bloed* and 2 079 hits for Northern Sotho *madi*) was used to identify metaphoric (figurative) expressions in the two languages.

4.1.2 Identifying Figurative Linguistic Metaphorical Expressions

As a first step, using the data that we gathered from the lexical approach, we analysed all incidences of the lexical items *bloed* (Afrikaans) and *madi* (Northern Sotho) as they appeared in dictionary articles in order to identify possible figurative meanings. In deciding whether a meaning was figurative and therefore possibly a linguistic metaphor, we compared the basic meaning of *blood* as it appears in the dictionaries to the contextual meaning as it appears in example sentences or simply in the explanation for certain figurative expressions in the dictionaries.[3] Our methodology is therefore similar to the one proposed by the Pragglejaz Group in that we analysed each incidence of the source domain word within context to determine whether it represents a linguistic metaphor. We therefore did not have to rely entirely on our own intuition.

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3   The WAT defines the basic meaning of *bloed* as the red liquid consisting of the colourless plasma and the blood corpuscles which flows into the bloodstream, especially in humans and the higher animals, brings nutrients and oxygen to the tissues of the body and transports harmful or useless substances to the organs that secrete these substances. The basic meaning of *madi* in the online *Pukutšutlhaloši* is given as *seela se sehubedu seo se hwetšwago mmeleng ka gare ga ditšhika go tloga pelong moo se hlwekišwago go ya dithong ka moka tša mmele* (a red liquid found in the body within the arteries, running from the heart where it is cleaned to all the parts of the body).

We offer the following examples to illustrate this process of identification:

Afrikaans (WAT)

(1)   *Hy is my eie vlees en bloed*
      He is my own flesh and blood
      Verwante van die halwe bloed
      Relations of the half blood

These two examples illustrate the sense "kinship." It is clear that the basic meaning of *bloed* is not the contextual meaning. The expressions are to be understood figuratively and they possibly point to underlying metaphors and/or metonymy.

Also compare the following example from Northern Sotho:

Northern Sotho

(2)   *Raisibe ke madi a ka*
      Raisibe is my blood, i.e. my own child

In a second step, we used the concordances provided by corpus linguistics tools to ascertain whether the words *bloed/madi* were used in the basic sense of a bodily fluid. In the following examples, the contextual meanings are clearly not the same as the basic meaning:

Afrikaans

(3)   *soos wat die meeste trone en paleise uit die bloed van die arm mensdom opgebou is*
      like most thrones and palaces that were built from the blood of the poor human race

Northern Sotho

(4)   *dibodu tšeo di ratago go phela ka madi a ba bangwe*
      those lazy people who want to live off the blood of others

We followed this procedure for all 600 instances in both languages.

Once we identified expressions that were possibly metaphorical, we took a closer look at them in order to identify conceptual metaphors. The result of this analysis is presented in section 5. A preliminary perusal of the data revealed the presence of sets of metonymies in our data as well. In view of what Deignan (2005a, 72) calls the metonymic basis for many metaphors, this was to be expected. In much the same way in which Lakoff (1987, 382) makes use of sets of metonymies such as BODY HEAT, INTERNAL PRESSURE and AGITATION (which stand for ANGER) to show how metonymy motivates the metaphor ANGER IS HEAT, we accept that a set of metonymies acts as a

conceptual trigger or entry point for the conceptual metaphors which we present in section 5.

As Lakoff (1987) demonstrated, metonymies are yielded by shared folk knowledge of human (embodied and cultural) experience. Linke (1985, 333–334) points out that outside blood (associated with death) and inside blood (associated with life) were denoted by different words in Proto-Indo-European. The word for "outside blood" carried meanings such as "blood from a wound," "gore," "thick, coagulated blood," "raw and bloody flesh." These were accompanied by negative denotations such as physical injury and violence against the body. Linke (1985, 335) notes that "the semantic and symbolic equivalence of 'bleeding' and 'wounding' may well be universal." As the apparent antonym of this word, the word denoting "inside blood" alludes to the growth of life and the warmth of spring (Linke 1985, 341). Linke gives a very detailed analysis of the rich metaphors connected to blood in Proto-Indo-European by also referring to the culture and cosmology of those ancient speakers. The distinction between outside and inside blood points to a folk-knowledge awareness that blood is essential for life and that loss of blood may lead to death.

The most obvious metonymy is the part-for-whole relation BLOOD FOR A HUMAN BEING. This basic metonymical relation covers many aspects of being human: our physical and mental characteristics, the fact that we have emotions, the ability to use our hands (amongst other things to hurt other beings), the reality of spilling (someone else's) blood, and also being physically hurt ourselves. It was also clear to us that metonymy and metaphor are closely linked—so closely, that it was difficult to maintain a strict distinction between the two conceptual mechanisms. In section 5 we explore this relationship further.

5. Conceptual Blood Metaphors

In metaphor studies the terminology used when data are analysed often show considerable idiosyncratic variation. In his corpus-based analysis of *blood* in English phraseology, Charteris-Black (2001) proposes three *conceptual keys*: BLOOD FOR ANCESTRY; BLOOD FOR LIFE and BLOOD IS TEMPERAMENT. He uses the term *conceptual key* as "a formal statement of an underlying idea that accounts for the related figures of speech that occur in different languages" and states that it may include "conceptual metaphors, conceptual metonyms, conventional scripts and other types of knowledge drawn from everyday experience" (Charteris-Black 2001, 274). Simó (2011) did a cross-linguistic investigation of blood metaphors in American English and Hungarian and set out to identify the main *target themes* in her corpus investigation. In contrast to Charteris-Black's categorisation, she distinguishes only two major metaphorical target themes, namely emotion and essence. She further divides essence into four subtopics: origin, significance, quality, and life.

Led by our examples (i.e. the metaphorical expressions), and keeping to CMT, we postulate three main conceptual metaphors, which closely resemble the three conceptual keys identified by Charteris-Black.

As indicated earlier, the relationship between metaphor and metonymy is particularly problematic and in itself merits a separate investigation. The interested reader is referred to Deignan (2005b) for a detailed discussion. In the following analysis, we relied on metonymies which act as points of access to the metaphors.

The metaphors that we identified are:

> LIFE IS BLOOD
> EMOTIONS ARE BLOOD
> INHERITANCE IS BLOOD

These three metaphors all share the source domain of blood, which is mapped onto three different, abstract target domains.

The idea of cultural resonance (Charteris-Black 2001, 282) is useful when analysing data. Nouns and verbs which accompany *blood* may carry positive ("young") or negative ("bay,"[4] "shed") connotations. This "resonance" also links to the socio-cultural dimension in which a particular language finds itself. In the Judeo-Christian tradition, for example, blood has a very rich symbolism, dating back to pre-modern times. Because the Bible forms part of the Afrikaans corpora as well as of the Northern Sotho corpus, it is not surprising that we found ample evidence of metaphoric expressions referring to sacrifice, salvation, forgiveness, and reconciliation. It could be argued that these metaphors have their origin in the original Greek and Hebrew texts, but since our investigation is not on the historic origin of metaphors, we analyse them as synchronic realisations of specific metaphors.

5.1. Life Is Blood

Charteris-Black (2001, 273) suggests that "if the body is conceptualised as a 'container', there is a great deal of linguistic evidence indicating that it is a container filled with blood that can be 'filled' or 'emptied'." Our embodied experience clearly plays a vital role in the formation of the BLOOD metonymies and metaphors. Part of this experience is the knowledge that blood is a fluid substance necessary for life. It fills our bodies but can also spill out, like other bodily fluids (e.g. sweat and tears).

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4   In the *Oxford Encyclopedic English Dictionary* (1996), the definition of the noun *bay* reads "the sound of baying, esp. in chorus from hounds close pursuit." It is this connotation of the verb *bay* with hunting that is interpreted as being negative. The collocation *baying for blood* also illustrates this emotive meaning.

We found an abundance of figurative expressions where blood is seen as synonymous with life and which rely on the metonymic model of part for whole, as in 5.1.1.

The notion that "inside blood" indicates life and "outside blood" signifies that death is vital to this metaphor. We therefore also included in this category not only the metonymy BLOOD FOR A LIVING HUMAN BEING, but also metaphors denoting death.

5.1.1 A Person Is Inside Blood

Although we found ample evidence in which the metonymic relationship BLOOD STANDS FOR PERSON is realised, we limit ourselves to offering only a few examples per section.

The first Afrikaans example comes from the VivA corpus and is a good illustration of how more context gives us a better indication of how the expression is to be understood. It is clear that younger blood stands metonymically for younger persons in (5):

Afrikaans

(5)   *Boeretrots Tuindienste gaan baie swaar kry in die somermaande omdat ons werkers meestal ouerig is, ek is tans besig om jonger bloed te probeer kry wat bietjie langer kan grassnyer stoot.*
Boeretrots Garden Services are going to have a difficult time in the summer months because our workers are mostly quite old, at the moment I am trying to get younger blood who can push a lawn mower for a bit longer.

A similar example was found in the Northern Sotho data:

Northern Sotho

(6)   *Ge kgoro e nyalelane le magoro a mangwe, ntle le go godiša leloko, go na le go rotoša madi a mafsa mo lelokong.*
When one homestead marries other homesteads, apart from growing the lineage, it adds new blood to the clan.

5.1.2. Death Is Outside Blood

We also categorise a diverse group of expressions found in both languages, where the focus is not on life, but on death, i.e. the absence of life, in the category LIFE IS BLOOD. Different ways of losing blood (blood may run or flow, be spilled or shed) seem to refer to a continuum of degrees of hurt indicated by the presence of blood outside the body: from broken skin (blood flows out) to the deliberate spilling and shedding of blood. If the blood loss is very severe, it will lead to death. Blood loss may thus indicate murder, or there may be a sacrifical aspect to the killing. This knowledge, which rests on both physiological and cultural embodiment, yields a metonymy which can be phrased as SPILLED BLOOD ("blood outside the skin") FOR PHYSICAL HURT. The underlying metaphor THE BODY IS A CONTAINER (OF LIFE) is clearly also present. (The verbs that were found as

typical collocates with blood, like *loop* (Afrikaans), *ela* (Northern Sotho) (run, flow) and *vergiet* (Afrikaans)*, tšholla* (Northern Sotho) (shed)*,* also played a significant role in identifying the metaphorical expressions.) A rising cline from being physically hurt or suffering slightly to more serious injury and death is observable in the expressions that we found. Based on these degrees of blood loss, the following subdivisions were made.

5.1.2.1 Hard Labour Is Loss of Blood

The motivation for this mapping comes from our experience that our hands, for instance, when we do physical labour, might get hurt, causing blood to be spilled, and the underlying metonymy may be phrased as BROKEN SKIN FOR THE EFFECTS OF PHYSICAL LABOUR.

Afrikaans

(7) *soos wat die meeste trone en paleise uit die bloed van*
     die arm mensdom opgebou is
     like most thrones and palaces were built by the blood
     of the poor human race
(8) *dit het bloed, sweet en trane gekos*
     it cost blood, sweat and tears

The contexts of these examples suggest undue suffering as in (7). The well-known phrase *blood, sweat and tears* indicates an intensifying of the injury which is accompanied by the spilling of even more bodily fluids, one of them being tears. Not only physical hardship but also severe emotion is implied.

Northern Sotho

(9) *dibodu tšeo di ratago go phela ka madi a ba bangwe*
     those lazy people who want to live off the blood of others

The context of (9) shows a subtle difference in the way in which the mapping is realised in this instance, where the "blood of others" is mentioned in contrast to "lazy people," who expect to benefit from other people's hard work.

5.1.2.2 Being Hurt Is Loss of Blood

In the following collocations with *blood*, it is not always clear whether or not a literal meaning is intended. Deignan (2005a, 78) points out that "ambiguity between literal and nonliteral senses of expressions is a prominent aspect of many instances of *metaphor from metonymy* in naturally occurring data." Compare (10) and (11), where a literal flowing of blood might also be implied, to (12), where the flowing of blood might even indicate killing. In (11) there is also the possibility that the collocation *bloed loop* (blood flows*)* simply carries an intensifying meaning, but keep in mind that during a rugby game there are usually many injuries where blood literally flows.

Afrikaans

(10) *Dan gaan daar bloed loop as daar op Saterdag 26 Februarie "Bloodsomes" gespeel word.*
Then blood will flow when "Bloodsomes" is played on Saturday 26 February.

(11) *Ons span speel dat die bloed loop, en al wat Jake en sy span kry, is kritiek.*
Our team is playing that the blood flows, and all Jake and his team get, is criticism.

(12) *Daar gaan nog bloed loop op daardie plaas.*
Blood is going to flow on that farm one day.

The collocation "blood flows/flowing blood," signifying hurt or injury, is also prevalent in Northern Sotho:

(13) *gomme ge ke mo hwetša a na le motho wa monna, go tla ela madi*
and if I find her with another man, blood will flow

Example (14) below is interesting insofar as a different meaning of *bloed loop*, only indicating the intensity of the action denoted by the verb *kuier* (party), is used:

Afrikaans

(14) *want toe ons weer sien toe kuier ons groep dat die bloed loop!*
because, the next thing we knew, we were enjoying ourselves (we were drinking) so much that the blood was flowing!

5.1.2.3. Death Is Loss of Blood

In the following expressions, the agent of the act of causing someone to lose blood is clearly a violent human being.

Afrikaans

(15) *maar soos bo genoem daar is meer bloed vergiet (swart en wit) sedert 1994 as sou ons in 'n oorlog betrokke geraak het*
but as mentioned above, more blood has been shed (black and white) since 1994, as if we were involved in a war

Northern Sotho

(16) *E be e se maikemišetšo a rena go tšholla madi eupša mo lebelong la gagwe la gore a hwetše lenong la gauta ka pela, Brenda o ile a dira phošo … a bolaya Mmantšhego.*
It was not our intention to spill blood, but in her haste to quickly find the golden eagle, Brenda made a mistake … she killed Mmantšhego.

5.1.2.4. Salvation/Forgiveness Is Shedding Blood

In expressions referring to sacrifice and redemption, more is conveyed than merely dying or being killed. In these expressions, loss of blood signals a whole complex of interwoven concepts rooted in Judeo-Christian symbolism. The context and cultural background is crucial here. In the following expressions, the focus is on different aspects of this network of metaphors. Lexical items and fixed expressions in collocations like *die bloed van die Lam* (the blood of the Lamb), *die bloed van versoening* (the blood of reconciliation), and *die reiniging van jou* sondes (the cleansing of your sins) in the Afrikaans corpus point the way to a more nuanced reading of the expressions than to see the loss of blood simply as signifying death.

Afrikaans

(17) *Bloed wat praat van vergewe en weer vergewe*
  Blood that speaks of forgiving and forgiving again

Northern Sotho

(18) *hlakola madi*
  wipe off, clean the blood
  Meaning: "pay for grief caused to someone"

The Northern Sotho example also calls for a more nuanced reading. In cases where blood was spilled, the notion of compensation or "payment" is traditionally closely linked to redemption for the spiller of blood. After a court case in which the accused was found guilty of having spilled blood, he is often instructed to *hlakola madi,* i.e. to compensate the bereaved family for the loss of a family member, and also to *hlatswa kgoro madi* (wash the blood from the court), i.e. to cleanse the court of blood. In wiping away the blood, redemption or salvation can be attained. The notion of the cleansing properties of blood is particularly prominent in these examples.

5.1.2.5. Revenge Is Spilling Blood

The motivation for these expressions is found in rituals of sacrifice where blood (standing for life) is spilled to pacify the gods or those that have been unjustly injured. The expressions seem to convey the opposite of the ones in 5.1.2.4. Blood is spilled in both instances, but in 5.1.2.4. the (possibly older?) vengeance and blood feud rituals are reversed when the spilled blood signifies reconciliation.

Afrikaans

(19) *Bind hulle vas, sodat ek hulle eiehandig kan verskeur; hulle bloed sal die bloed van my vrouens Ada en Zilla en die bloed van my mooiste dogter Naëhme versoen.*
  Tie them up, so that I can tear them apart with my own hands, their blood will atone for the blood of my wives Ada and Zilla en the blood of my daughter Naeema.

Northern Sotho

(20(*madi a gagwe ke tlo a lata seatleng sa gago*
       I will come and take his blood from your hands

(21)   *o lefetše Isebele madi a bahlanka ba ka*
       You paid Jezebel for the blood of my servants

5.1.2.6 Killing Is Scenting Blood

Equivalents of the Afrikaans expressions presented here were not found in the Northern Sotho data. They are motivated by our knowledge of predators and their behaviour. Once blood is spilled or flowing outside the body, predators may scent it and move in for the kill. In the following expressions, those humans who are figuratively hunting others are equated with animals like wolves who can smell blood and move in for the kill.

(22)   *Boonop het die "onaantasbare" Guptas se aftog die jagters bloed laat ruik.*
       In addition the retreat of the "untouchable" Guptas made the hunters smell blood.

5.1.2.7 Disease Is (Inside) Blood

The following two Northern Sotho expressions are interesting—this mapping was not found in the Afrikaans corpora. Blood is often perceived as an agent responsible for disease or discomfort. In such cases, the blood is not the carrier of disease as in most Western epistemologies, but rather the disease or the cause of illness itself. Compare the following examples where blood stands for a disease or discomfort.

(23)   *ke boletše le maabane gore ke hlabilwe ke madi*
       I said yesterday that I was sick (Lit. I was being stabbed by (my) blood)

(24)   *Ke a kaonafala, le ge madi a sa no ntlhabatlhaba*
       I'm getting better, even though I'm still a bit sick (Lit. (my) blood is still stabbing me a bit)

(25)   *Jakopo ka go tšewa ke madi a wela fase a idibala*
       Jacob became dizzy (Lit. he was taken by (his) blood), he fell down and fainted

5.2 Emotions Are Blood

In CMT, the study of body parts or actions and their relation to emotions has been particularly fruitful. When considering blood metaphors, the motivation for the mapping between the way in which blood is perceived as moving and certain emotions is quite clear. Our data point very clearly to emotion being a "major target theme" (Simó 2011, 2989). This metaphor seems to be as well represented in our data as the LIFE IS BLOOD metaphor. We categorise a whole set of emotions in the subdivisions that follow.

Our embodied experience as human beings, as well as more scientific knowledge, motivates the mappings. This experience is probably universal. Our common theories regarding blood lead to metonymies like body heat which stands for anger or blood

pumping fast which stands for fear. The following characteristics of blood are part of our shared knowledge:

- Blood is a fluid bodily substance that flows through our veins and arteries

- The heart pumps the blood through our blood circulation system

- When the heart pumps blood, it is felt as a pulse

- When someone is under extreme emotional stress, blood may appear as sweat

- Blood usually clots when it leaves the arteries, but may also clot inside the arteries

- When we experience extreme emotions, it feels as if blood is pumping (to our head, heart, throat)

- We experience a sensation of heat (usually in the face) when angry or embarrassed

- Although blood is usually warm, we may sometimes have a physical sensation that our blood is cold.[5]

Departing from the link between embodiment and cognition, Lakoff (1987, 383) points to the following general metaphor, which is also fundamental to our analysis:

THE BODY IS A CONTAINER FOR THE EMOTIONS

This in turn yields a metaphor which is central to our analysis:

EMOTIONS ARE FLUIDS IN A CONTAINER.

5.2.1 Anger Is Boiling Blood

In the expression *my blood is boiling*, the following conceptual metaphors are at play: ANGER IS HEAT, BLOOD IS A CONTAINER FOR EMOTIONS, and ANGER IS THE HEAT OF FLUID IN A CONTAINER.

Afrikaans

(26) *Moira se bloed begin kook. Hierdie vrou vryf haar verkeerd op.*
Moira's blood begins to boil. This woman rubs her up the wrong way.

Northern Sotho

(27) *Go bediša madi a ka go bona Tshepo a fetogile mojalefa.*
It made my blood boil to see that Tshepo had become the heir.

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5 Note Linke's (1985, 339) interesting analysis, in which the solidification of outside blood was associated with ice and cold—attributes of a dying body and of death.

5.2.2 Fear/Horror Is Cold Or Coagulating Blood

Afrikaans

(28)　*Hy het verhale geskryf wat jou bloed laat stol het.*
　　　He wrote stories that made your blood run cold (Lit. coagulate).

With regard to the Northern Sotho examples, the emotions that are expressed are similar to those expressed in the Afrikaans examples, although no evidence was found of cold blood indicating fear or horror. In Northern Sotho, blood liquefies even further, turning into water, or it stops circulating, as in (30). The latter is probably related to the notion of coagulating of blood because of fear.

Northern Sotho

(29)　*madi a bona a fetogile meetse*
　　　their blood turned to water (indicating intense fear)
(30)　*ge ba ekwa gore bobe le bošoro bja mohuta wo bo ka dirwa ke Batau ..., ba ema*
　　　madi gwa be gwa re kgwathi tuu ka lebakanyana
　　　when they heard about the kind of evil and cruelty that could be carried out by the
　　　Batau … their blood stood still, and there was a deathly silence for a while

By contrast, the *absence* of any emotion is also connected with blood that is cold, and the following expression implies a violent or damaging action:

Afrikaans

(31)　*Iets in koelen bloede doen*
　　　Do something in cold blood

5.2.3 Insanity Is Circulating Blood

In subsection 5.1.2.6, it was indicated that blood is viewed as an agent of disease or discomfort. This also holds true for mental illnesses: blood rushing through the head is insanity. The notion of agency seems to be reflected in the grammatical structure of these linguistic metaphors in Northern Sotho—they appear in the passive voice, with *madi* 'blood' appearing in a specific syntactic slot, preceded by an agentive prefix, clearly marking 'blood' as the agent.

Northern Sotho

(32)　*kitimelwa ke madi hlogong*
　　　to become mad/insane (Lit. to be flushed through by blood in the head)

This particular expression was not found in the Afrikaans data.

5.2.4 Excitement Is Circulating Blood

In the Afrikaans data, we found many collocates of *bloed* denoting some manner of movement, indicating blood circulation—often a movement in the direction of the head or heart: *bruis* (fizz), *vloei* (flow), *pomp* (pump) *tintel* (tingle), *sing* (sing), *kriewel* (itch), *loop* (run). The emotion associated and experienced with this movement is one of excitement or pleasure:

Afrikaans

(33) *Christus is by jou as jy met jou meisie alleen is en jul bloed bruis.*
      Christ is with you when you are alone with your girl and your blood is fizzing.

Similar examples were found in Northern Sotho, although the notion of movement is absent:

Northern Sotho

(34) *Madi a gagwe a thoma go fiša, ebile o rothiša ditete ka kganyogo.*
      His blood started to burn, and he drooled with desire.

5.3 Inheritance Is Blood

The metonymic relation that motivates this metaphor is BLOOD FOR GENETICS. Concepts like kinship, ancestry and race, but also temperament or characteristics, fit into this grouping. Simó labels her one target theme "essence" and explains: "metaphorical expressions in this theme represent blood as a fundamental factor contributing to the essence of a person in one way or another" (Simó 2011, 2899). Motivation for this mapping can be found in the folk knowledge concerning blood, which "simplifies biological concepts so that blood is used as metonym for all relations that are biologically determined by genes" (Charteris-Black 2001, 275).

5.3.1 Kinship Is Blood

Afrikaans

(35) *Daai mense sien nie eers meer hulle eie families nie, daar is vergeet van hulle deur hulle eie bloed.*
      Those people don't even see their own families anymore, they have been forgotten by their own blood.

The examples in the WAT (*Bloed kruip waar dit nie kan loop nie* [blood crawls where it cannot walk] and *verwante van die halwe bloed erf met die halwe hand* [half-blood relatives inherit with half a hand]) also illustrate this metaphor.

Northern Sotho

(36) *Ge a arolela bana ba gagwe bohwa, yena eo a mo nee dikarolo tše pedi ka gobane ke madi a pele a gagwe.*
When he divides the inheritance amongst his children, he must give that particular one a double part, since he is his first blood, i.e. his first offspring.

(37) *Raisibe ke madi a ka.*
Raisibe is my blood.

(38) *madi a mpa*
blood of the (same) stomach (i.e. born of the same mother)

In some contexts (both in Afrikaans and Northern Sotho) *blood* points to royal ancestry.

Afrikaans

(39) *lê 'n verhaal van blou bloed, swierige partytjies, verval en herstel opgesluit.*
lies enclosed a story of blue blood, swanky parties, decline and recovery

Northern Sotho

(40) *madi a mošate, ka ge e le madi a badimo ga a tšhollwe*
blood of the royal city (i.e. royal blood) is not spilled, since it is the blood of the ancestors

5.3.2 Essence/Nature /Character Is (Inside) Blood

The last conceptual metaphor is not easy to define. It fits into Simó's category of *essence*. She includes *blood as origin*, *blood as significance*, *blood a*s *quality* and *blood as life* in this theme. Charteris-Black (2001) identifies *blood is temperament* as one of his three conceptual keys. Our examples also point to a metaphor where *blood* clearly refers to a whole spectrum of identifying traits.

Afrikaans

(41) *Boerdery was in oom At se bloed en hy het altyd daarvan gedroom om 'n volwaardige boer te word.*
Farming ran (lit. was) in uncle At's blood and he always dreamed of becoming a fully fledged farmer.

Northern Sotho

(42) *motho wa nama le madi*
a man of flesh (meat) and blood, i.e. a good-natured man

6. Concluding Remarks

The aim of our research was to do a cross-linguistic analysis of metonymies and metaphors originating in the source domain of the bodily substance *blood* in Afrikaans and Northern Sotho. We also wanted to demonstrate how we made use of the two methods for metaphor identification available to us.

Our analysis shows that there is considerable overlap between the metonymies and metaphors identified in Afrikaans and Northern Sotho. The way in which the expressions are formed in each language is, however, often notably different. Subtle differences, for instance the use of the passive, can possibly be explained by differences in the lexical, syntactical and morphological structure of the two languages as well as by possible cultural differences (such as slightly different folk theories). This, however, calls for a cross-linguistic and contrastive analysis of the two languages which is beyond the scope of this article.

It seems as if the Afrikaans dictionaries and corpora that we consulted yielded more data (more collocates of *blood*, for example) than the Northern Sotho sources, but in the absence of a quantitative analysis, we cannot substantiate this observation. We think frequency and salience might give us a more nuanced picture than the one painted so far, but then the ideal would of course be comparable data sources. Northern Sotho is clearly a much less-resourced language than Afrikaans.

The two methods, i.e. the lexical and corpus linguistic methods, complemented each other and our suggestion would be that, in the absence of large annotated corpora, the lexical semanticist working with indigenous languages in South Africa should still rely to a large extent on the lexical method to do this kind of research.

The conceptual metaphors that we identified are similar to the conceptual keys and target themes which Charteris-Black (2001) and Simó (2011) identified. The important notions of inside and outside blood cut across the conceptual categories that we had identified(perhaps somewhat artificially). The linguistic evidence points to systematic patterns of conceptualisations that show a great deal of overlap between the two languages. The patterns furthermore closely resemble the polysemous extensions of the lexical source domain items *bloed* and *madi* as reflected in the dictionaries. The three conceptual metaphors identified (LIFE IS BLOOD , EMOTIONS ARE BLOOD, INHERITANCE IS BLOOD) are closely linked to our folk theories regarding blood and its rich symbolism, confirming the basic tenets of CMT. Subtle differences between the expressions themselves and the languages they come from led us to fine-tune the subdivisions of the main metaphors; it is in this fine-tuning that we observed some cross-linguistic variation.

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