

Spatial Language in isiXhosa

by

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Abstract

This thesis investigates some aspects of spatial language of isiXhosa. It identifies the elements of isiXhosa used in the spatial domain and analyses their use and distribution across the language. Six isiXhosa-speaking language consultants were interviewed, all males between the ages of eighteen and twenty-two years. They have all grown up in the Eastern Cape province of South Africa and are currently attending tertiary institutions within the Western Cape. The methodological framework adopted for this research was developed by the 'Max Planck Institute for Psycholinguistics' (MPI) in Nijmegen, Netherlands. Their research tools "Man & Tree" and "Space Games" were employed to gather the language data on spatial language of isiXhosa. A particular focus in this study was placed on investigating the underlying spatial models employed in the deictic axis, i.e. the face to face model or the single file model. The data reveals that both models seem to be employed by the young male isiXhosa-speakers of the study. Furthermore, the thesis also analyses what frames of reference these particular isiXhosa speakers utilize. The survey revealed variation in the use of models among these young speakers. This variation can be explained as language contact phenomena since all language consultants are in an English speaking environment at least for several years.

Chapter 1: Introduction

1.1 Background of isiXhosa

IsiXhosa is one of the several hundred Bantu languages, which Greenberg (1963) classified as belonging to the Niger-Congo, one of his four major language phyla. The Bantu speaking communities live predominantly south of the equator and outnumber languages from other groupings in this part of the continent by far.

While genetic classification of African languages seemed to have been possible on higher classificatory levels, scholars failed to classify the Bantu languages internally. The Bantu languages are commonly identified by following Malcolm Guthrie's reference system (Guthrie, 1967-71). His approach was explicitly not genetic, and he established areal groupings based on shared features, without claiming genetic relationships. He started labeling the major zones in the Cameroon area with A and went down the continent with letters up to S, with zone S being the most southern Bantu zone. In addition, he assigned two digit numbers to each individual Bantu language. With more studies being accessible and a better analysis of many Bantu languages, Maho took on the task to revising and reediting Guthrie's reference system (Maho, 2003).

Guthrie's zone S comprises the Southern Bantu languages, which (Doke, 1954) subdivided into the Nguni group, the Sotho group, Venda and the Shona group of languages. Within these groupings, isiXhosa belongs together with isiZulu, isiNdebele, Seswati, etc. to the Nguni group. Guthrie assigned S41 as code for isiXhosa.

According to the 2011 census, isiXhosa is spoken as a first language by approximately 8,154,258 people, that is 16% of all South Africans. This statistic makes it the second most spoken language in households across the country. The population of speakers is spread across all nine provinces; however, it makes up its majority numbers within the Eastern and Western Cape respectively. Within the Eastern Cape there are approximately 5,092,152 speakers, that is 78.8% of the total of isiXhosa speakers of South Africa. Thus, within the Eastern Cape population, more than three quarters are speaking isiXhosa in the households (Statistics South Africa, 2012).

Within the Western Cape, the census lists 1,403,233 isiXhosa speakers, which is 24.7%, i.e. a quarter of the total inhabitants. About half of the population of the Western Cape speaks Afrikaans as their first language (Statistics South Africa, 2012).

1.2 The Pervasiveness of Space

“Malcom, apropos of nothing at all, brought up the Wintu in north-central California, who don’t use the words left and right to describe their own bodies but use the cardinal directions. I was enraptured by this description of a language and behind it a cultural imagination in which the self only exists in reference to the rest of the world, no you without mountains, without sun, without sky. As Dorothy Lee wrote, “When the Wintu goes up the river, the hills are to the west, the river to the east; and a mosquito bites him on the west arm. When he returns, the hills are still to the west, but, when he scratches his mosquito bite, he scratches his east arm”. In that language, the self is never lost the way so many contemporary people who get lost in the wild are lost, without knowing the directions, without tracking their relationship not just to the trail but to the horizon and the light and the stars, but such a speaker would be lost without a world to connect to, lost in the modern limbos of subways and department stores. In Wintu, it’s the world that’s stable, yourself that’s contingent, that’s nothing apart from its surroundings.” (Solnit, 2006, p. 17)

The extract above uses the Wintu culture to poetically demonstrate one of the impacts of spatial language, and particularly the impact upon human thinking and human existence – be it through a conscious or subconscious presence. The study of spatial cognition is a perplexing phenomenon; the levels of spatial cognition, engagement or awareness within humans is already extremely varied. There are those groups and individuals who daily engage with and rely on, almost tangible, spatial perception; these are the likes of hunters and/or sailors. Moving into an urban space, the difference in engagement with spatial thinking between perhaps a school-going child and a taxi driver or traffic instructor – are far apart on the spatial cognition spectrum. This then in turn means that those things which are assumed to be universally accepted norms with regard to spatial concepts, cannot always be the case. Spatial thinking, moreover, spatial perception is defined by cultural limitations.

For this reason, when one speaks of spatial perception, what is in essence being referred to is that of spatial *apperception* (Levinson, 2006). That is, in order to construct spatial orientation, what else, that is already at play, becomes a tool by which to do so? Spatial cognition is a species-specific phenomenon; meaning that each individual species incorporates its own context into the spatial orientation process. Such a realization is evidence of the phenomenon of spatial orientation playing a major role in constructing and influencing human thinking. Spatial language and spatial metaphors are being used far beyond the spatial domain, for example in conceptualizing time, or in expressing social relationships or emotions.

The investigation into the phenomenon of spatial language is valuable beyond the purpose of gaining insight into mere human linguistic practice. Humans are a method and means to not only gaining insight into human thinking, but also insight into inarticulate objects. Direct and obvious human spatial engagement may not be the most fascinating, nor may it be a deeply practiced (deeply embedded, it is undeniably so) phenomenon in our increasingly modern world, but humans have the valuable skill of education through articulation. Animals are far more daily and deeply reliant on spatial elements. However, how does one begin to understand this experience? The human ability to analyse, articulate and then educate, is invaluable. Thus, as a starting point for comparison, using the human experience for comparison is beneficial. Doing this assists us in gaining research and insight into other species' spatial experiences.

Where there appear to be universally linguistic norms, one can assume that behind these are 'cognitive universals'. If this is the case, then where there appear to be cultural divergences, 'language may not so much reflect underlying cognition, as actively drive it' (Levinson, 2006).

The aim of this study is to begin the process of investigating this very phenomenon. Through an investigation into the spatial language of isiXhosa, we seek to uncover the underlying linguistic structures at play. Understanding these linguistic models better will provide insight not only into the underlying cognition of isiXhosa speakers, but also how the models are essentially the driving forces of that very cognition. Indigenous African languages are by

nature and origin, particularly interwoven with African culture. The cultural and linguistic practices of such groups are often deeply intersected. For this reason, understanding African languages, and moreover the linguistic systems in use underlying the languages, are essential to understanding the way this cultural group systematizes and comprehends essential knowledge.

As previously alluded to, the focus of this paper is upon isiXhosa spatial elements, and how these are specific to the language, as well as variants from other languages. The major part of analysis conducted, focuses on isiXhosa terminology; as well as identifying which underlying spatial model and frame of reference is most frequently used. Through this investigation, the data collected provides evidence for questioning existing claims about ‘traditional’ spatial models in African languages. The data analysed in this study demonstrates a shift from one spatial model to another. Possible reasons for this shift among the six isiXhosa language consultants are discussed further below.

The main tool employed in the data collection is a research kit designed by the “Max Planck Institute for Psycholinguistics” in Nijmegen called the ‘Man & Tree and Space Games’ (Levinson, 1992). This kit was used in three sets of sessions with one couple of speakers participating in each set. The participants were all male isiXhosa speakers between the ages of nineteen and twenty-three, studying at a tertiary institution in the northern suburbs of Cape Town. These empirical interviews involved a picture-matching game which produced isiXhosa descriptions of spatial relations. These interviews were all recorded, transcribed and translated by involving another independent isiXhosa speaker. The analysis upon the data then took place, predominantly using the interlinear translation method to deconstruct morphologically each element making up the spatial expression. Through this method, the underlying spatial model at play was identified.

Chapter 2: Literature Review

There is an extensive body of literature on spatial language and spatial orientation. This literature review discusses publications which deal with the classification of spatial orientation; the variety of propositions for spatial frameworks; the various frames of references; deictic phenomena; and the function of particular grammatical elements present in spatial terminology such as demonstratives, locatives and adverbs.

2.1 Spatial Language and Orientation within linguistics

Spatial language and orientation is complex and requires to be studied from various angles and with techniques from different subfields of linguistics. Grammar and pragmatics are however the main areas on which studies on spatial language and orientation have been focusing on.

Grammars aim at capturing the syntactical and morphological structure of morphemes, phrases, and sentences, whereas pragmatics focuses on the reasoning behind speakers and listeners' utterances; thus their '*correlation in a context of a sentence token with a proposition*' (Katz, 1977). Pragmaticists study the relationship between language structure and the principles of language use (Levinson, 1983).

The focus of the latter kind of research is evident in the study of the phenomenon of spatial orientation. Research is conducted on *what* people say, by unpacking the structural aspect of these utterances, so to discover *why* people say what they do, and what the implications are of these particular utterances (Levinson, 1983).

Psycholinguistics is also relevant for the understanding of spatial orientation and its verbal expressions. Semantics is another important field of linguistics which contributes essentially in the study of spatial language. All research on spatial language, be it with a structural or pragmatic focus needs to start by analyzing the semantic properties of spatial terms that are used in a given language.

For these reasons, the study of spatial language and orientation ideally should combine approaches from pragmatic, semantic and structural theories.

2.2 The Levinson Spatial Framework

Stephen Levinson, one of the leading researchers in the field of spatial linguistics, headed a research project at the Max Planck Institute for Psycholinguistics in Nijmegen, the Netherlands for more than 15 years. This group of researchers investigated space as expressed in languages in sample languages worldwide. The research output from this project forms the basis and provides a theoretical framework for the present survey.

Levinson and Wilkins' (Wilkins & Levinson, 2006) publications are crucial for studies of spatial language. They designed a particular framework for spatial language research: a spatial map for navigating in the spatial domains.

This sub-chapter of the literature review will discuss Levinson's framework in order to sketch and outline the spatial categories adopted in this paper. Levinson's categorical design will be introduced and aspects relevant for the present study will be discussed more thoroughly. Findings from other publications will contribute to the critical review of this framework.

Levinson and his team involved more than forty researchers who investigated '*culture[s] of independent tradition*' (Wilkins & Levinson, 2006) by employing comparable methods. The outcome of this comparative project has demonstrated significant variation within the domain of human spatial thinking as expressed in the various unrelated languages considered in the studies (Wilkins & Levinson, 2006).

The following diagram, based on Levinson and Wilkins' framework (Wilkins & Levinson, 2006), illustrates the various sectors of the spatial domain. Although it is not an exhaustive description of the field, it is useful in providing an introduction into spatial classifications. This study will adopt Levinson's conceptual approach, and will employ his basic framework for locating the findings of the research on spatial language in isiXhosa.

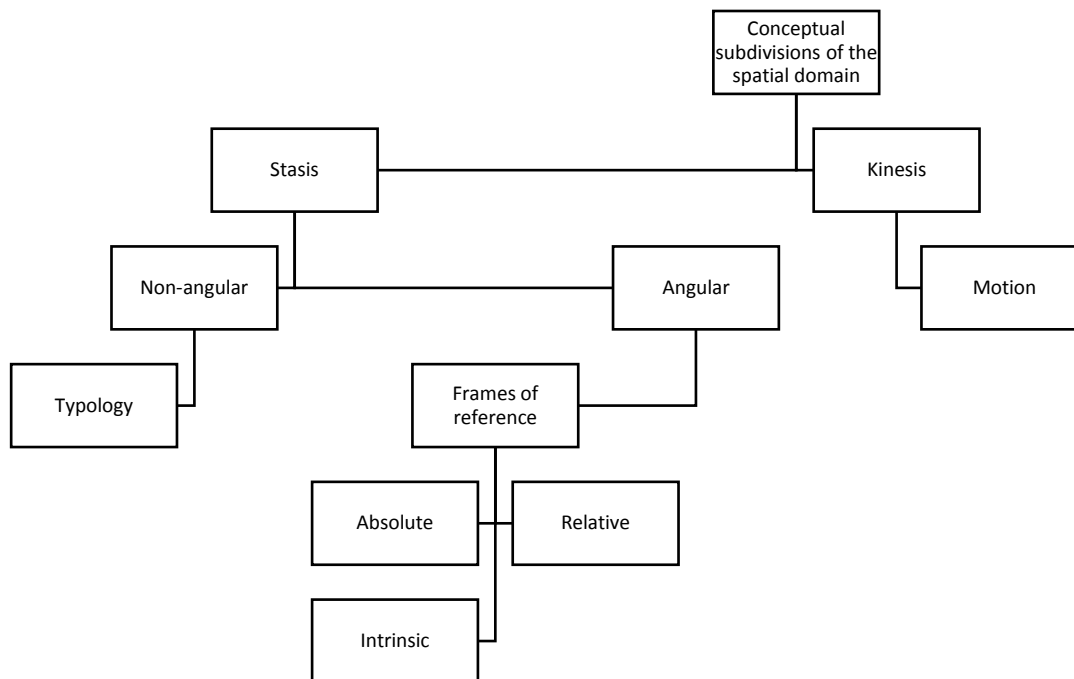


Figure 1: A Spatial Framework; based on (Wilkins & Levinson, 2006, p. 3)

Figure 1 illustrates the spatial domain with a first split of static spatial descriptions (*'stasis'*) and motion concepts (*'kinesis'*). On the next level below in the domain of spatial static concepts, non-angular and angular concepts are distinguished. These categories can be illustrated by considering the following sentence:

1) *There is a lion in the jungle.*

The basic spatial construction, conceptually, is one that establishes a *figure* (lion) and *ground* (jungle) as two independent entities within the spatial domain (Wilkins & Levinson, 2006). The sentence provided above is an example of such basic spatial expressions. The identification of these two elements is a topological process. As figure 1 indicates, the topic of topology is classified as a non-angular concept.

Following Levinson's line of study as a framework for understanding the domain of space, various conceptual stages of spatial descriptions have to be introduced in order to understand the reasoning behind the broader design of the framework presented in figure 1. From the moment of situating a lion into the jungle, issues of *'propinquity, contact and containment'* (Wilkins & Levinson, 2006) come into play. It is here one witnesses the

translation from conceptualization and cognitive stages to the familiar English prepositions such as *at, on in, etc.* (Herskovitz, 1986) as we see occurring in the exemplified sentence. Simply, when the figure and ground have been distinguished from one another, more detail can be established: in which direction from the ground does one search in order to locate the figure? (Wilkins & Levinson, 2006). In other words, now that I can see the jungle, how do I begin to navigate myself in order to locate the lion's position within it?

At this stage of the spatial process, there is a shift from a non-angular concept to an angular one: a differentiation marked within figure 1. A coordinate system is adopted to articulate the desired angle. This 'coordinate system' can also be referred to as a 'frame of reference': literally, it can be understood as the structure through which one makes sense of the spatial entities at play, in order to communicate a particular angle. Levinson proposes that there appear to be three major coordinate systems: intrinsic, relative, and absolute. Again, these do not exhaust the spatial domain, but are the types most frequently used (Wilkins & Levinson, 2006).

Levinson outlines a transformative argument for the structural positioning of spatial linguistics; that is the defining difference between a Leibniz and a Newton approach to spatial linguistics and their difference in opinions on the essential nature of spatial concepts (Wilkins & Levinson, 2006). Newton insists that 'space was an abstract envelope' (Wilkins & Levinson, 2006); which is in contradiction to Leibniz who argues that all of spatial constructs are in essence relational. Levinson claims that the majority of spatial descriptions within natural languages are indeed 'Leibnizian' (Wilkins & Levinson, 2006). This means that they are in essence relational: the success of their description of location or motion relies on it being described with respect to other items. In Levinson's terms, the 'figure' (that is the trajectory) is located through the reference to another item – i.e. the 'ground' (this could be a landmark) (Wilkins & Levinson, 2006).

2.3 A Note on Kinesis: Motion Concepts

Figure 1 shows in addition to “stasis” also a category of motion concepts “kinesis”. Motion is typically described as motion *towards* a ‘goal’ or *from* a ‘source’ (Wilkins & Levinson, 2006). This demonstrates that the majority of motion descriptions can be accommodated by the Leibnizian theory: they will most likely be described in reference to ‘landmarks or ground locations’ (Wilkins & Levinson, 2006). An exception to this would be a sentence such as ‘*in the spring, the pigeons fly east*’ – East in this context is not a physical place, but an absolute direction.

Another divergent from the typical description of common motion concepts, is a specification of both goal and source. For example, *Rachel is going from Cape Town to Johannesburg*. In this case, according to Levinson (Wilkins & Levinson, 2006) a ‘unique vector’ is determined in that the listener is able to locate the direction without employing any frame of reference or coordinate system, but using landmarks only.

2.4 The Parameters of Focus Constructions

Within a spatial linguistic expression there exists what Dik refers to as ‘focal information’ (Dik, 1989). This is the salient information within the communication that the speaker considers the most essential for the addressee to ‘integrate into his pragmatic information’ (Dik, 1989). This would be the information which the speaker believes, assumes, or knows which is not necessarily shared by the hearer.

Hyman and Watters (Hyman & Watters, 1984) introduce another parameter into the framework of focus constructions. This is the ‘control of focus’, which has two manifestations:

Pragmatic control of focus: the elements on which the grammar determines the expression of focal information is decided by the **speaker**.

Grammatical control of focus: how the speaker will express the focal information is determined by the **grammar** (Wolff, 2005).

The differentiation between these, highlights that in particular languages, certain constructions provide the freedom for the speaker to choose between a range of constructions or verb forms which mark focus in a variety of ways. In other languages or other constructions within a language, a speaker may have no choice at all and the grammar dictates between the use of focus marked constructions or other verb forms (Wolff, 2005).

2.5 Cognitive Conceptualization of the Spatial Experience

'...the way we draw on basic templates for understanding the world around us, for communicating successfully, and for developing the kind of grammatical categories we do is determined crucially by 'what the world around us' offers us. Salient landmarks, like mountains, lakes, or unusual vegetational phenomena such as rain forests or deserts, are likely to shape our patterns of conceptualization, and therefore inevitably also our patterns of using language and hence, grammar' (Heine, 1997).

The above quote of Heine's serves as a segway for a deeper investigation into the concept of what can be termed, cognitive conceptualization, in the experience of space. Where in the previous sub-chapter Levinson is only referenced in going so far as to suggest the need for a coordinate system in order to establish and articulate a desired angle in a spatial construction, spatial linguist, Bernd Heine, takes us far deeper into what this notion of a coordinate system entails as well as what other systems are at play within this process of conceptualization. This interrogation reveals more to us about what patterns and practices lie behind the process of spatial orientation. In order for one to articulate a spatial concept, one needs to experience a spatial concept cognitively: the process of perception.

2.6 Frames of Reference: Coordinate Systems

Within the process of cognitive conceptualization Levinson proposes a need for coordinate systems or frames of reference (FoR): paradigmatic systems through which humans perceptualize spatial constructs. An overview of each of these three coordinate systems will now be briefly introduced.

2.6.1 The Intrinsic FoR

The first of these coordinate systems to be discussed is the *intrinsic* frame of reference. The way in which the intrinsic coordinate system functions is to identify and name 'a facet of the ground' and locate the figure on an axis which extends from said facet (Heine, 1997). For example:

2) *The lion is in front of the rondavel.*

Such a sentence can be classified as using an intrinsic frame of reference due to the face that prior to the spatial description there has been an assumed positioning of facets, i.e. an inherent front or back (Heine, 1997). In this case, there would be an inherent 'front' of the rondavel that requires no further description for understanding.

2.6.2 The Relative FoR

The second form of coordinate system is the *relative* frame of reference. The relative frame of reference uses a viewer's own positioning, i.e. one's 'bodily coordinates' (Heine, 1997). For example:

3) *The lion is to the right of the tree.*

In this particular case, the tree, unlike an object such as the rondavel, has no inherent positioning, and thus to decipher in which direction 'right' is, the speaker uses his/her own bodily coordinate system to create a spatial system for locating the lion.

2.6.3 Absolute FoR

A third kind of coordinate system is commonly referred to as an *absolute* frame of reference (Heine, 1997), sometimes also referred to as *cardinal orientation*. Such a frame of reference

is the case in which angles which are fixed bearings and remain consistent in spite of their change in context. For example:

4) *The lion is south of the jungle.*

South in this case is a direction from the 'jungle' landmark which will always refer to the same direction.

It is important to note that languages do not necessarily use all three of these coordinate systems. Furthermore, there is substantial evidence from cross-cultural studies that each community in particular utilizes these frame of reference quite differently.

2.6.4 Source Models

Heine (1997) argues that these paths of conceptualization are shaped by one's physical surroundings. While some key features such as the sky and ground are shared experience of all human beings; mountains, deserts, and the sea might not be part of the environment of particular communities.

A point of departure for understanding this notion of surroundings impacting conceptualization is Heine's distinction between 'transparent' and 'non-transparent' terms (Heine, 1997). If a term is transparent, the 'motivation of the term is still fully recoverable'; and moreover, this begins the process of tracking down the cognitive process behind spatial articulation. Heine exemplifies this notion of a transparent term with extracts from Lugbara, a language spoken in the North-Western part of Uganda. The following Lugbaran terms are all transparent, which is not the case in the English translations provided (Heine, 1997).

Expression	Meaning	Literal meaning
<i>andr-aleru</i>	<i>north</i>	<i>down</i>
<i>uru-leru</i>	<i>south</i>	<i>up</i>
<i>etuni efuri-aleru</i>	<i>east</i>	<i>where the sun comes out</i>
<i>etuni deri-aleru</i>	<i>west</i>	<i>where the sun falls</i>
<i>dri ndi-aleru</i>	<i>to the right</i>	<i>*ndi real true</i>
<i>dri eji-aleru</i>	<i>to the left</i>	<i>*eji to carry</i>

Table 1: Lugbaran transparent terms (Heine, 1997)

What Heine in his analysis calls transparent terms are expressions which still retain the original meanings of the spatial terms. The source and motivation for these spatial terms are still transparent and allows for the identification of the birthplaces of these spatial terms; what objects, surroundings, ideologies or experiences form these terms' etymologies?

2.6.5 Cross-Cultural vs Culture-Specific Models at play

Heine's 1997 examples from Lugbara indicate that there are two models at play within regard to the source models for spatial terms. One is a 'cross-culturally stable' model, and the other a 'culture-specific' model (Heine, 1997). Through the work of Alice Werner (Werner, 1919), Heine points out that the Lugbara examples demonstrate patterns common across languages universally. One of these is that the majority of languages use the rising and setting of the sun as a source for 'east' and 'west' terms (Werner, 1919). Heine is arguing that these particular terms belong to a cross-culturally stable source model and are universally employed in the languages of the world (Heine, 1997).

In Heine's data, we see that 'north' for the Lugbara people represents down and 'south', up. The reasoning for this is that, according to Barr (Barr, 1965) the Lugbara people live close to the Nile River; which flows in the northern direction and obviously, 'water flows down'. This is an example which demonstrates how one's surrounding environment informs one's experience and impacts on the expression used for spatial expressions. To further emphasise this point, Barr also explains that the Lugbara people traditionally carry their

bows with their left hands. Thus this justifies the etymology of their term for 'left' (Barr, 1965). This analysis of cardinal terms in Lugbara such as north and south are in Heine's analysis, employing a culture-specific model.

Brown however argues that 'north' and 'south' are nomenclaturally representative of up and down respectively and that this is a 'cross-cultural linguistic trait' (Brown & Stanley, 1983). While up and down are common sources for cardinal terms north and south, the Lugbara use might be considered cultural, or better areal specific. In most cases regardless of the source models for cardinal terms such as north and south, there is a common and consistent universal reference in these terms. The Lugbara data presented by Heine would contradict such a hypothesis as it acts as a deviation from Brown's proposed norm of what 'north' and 'south' cross-linguistically represent.

There is definitely an agreement that these two systems are at play within spatial language (a cross-culturally and a culture-specific model); however, but what might be considered universal or cultural specific is a matter of debate in individual cases.

2.6.6 Source Templates

Bernd Heine's characteristic of placing particular focus on cognitive foundations in relation to spatial grammar results in a great interest on the significance of the human body in the 'dictation and conceptualization of spatial language' (Heine, 1997). His textual analysis of Lugbara above demonstrates his reasoning for this. As he uncovers the derivations of spatial terms it becomes apparent that the sources for such terms are based on environmental/landmark features, or elements and actions of the human body. This provides insight into the fact that there exist various templates at play which form source models for spatial concepts. Such source models identified by Heine, will now be investigated; and is done so through analyses that have already been conducted over various languages to expose such phenomena. The source templates to be outlined are that of landmarks; the human body; and dynamic concepts. See below a copy of Heine's table illustrating these common source models (Heine, 1997):

Source models	Expressions of spatial orientation
Body-parts	Uses parts of the human body in its upright position as a model
Landmarks	Uses environmental landmarks
Dynamic concepts	Uses activities

Table 2: Common source models (Heine, 1997)

2.6.6.1 Environmental Landmarks

Cecil Brown set out an investigation in order to uncover the conceptual sources of cardinal directions (Heine, 1997). The way in which he went about this research was through a survey of 127 languages world wide (Heine, 1997). Brown's main discovery was insight revealing that the positioning and movement of the sun is the principal source model for the formation of cardinal terms.

In contrast to this, the phenomenon of wind is the greatest alternative source model to the sun. That said, research indicates that wind as a source model is not frequently used for referencing cardinal directions such as west and east. This would then imply that whenever the wind-model competes with that of the sun-model, it falls by the wayside (Heine, 1997). This would leave the sun-model as the dominating conceptual source for cardinal orientation. One of the proposed reasons behind this occurrence, is that the sun is a 'universally stable phenomenon' (Heine, 1997); one can locate and predict its positioning independently of one's own positioning. This is in contrast to that of wind; which as Heine points out is, 'highly susceptible to local geographical elements'. For example, an east wind in one area may be perceived as a west wind in another (Heine, 1997).

After elements such as the sun and the wind, there are a variety of landmarks which act as sources for cardinal points. Brown (Brown & Stanley, 1983) lists the following landmarks as those used in the majority:

- Rivers
- Mountains (general rocky areas)
- Ocean vs. mainland
- Trees (other plants)

(Heine, 1997)

Another set of research by Svorou (Svorou, 1994) reveals the following insights indicating that the landmark model is a common template in spatial orientation:

Source Concept	Target Concept
Sky, heaven, summit	Up
Earth, ground	Down
Field, doorway	Front
Track, trace	Back
House, shore, land	In
Field, doorway	Out

Table 3: Landmark model as source model (Svorou, 1994)

2.6.6.2 The Human Body

In Yucatec, a language spoken in Mexico, this occurrence of spatial terms reflecting body parts is prevalent. Its relevance here is based on the fact that this occurrence is by no means an unusual observation; but rather a common occurrence across languages universally (Heine, 1997). Thus this has become an exemplification of a common trend. An analysis by Goldap (Goldap, 1992) and Stolz (Stolz, 1991) indicates that this happens due to a historical process in which Yucatec speakers repeatedly and continuously refer to the same part of the body in communicating particular spatial points. See table below:

Body Part (Yucatec)	Body Part (English)	Locative Marker
Paach	Back	Behind
Tan	Front	In front of
Ich	Eye	Inside
Tsu	Marrow	In

Table 4: Body parts as source models (Heine, 1997)

To prove that the occurrence found in Yucatec is not rare, presented below is the summarized data from a survey in which 125 African languages were investigated into (Heine, 1997). The point of research on these languages was to try and gain an understanding of how particular basic reference points of spatial orientation are linguistically coded. Five reference points were chosen: up, down, front, back, in (Heine, 1997). These particular reference points, which are typically found to be holding the position of locative noun, adverb or adposition, are also expected to each have distinct linguistic coding 'and to be consistently distinguished conceptually across cultures' (Heine, 1997). See the table below, listing the reference points and their respective linguistic expressions:

Reference point	Spatial relation	Typical linguistic expression
Up	Top, superior	Above, up, on, on top (of)
Down	Base, inferior	Below, down, under, underneath
Front	Anterior	Before, in front (of)
Back	Posterior	Behind, back, in back of
In	Interior	Inside, within, in

Table 5: Linguistic coding for spatial points in African languages (Heine, 1997)

What follows, is a description of each of these orientation points listed in the above table and their discovered source concepts. This will make a stronger case for the notion of source models in general, and particularly that of the human body as a source template.

'Up':

It appears that body-parts most definitely form the majority source of expressions for this spatial term (Heine, 1997). The main body part seen here is '*head*'; which according to this study, is used in 87% of all African languages (Heine, 1997).

After head, '*face*' occurs in 4.3% of African languages, similarly '*shoulder*' is seen in another 4.3% of African languages.

Another item that at first glance appears seemingly out of place is '*back*' with intended reference to an '*up*' term. This appears in another 4.3 % of African languages. Heine argues that the use of back in this context is an illustration of the zoomorphic model in practice.

Brugman (Brugman, 1983), and Maulay, 1986, (Brugman, 1986) note that Chalcatongo Mixtec uses two different nouns to refer to that of the human back and that of the animal's back. The difference in these is evident in the way certain objects are conceptualized. For example: a table seems to be conceptualized as an animal whose back is the top and whose belly is the underside (Heine, 1997). *(See zoomorphic diagram further below for a more detailed illustration and explanation.)*

In conclusion of the '*up*' term, again one can note that landmarks form a second majority template for this spatial term.

'Down':

'Down' is the one of the five concepts which holds its primary source roots in environmental landmarks. (e.g. earth/ ground) (Heine, 1997). Again, body part sources form a close second template. In African languages '*buttocks*' or '*anus*' forms the majority body-part. Furthermore, '*foot/leg*' also appears in 15.6 % of African languages (Heine, 1997).

'Front':

Here one sees almost no evidence of environmental landmarks as sources, as the body-part '*face*' is found in 52.8% of African languages (Heine, 1997). Coming in second to this source is the term '*eye*' at 15.7 %. The minorities include '*breast*' in 6.7%, and '*forehead*' at 8.9 % (Heine, 1997).

'Back':

Similarly, to its contrary '*front*', environmental landmarks appear absent in this spatial sector. The universal source appears to be the body-part '*back*' as evident in 77.7 % of African languages (Heine, 1997). As a second source to this in African languages, is '*buttocks/anus*' at 22.3% (Heine, 1997).

'In':

Similarly, to '*front/back*', in the case of '*in*' landmark sources are almost absent. As body-part sources, the '*belly/stomach*' forms a large 92.1% of this term, and the minority falls upon '*palm*' of the hand (4.8%), and '*heart*' (3.1%) (Heine, 1997).

As a general trend of spatial linguistics within African languages, a note worthy observation developed in this study is that the latter region of the body appears to be primarily affiliated with the spatial term '*in*' (Heine, 1997).

From the above descriptions of body part sources for spatial terms in African languages, note that if one divides the human body into three sub-regions: head/trunk/extremities the extremities are an almost absent source for spatial concepts (Heine, 1997).

There is one noteworthy exception to this finding of the limited use of extremities. The reference points '*left*' and '*right*' are likely to use the body-part extremity '*hand*' as a model of conception (Heine, 1997). Alice Werner, in 1904 conducted a survey on 300 plus Bantu languages and discovered the following (Heine, 1997):

- The notion of '*right*' references concepts such as the 'hand used for eating'; 'male hand'; strong hand; or great hand; or merely '*the* hand'. Other related concepts found as sources are expressions such as 'the throwing hand' (isiZulu: *isandhla sokuphonsa*) or 'straight hand' (Setswana: *se siamen*) (Heine, 1997)
- '*Left*' is often 'etymologically opaque' (Heine, 1997). Those sources that can however be derived, seem to mention concepts such as 'female hand' or any expression denoting a quality 'judged to be of inferior status' (Heine, 1997).

2.6.7 Dynamic Concepts

Heine also references a category for dynamic concepts as a source model for spatial terms. Typically this category would include concepts expressed through motion verbs such as *come, go, follow, precede, pass, descend*, etc. (Heine, 1997) Dynamic concepts could also extend to that of verbs of static location. For example, these would be terms such as *remain, stay or sit* (Heine, 1997).

Such dynamic concepts will always relate to actions or activities (Heine, 1997). These verbs may be coded as participials, non-finite items, finite verbs or infinitives.

2.6.8 (Relational Objects)

Although Heine lists the above three categories as the primary source domains, there is also mention of a potential fourth category that performs as a template for spatial terms. This is what Svorou (Svorou, 1994) calls 'relational object parts' (Heine, 1997) (Heine, et al., 1991).

It is important to note, as Heine explains, that this category is not be treated as a separate source domain in spatial orientation (hence its placing in parenthesis). This is because historical evidence shows that these relational concepts are always able to be backtracked to either landmark or body-part sources (Heine, 1997). Thus Heine designs the following

diachronic chain for illustrating the structural positioning of relational concepts in the spatial domain:

Body-part or landmark – relational concept – spatial reference point.

(Heine, 1997)

There are two additional reasons Heine provides for why relational concepts need not be classified as independent source models:

- Such concepts exhibit not physical contours in the way that body-parts and environmental features do. Instead they are ‘highly schematic’ (Heine, 1997), and often hardly differ from spatial concepts such a down or up.
- What distinguishes these concepts from spatial terms is their morphosyntactical design. This is in contrast to other spatial terms being characteristically more adverbial or holding properties reflecting those of adpositions (Heine, 1997).

2.7 Transfer Pattern from Concrete Concept to Spatial Concept

The attention Heine gives to the process of a body-part term being grammaticized to become a ‘commonly referred to spatial concept’ is known as ‘transfer patterns from concrete concepts to spatial concepts’ (Heine, 1997) and has been researched since the 1980s by (Brugman, 1983) (Brugman, 1986) (Svorou, 1986) (Svorou, 1988) (Svorou, 1994) (Svorou, 1987) and (MacLaury, 1989).

Note that this particular sub-chapter, although continues to draw heavily upon this notion of the human body as a source template, differs to the discussion on the human body as source model, in that its focus is to investigate the very *process* by which a source model is grammaticized into a spatial term.

The ‘conceptual development from source to target’ (Heine, 1997) involves two stages:

- To use the framework provided by Heine, Claudi and Hunnemeyer (Heine, et al., 1991); that is the process of ‘object domain to the domain of space’ (Heine, 1997).
- Analysis of the spatial region expressed.

The most essential differentiation between these two components is that in stage 1) the landmark and body-part model behave similarly. However, in stage 2) the models behave completely differently (Heine, 1997).

Consider the following extract from Heine to explain such a process:

‘When a body-part noun like ‘back’ is recruited for the expression of the concept ‘back’, it is likely to refer first to the body-part region concerned before its use is extended to denote the back region of inanimate objects. A new stage is reached when the body-part term refers to the region immediately adjacent to that object and, finally, the term denotes the space adjacent to, but detached from, the object’ (Heine, 1997).

The evolution of such a process is documented by Heine (1997) below:

- *Stage 1 – a region of the human body*
- *Stage 2- a region of an (inanimate) object*
- *Stage 3 – a region in contact with an object*
- *Stage 4 – a region detached from the object*

This evolutionary process flows from stage one to four in the body-part model, yet in the case of the landmark model the process appears to flow in the opposite direction.

The evolutionary process is further illustrated through these images below:

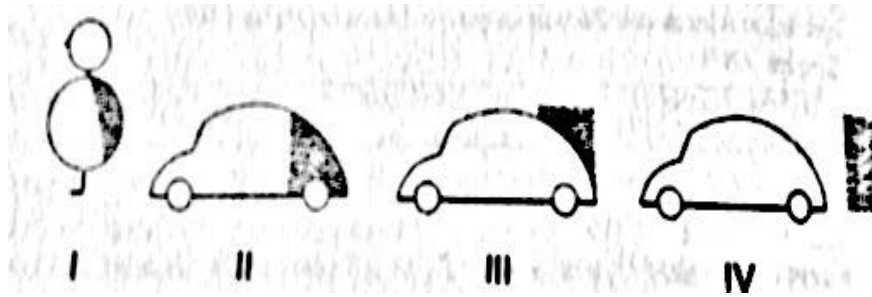


Figure 2: Conceptual shift from body-part to spatial region

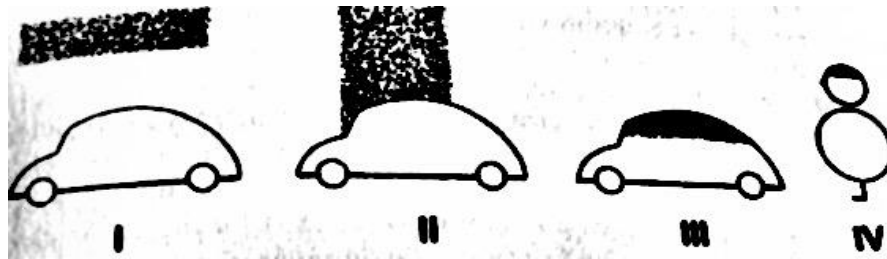


Figure 3: Conceptual shift from landmark to spatial region

(Heine, 1997)

One other pattern exposed by Heine (1997) is something referred to as the ‘salient pattern of transfer’. Such a pattern suggests that the spatial terms up and front; and back and down (in those sets) are derived from the same body-part source. This is modeled in the graphic illustration below:

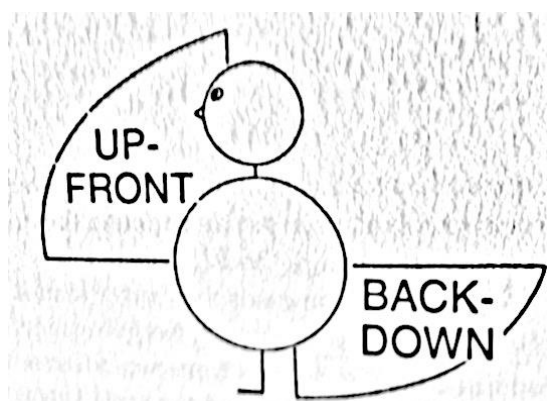


Figure 4: Derivation of up/front; back/down (Heine, 1997)

There are two hypotheses provided to justify such a pattern. One being that the human body is potentially perceived as being in an upright positioning (Heine, 1997). Furthermore,

that the human body is cognitively perceived as *not* being absolutely vertical, but rather forward leaning (Heine, 1997).

The second hypothesis, argues that particular body parts are perceived as having a ‘dual locative potential’ (Heine, 1997). This means that a head, could be perceived as being located at both *in front* and *above* another body-part.

Drawing on the above two hypotheses, Heine also references an interesting proposal by Andersen (Andersen, 1978). Andersen suggests that the front part of the upper half of the human body forms a structural template for that of the lower regions of the *body* (Andersen, 1978). Furthermore, this leads Andersen to the conclusion that *up* and *front* ‘cover the optimally perceptible space’ (Heine, 1997) and that these are ‘positive’ directions. Note also that this is the precise region where the human organs of perception are situated (Heine, 1997).

A final observation of relevance to this paper is the creation of a scale by Heine and Claudi (Heine, et al., 1991). This scale holds five spatial terms and is designed so that if any one of the five concepts is derived from the body-part model, none of the concepts to its right will be derived from the landmark or any other model (Heine, 1997). This scale is copied below:

Down – up, in – front – back

Such a generalization as made above gives birth to the following model:

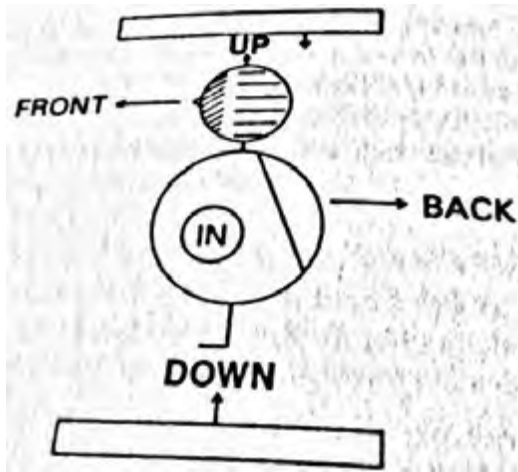


Figure 5: The primary body-part sources for up, down, back, front, in. (Heine, 1997)

This model reflects the most common situation of conceptual derivation in languages across the world. It emphasizes that a language is most likely not expected to use a body-part such as ‘foot’ as well as a landmark for a spatial term such as ‘up’. And visa versa, if ‘front’ or ‘back’ are founded in the landmark model, it is unlikely that the body-part model will be used as a source domain.

Of extreme relevance to this study however, is the fact there exist variation models to the generalisations of figure 5. Figure 6 below, illustrates the Bantu Model; reflective of the characteristics of the majority of 300-plus Bantu languages.

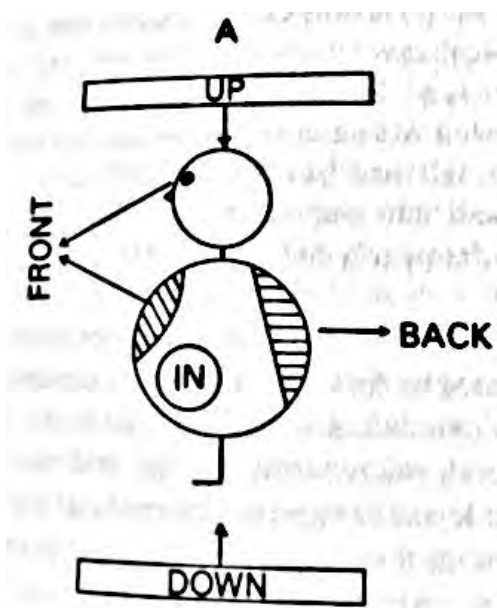


Figure 6: The Bantu model (Heine, 1997)

Figure 6 locates the primary body-part sources for 'up', 'down', 'front', 'back' and 'in'. However, most intriguingly, the spatial terms 'up' and 'down' are derived, respectively, from the landmarks 'sky' and 'earth' (Heine, 1997).

Beyond the models described above to illustrate primary body-part sources, as well as those demonstrating conceptual patterns, Heine also refers to two further models for conceptualization. These are the anthropocentric model, and the zoomorphic model. (Heine, 1997). Conceptualization in its essence, is anthropocentric: when possible, humans use human categories in order to make sense of non-human phenomena.

As has been demonstrated, the human body forms a central and essential model for conceptualization in the spatial domain. However, albeit a dominating model, it is not the only one at play. The zoomorphic model, a system which uses animals' bodies as structural templates, is also an important system to be acknowledged. See diagram of zoomorphic model below: (Heine, 1997)

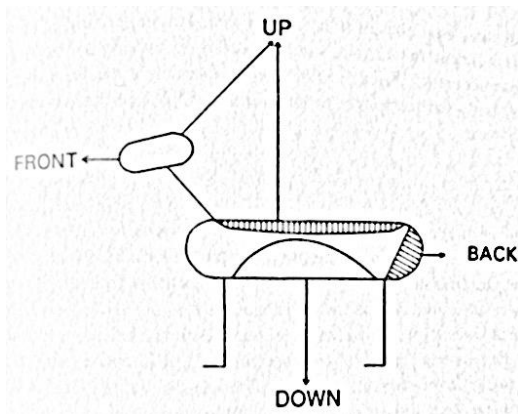


Figure 7: The zoomorphic model (Heine, 1997)

Evidence can be illustrated for the use of both models in spatial language, but it must be noted that there is a clear cognitive pattern in which the zoomorphic model presupposes that of the anthropomorphic model and the contrary does not apply (Heine, 1997). Heine explains that no language is yet to be found only using the zoomorphic model to construct an entire cognitive domain. The common case appears to be that those languages who use the zoomorphic model also rely on the anthropocentric model at other points.

2.8 Deictic Orientation

2.8.1 Intersection between source models and deictic systems

In an attempt to present a theoretical framework that is clean cut and presents the linguistic spatial domain as neatly categorized, I have realized that such a representation is not only extremely difficult, but would in actual fact, be a misrepresentation of spatial theory. Languages are complex systems, and due to them being human phenomena in their essence, their use is consistently varied, often unpredictable and almost always context-specific.

The investigation into the notion of source models and subsequently particular source templates [environmental landmarks, the human (and animal) body, dynamic concepts] has organically brought about the need to discuss and investigate the concept of the deixis.

The five spatial reference points (up, down, front, back, in) unpacked in the sub-chapter, *The Human Body*, have more in common than was previously mentioned. Each of these spatial points are *deictic*. That is, in making their intended reference, they simultaneously identify another location, and visa versa: their spatial orientation is only made sense of through the identification of another location.

While these terms were argued to be universal concepts, this was to the extent that a given language will most likely hold conventionalized expressions for such terms (Heine, 1997). However, evidence has proved that there exist languages which do not adopt the system of deixis; and hence have no linguistic distinction for these particular terms. (Brown & Levinson, 1993a) (Brown & Levinson, 1993b). An example of such a case would be languages which use the deictic system. These might say, '*his bicycle is behind the garage*'; in a language where deixis is not used, their utterance may translate into something to the extent of '*his bicycle is south of the garage*' (Heine, 1997).

Moreover, in drawing parallels between source models and the phenomenon of deixis, Margaret Mead (Mead, 1956) demonstrates in the extract below that the landmark source

system is one that can in actual fact be used in place of a cardinal direction system (Heine, 1997). Furthermore, when this occurs the system of deixis finds itself intersecting:

*The known world was the world in which they lived – the South Coast of the Admiralty Islands, each small creek mouth and bay accurately known. When people spoke, they spoke of going either **up** – toward the open sea – or going **down** – toward the nearby shore – or going **along** – parallel to the shore. (Heine, 1997)*

Brown's summarized data allows for a characteristic comparison between the cardinal system and deictic orientation. One of the observations that can be made from such a comparison, is that although these are differing systems, they do share a source domain of landmarks (Heine, 1997). In contrast, there is no evidence at all of a body-part source being used in the conceptualization of cardinal direction. Thus, it is only the landmark source domain that is shared across these two systems (Heine, 1997). Another link between the cardinal and deictic systems is that there is evidence of deictic terms being used as a form of a source domain for cardinal orientation (e.g. up/down). However, the converse does not apply. (Heine, 1997)

2.8.2 Deictic Phenomenon

Once more, Levinson's figure 1 adopted for the framework of this literature is by no means exhaustive as one of the subdivisions it omits is this concept of deixis. Levinson defines deixis as the 'phenomenon of the relationship between language and context and how this is reflected in the structure of language itself' (Levinson, 1983).

Reichenbach (Reichenbach, 1947) proposes that every indexical item, incorporates a component of 'token-reflexivity'. Token-reflexivity means that something within the utterance makes a reference to the speaker himself. For example, I, is referring to the person 'who is uttering this token of the word I' (Levinson, 1983). Note that this discussion differs from the previously mentioned phenomenon of human body as template; in a deictic context the human body and its parts will not be the source model of such spatial terms, but

rather a reference to the indirect self-existing and being located in order for the communicated angle to be made sense of.

Consider the following sentences which exemplify such concepts: [sentence constructions derived from Levinson (1983), but adapted for the purpose of this study]

- 4) Rachel plays *nearby*
- 5) Rachel plays *opposite* Carla

- 6) We can't see the lion because it's *behind* the bush
- 7) When Carla's front tire burst, she was *behind* the vehicle.

The 'nearby' in 4) can only be understood as relative to the actual place of the utterance (this does not merely apply to the term 'nearby' but also terms such as *opposite*, *around the corner* etc.); in 5) 'opposite' is relative to Carla's own location (Levinson, 1983).

In 6) *behind* situates the lion on the opposite side of the bush to those uttering this sentence. And in 7), Carla is placed at the rear end of the vehicle.

The above sentences illustrate the main categories at play within the deictic system. According to Levinson's guidelines (Levinson, 1983) these are: person, place, time, discourse deixis and social deixis.

Furthermore, in the case of discourse deixis being used in a non-deictic context, there needs to be a differentiation between an anaphoric and non-anaphoric use (Levinson, 1983).

Consider the following sentence:

- 8) *Rachel arrived and she began to cry.*

The anaphoric use demonstrated within this sentence is where *Rachel* and *she*, although different words, have the same referent. An anaphoric use is exactly that; when one term refers to the same entity as another term previously used in the discourse (Levinson, 1983).

Lyons (Lyons, 1977a) makes the point that a term may be used simultaneously in a deictic and anaphoric manner. For example:

9) Rachel went to Durban and has stayed there ever since

There, anaphorically refers to the same location as what the term Durban signifies. Moreover, *there* also contrasts with *here* on the 'deictic dimension of space' (Levinson, 1983), which situated the utterance itself outside of Durban.

2.8.3 Deictic Verbs of Motion

Deictic verbs of motion (for example, 'he came late') (Levinson, 1983) can specify a goal, such as the place of speaking. However, often a frame of reference will be adopted. This could be exclusively (e.g. 'in the winter the pigeons fly west') or as part of goal specification (e.g. 'he ran off behind the building') (Levinson, 1983).

Levinson points out that verbs of motion hold these deictic contrasts as described above, but may also incorporate 'attainment of goal' such as 'reach, arrive' or departure: leave. (Levinson, 1983). It is characteristic of verbs of motion to include other semantic elements. These could be, manner of motion for example. Levinson remarks that even those languages with apparent limited verbal inventories, appear to use contrastive motion verbs (Levinson, 1983).

2.8.4 Place deixis

Space or place being used deictically within an utterance, refers to the specification of a location through 'anchorage points in the speech event' (Levinson, 1983). There are two

means by which to refer to an object: locating them spatially, or describing/naming them (Lyons, 1977a). Consider the following sentences:

10) Pick 'n Pay is 600m from the church

11) It is 600m away

10) illustrates how it is possible for locations to be described in reference to other objects or through the use of fixed points of reference (Levinson, 1983). 11) on the other hand, demonstrates how a location can be deictically specified, as the desired location being described, is done so in reference to the location of the person who makes the utterance at the time of speaking (Levinson, 1983).

Furthermore, the sentences above also exemplify the introduction of units of measurement into the domain of space deixis and how this interacts with the non-deictic organization of space. For more literature on this in particular see (Leech, 1969) (Fillmore, 1975).

As a closing remark on place deixis and its characteristics, Levinson teaches that deictic locations need always be specified in relation to the participant's location at the particular time of coding that utterance. In other words, place/space deixis will always include a concealed time deixis element. However, the opposite (time deixis specifications incorporating an element of space deixis) need not be true (Levinson, 1983).

2.8.5 Demonstratives and Deixis

The term *deixis* is derived from the Greek word meaning 'to point or indicate' (Levinson, 1983); such a definition justifies why deixis often uses demonstrative pronouns as its main focal exemplars. Demonstratives were originally referred to as 'indexical signs' by Peirce. His justification for this was that 'they determined a referent by an existential relation between sign and reference' (Burks, 1949) (Levinson, 1983). The common term for this category of words has evolved into a deictic or indexical category of which demonstratives form a part of.

Levinson mentions particular pure place-deictic words in the English language. These are the adverbs *here* and *there*, and the demonstrative pronouns *this* and *that*.

As a segway into the issue of proximal-distal dimension through demonstratives, an issue particularly prevalent within the case of isiXhosa, Levinson draws a distinction for our understanding between that of the general glossing of a deictic term such as *here* and the glossing for gestural functions.

12) I am calling to inform you that I am not having fun *here*

In one sense, *here* maybe glossed as: ‘the pragmatically given unit of space that includes the location of the speaker at coding time’ (Levinson, 1983).

In contrast to this however, when glossing this same term for gestural functions is needs to differ slightly: ‘the pragmatically given space, proximal to speaker’s location at coding time that includes the point or location gesturally indicated’ (Levinson, 1983).

This notion is a particularly complex issue; in comparison, the organization of demonstrative pronouns are far more clearly designed in a ‘straightforward proximal-distal dimension’ (Lyons, 1977a). The demonstrative pronoun *this* for example, can refer to ‘the object in a pragmatically given area close to the speaker’s location at coding time’ (potentially glossed ‘the one here’) and *that*, ‘the object beyond the pragmatically given area close to the speaker’s location at coding time’ (potentially glossed ‘the one there’) (Lyons, 1977a).

Levinson explains with regards to demonstratives that certain languages show evidence of using a variety of demonstratives, as opposed to just one or two. The language may offer a three to four way distinction regarding proximal-distal dimension through demonstratives (Levinson, 1983). This is the case with isiXhosa, which will be investigated further below.

2.9 The Linguistic Coding of Spatial Concepts

Majority of the literature that exists on spatial language seems to present the case that spatial descriptions are generally encoded 'in a set of contrastive spatial adpositions' (Wilkins & Levinson, 2006). In English, an example of this would be for topological instances: '*in the bowl*'; within frames of reference: '*in front of the building*'; and for motion descriptions: '*into the building*' (Wilkins & Levinson, 2006).

However, as Levinson points out the method by which these languages express such spatial constructions, varies across each grammatical and lexical system. It appears as if certain languages use no spatial adpositions at all (Wilkins & Levinson, 2006); in other cases there is a single multipurpose adposition (Wilkins & Levinson, 2006). The particular place in the clause in which the spatial relation is expressed also varies: markers occur in both the verb, particular spatial nominal, or adverbials (Wilkins & Levinson, 2006).

To exemplify this notion with a sentence, consider, '*the lion is on the car*'. This expression, dependent on the specifics of particular languages, is expressed, as Levinson says, 'through the simultaneous deployment of a number of contrastive choices in lexicon and morphology' (Wilkins & Levinson, 2006). In direct translation one can end up saying something like: '*the lion car top-AT stands*' (Wilkins & Levinson, 2006); 'where 'top' is drawn from a set of contrastive spatial nominals, AT is expressed by case or adposition, and 'stand' contrasts 'sit', 'hang' and other locative predicates (Wilkins & Levinson, 2006).

Levinson states that there is no hard pattern regarding where in a clause various bits of spatial information are encoded. (Wilkins & Levinson, 2006) That said, as a generalization, it appears as though the 'shape' or form of the *figure* is coded through the locative predicate, and occasionally through adpositions. In contrast, the 'shape and geometry' of the *ground* is mostly coded through adpositions and spatial nominals. The spatial relationship between the figure and the ground is often coded within 'locative verbs and case, but is especially to be found in adpositions and spatial nominals' (Wilkins & Levinson, 2006).

The analysis of particular spatial word categories above, again highlights the shift from conceptualization to a form of grammatical categorization. This outcome of the evolution from source to target domain requires that spatial terms will reflect a new morpho-syntactic status (Heine, 1997).

As has been previously mentioned, the typical morpho-syntactic state of majority of spatial terms are to be typologically classified as adverbial content; that is, they play a part in the adverbial phrase (Heine, 1997). Terms used within deictic orientation (e.g. *up* or *down* which have been previously analysed) will often occur as adverbs or adpositions. The purpose of an adverb is to detail the locative contours as well as to emphasise the locative notion (Heine, 1997).

Heine refers to three common types of spatial adpositions:

N-Adpositions: their grammatical state is dictated by the noun

E.g. Because of, instead of, in front of, on account of, in back of, etc.

A-Adpositions: derived from adverbs

E.g. Off, up, down, through , etc.

V-Adpositions: adpositions which are dynamic concepts derived from verbs

E.g. Following, preceding, concerning, considering, given, etc.

(Heine, 1997)

[2.10 Space created through word categories](#)

'The various verbal categories do not directly reflect the events or objects of this world [which they stand for], but they rather reflect human organization, human categorization of these objects and events. These categories have a strong cognitive component. Regardless of their morphological exponents, tenses and aspects have certain common semantic features across human languages' (Nurse, 2008).

Nurse's words above, eloquently articulate the underlying purpose behind the investigation into spatial language. As has hopefully been evident in the literature review up until this point, the reason behind spatial language research is more than merely understanding how space is communicated; it is about uncovering why and how space is spoken about in a particular way.

The literature thus far has gone to great lengths to understand the cognitive conceptualization of space through models and frameworks; but as Nurse hints at, there is another level of spatial language that reveals insight into the cognitive conceptualization of space. As one experiences space, one does so through various frameworks discussed, and at one point another the brain needs to compartmentalize what it sees into various grammatical categories so to form a sentence. The category of choices one has in this process are what Nurse refers to above as 'verbal categories' (Nurse, 2008). These categories are merely abstract symbols and systems for representing how humans conceptually experience spatial domains. They themselves create the limits within which we can articulate, and therefore perceive spatial constructs.

For this reason, what follows is an independent chapter which serves to provide a breakdown of spatially-related word categories relevant to the spatial system of isiXhosa, the context of this study, so that this is applicable to the data presented in the findings and discussion chapter.

Chapter 3: The Spatial Language of isiXhosa

3.1 Noun classes: *Amahlelo ezibizo*

The noun class system is the foundation and underlying grounding for all Bantu languages. All other word classes and grammatical categories are intrinsically linked to the system of the noun classes and receive their formation from said system.

The noun class system is the main feature of Bantu nominal morphology. The analysis of the underlying universal structure of the Bantu noun class system was already conducted by the German linguist, Wilhelm Bleek in the 1850s and 1860s period. Bleek (1869) provided two major insights into the domain of the noun class system. The first of these was the structure of the nouns, pronouns and adjectives. His second contribution was his reconstruction of the ‘Proto Bantu’ noun classes and their prefixes. Bleek labelled these classes 1 – 18 and despite his limited data only minor revisions and additions had been done on this number system since then (Katamba, 2003). The following table presents Bleek’s original Bantu noun classes and changes as well as additions made by later scholars.

Class number	Bleek’s Bantu (Bleek, 1869)	Proto Bantu (Meinhof, 1932)	Ur-Bantu (Meeussen, 1967)	Guthrie’s Proto Bantu (Guthrie, 1971)	Welmers’s Poto Bantu (Welmers, 1973)
1	<i>mu-</i>	<i>mu-</i>	<i>mu-</i>	<i>mo-</i>	<i>mo-</i>
2	<i>ba-</i>	<i>va-</i>	<i>ba-</i>	<i>ba-</i>	<i>va-</i>
3	<i>mu-</i>	<i>mu-</i>	<i>mu-</i>	<i>mo-</i>	<i>mo-</i>
4	<i>mi-</i>	<i>mi-</i>	<i>mi-</i>	<i>me-</i>	<i>me-</i>
5	<i>di-</i>	<i>li-</i>	<i>l-</i>	<i>yi-</i>	<i>le-</i>
6	<i>ma-</i>	<i>ma-</i>	<i>ma-</i>	<i>ma-</i>	<i>ma-</i>
7	<i>ki-</i>	<i>ki-</i>	<i>ki-</i>	<i>ke-</i>	<i>ke-</i>
8	<i>pi-</i>	<i>vi-</i>	<i>bi-</i>	<i>bi-</i>	<i>vi-</i>
9	<i>n-</i>	<i>ni-</i>	<i>n-</i>	<i>ny-</i>	<i>ne-</i>
10	<i>thin-</i>	<i>li-</i>	<i>n-</i>	<i>ny-</i>	<i>li-</i>

11	<i>lu-</i>	<i>lu-</i>	<i>du-</i>	<i>do-</i>	<i>lo-</i>
12	<i>ka- (13)</i>	<i>ka- (13)</i>	<i>ka-</i>	<i>ka-</i>	<i>ka-</i>
13	<i>tu- (12)</i>	<i>tu- (12)</i>	<i>tu-</i>	<i>to-</i>	<i>to-</i>
14	<i>bu-</i>	<i>vu-</i>	<i>bu-</i>	<i>bo-</i>	<i>vo-</i>
15	<i>ku-</i>	<i>ku-</i>	<i>ku-</i>	<i>ko-</i>	<i>ko-</i>
16	<i>pa-</i>	<i>pa-</i>	<i>pa-</i>	<i>pa-</i>	<i>pa-</i>
17	-	<i>ku-</i>	<i>ku-</i>	<i>ko-</i>	<i>ko-</i>
18	-	<i>mu-</i>	<i>mu-</i>	<i>mo-</i>	<i>mo-</i>
19	-	<i>pi-</i>	<i>pi-</i>	<i>pi-</i>	<i>pi-</i>
20	-	<i>yu-</i>	-	-	<i>yo-</i>
21	-	<i>yi-</i>	-	-	<i>yi-</i>
(22)	-	-	-	-	<i>ya-</i>
23	-	-	<i>i- (24)</i>	-	<i>ye-</i>

Table 6: Reconstructions of the Proto-Bantu noun prefixes (Maho, 1999)

*The original Bleek-Meinhof numbering is provided in parentheses.

The next table by Maho (Maho, 1999) illustrates the categorical topological classification of the classes and has been adjusted to the scope of this study. The locative classes are of specific interest to this research conducted on isiXhosa. Listed are classes 16/17/18 and less so 23.

Topological Classification	Probable	Less
Infinitive	15	
Diminutive	12; 19	(5) (11)
Augmentative	7	(20)
Locative	16; 17; 18	(23)

Table 7: Categorical topological classification of classes (Maho, 1999)

3.2 The locative: Isalathandawo/isihlomela sendawo

The locative classes 16, 17 and 18 are in actual fact no longer active noun-classes in the Nguni languages, in fact in most Southern Bantu languages (Doke, 1954). The prefixes of classes 16 and 17 act as locative adverbial formative within particular adverbs. These prefixes were previously nouns that belonged as members to these classes (Doke, 1954). For example the prefix of class 16 is *pha-*. *Pha* is part of the following nouns:

Phansi (down) / *phandle* (outside) / *phezulu* (above)

We then see the same prefix perform as a locative adverbial formative with the following adverbs of place:

Phakhathi (inside)

Phesheya (on the other side)

More examples of such cases are:

Phambi/phambili – the front side

Phantsi – the ground side

Phezulu – the sky side

Phandle – the outside

Phesheya – the farther side

Phakathi – the middle position

Phakade – infinite space or time

Such terms are never seen to be used as either subject or objects of verbs but are most frequently followed by a noun in its possessive case. The possessive article in this case is *kwa-* and is derived from the prefix *ku-* (McLaren, 1936).

Class 17 is the class used most frequently as adverbial forms of place. The class 17 prefix *ku-* can still be seen for example the word *kude* meaning far away. Used as an adverbial formative for example in *kutata*, the meaning changes to *my father* (Doke, 1954).

The class 18 locative prefix (*mu-*) is not present within Nguni, and appears to be replaced by the suffix *-ini* or *-eni* attached to nouns. This is accompanied by the shift in initial vowel to *e-* within all classes excepting class 11 where the initial vowel changes to *o-*. This pattern is present within all the noun classes except for class 1a and 2a in isiXhosa which replace this with the prefix *ku-*.

The pattern for class 11 is for the initial vowel to be changed to *o*. E.g. *uthi* – *othini* (to the stick) Furthermore, some nouns do not take the suffix as in the previous example, and only make the initial change. For example, *emnyango* (at the door) (Doke, 1954).

The locative form can also be referred to and understood as ‘case of place’ which formally expresses ‘at a place’; however, verbs can be used in conjunction with it indicating direction and the meaning can extend to all relationships of place. For example, in; on; to; from – a place (McLaren, 1936). For example:

Uhlala endlwini – he says in or at the house

Uvela endlwini – he comes from the house

Alice Werner, in her introductory sketch of the Bantu languages (Werner, 1919), makes the distinction between Indo-European and Bantu prepositions. Indo-European prepositions do not change; their shape never alters no matter what precedes or follow it. This is not the behavior observed in Bantu languages. Meinhof argues that there are in actual fact, no prepositions at all in Bantu. Rather, the words which perform as prepositions are in essence pronouns or possessive particles (Werner, 1919).

Welmers (Welmers, 1973) also points out the observation that class 16 generally refers to ‘explicit location’; class 17 to ‘remote or general location’; and 18 to location inside.

3.2.1 Locative nouns used adverbially

Locative Noun	Translation	Locative noun in sentence	Translation
kude	far far away	sivela kude	we come from far
kufuphi	near	sihlala kufuphi	we live near
kunye	together	sahamba kunye	we walked together
ndawo nye	together	be sihleli ndawo nye	we were living together
ndaweni nye	in the same place	bahlala ndaweni nye	stay in one place
(ngas)ekunene	on, to, the right	ungabeki ekunene	do not go to the right
(ngas)ekhohlo	on to the left	ungabeki ngasekohlo	do not go to the left
(nga)phambili	forward, in front	jonga ngaphambili	look forward
(nga)semva	backward behind	wakhangela ngasemva	he looked back
(nga)phandle	outside without	hamba ume ngaphandle	go and stand outside
(ngas)endle	out in the open	zitya endle	they graze in the veld
(nga)phakhathi	inside within	ebelinda ngaphakhathi	he was waiting within
(nga)phezulu	up above at the top	khangela phezulu	look up
(nga)phesheya	across beyond on the other side	bawelile baya phesheya	they have gone across (the sea)
(nga)phonoshono	on or to this side of the river	yiza ngaphonoshono	come to this side
ngapha	this way	yiza ngapha	come hither
(ngas)entla	on the upper side	wema ngasentla	he stood above
ele	beyond out of sight secretly	ele kwentaba	Beyond the mountain
nganeno	to, on, this side	yiza nganeno	come to this side
(ngas)ese	out of sight, secretly	hlala ngasese	stay out of sight
(ngas)ezantsi	on the lower side, below, beneath	akho amanzi ezantsi	there is water at the bottom

Table 8: Locative nouns used adverbially (McLaren, 1936)

3.3 Demonstratives: Izabizwana zokukhomba

In a previous sub-chapter, the grammatical category of demonstratives is introduced by showing the intersection between place deixis and demonstrative pronouns. In the domain

of spatial orientation, demonstratives play a large role and thus their morphological and syntactical features need to be investigated.

Demonstratives are in essence, 'specific time and place adverbs' as Levinson writes (Levinson, 1983). Furthermore, they vary in tense and other lexical and grammatical features depending on how the utterance relates to spatio-temporal co-ordinates of the act of [that] utterance' (Lyons, 1977a). The use of demonstratives indicates that there are particular expressions which involve a 'context-dependent' (Levinson, 1983) (Burks, 1949) property for a successful understanding.

For the purpose of narrowing down and for the function of this paper, only the character of the typical Bantu demonstrative will be investigated. Canonici explains that the Bantu demonstrative typically has three positional forms or morphological markers (Canonici, 1996). These are to indicate its particular meaning in relation to place (locality), gender (noun class system), and proximity (position in reference to speaker and hearer) (Canonici, 1996).

First position:

- Locates place in proximity to the speaker
- *Morphology of first position:*
 - Weak classes: /L + V2/ (V2 = secondary vowel /e, o a/from concord)
 - Strong classes: /L + V2 + BP (BP = Basic Prefix)
- In the weak classes, first position demonstratives are monosyllabic. The stabilizer *-na* can however be suffixed. This frequently occurs when the demonstrative is used emphatically after the noun.
- There are two formulae from which to choose for the formation of the first position demonstrative, which subsequently is the basis for both second and third position:
 - La + class concord with vowel raising dictated by vowel in concord influencing
a e.g. Class 1, 1a, 3: la + u = lo lo mntu (initial vowel elided)
 - L + relative prefix (L + relative vowel + concord)
e.g. L + o = lo lo mntu

Note that in this second formula, the relative formation causes the vowel raising to have already been applied

(Canonici, 1996)

Second position:

- Locates the place to be closer to the hearer; or points to an event or person; these need not be present but are known and provide context for the discourse
- *Morphology of the second position:*
 - Weak classes: L + V2 + w/y + O/
 - Strong classes: L + V2 + Cons. + O/
- All second position forms are dysyllabic
- The second position is formed by adding –o to the first position forms
 - In strong classes this means that the o replaces the final vowel of the basic prefix.
 - In weak classes, a concept known as the ‘glide formation rule’ is applied. The glide, -y, is added after the first position ending in –e; and the glide –w, is added after an –o, or –a ending.

(Canonici, 1996)

Third position:

- Locates the positioning to be distant from both speaker and hearer; or an event that is distant in context and time.
- *Morphology of the third position:*
 - Weak classes:
 - Weak classes in this position are either dysyllabic or trisyllabic
 - Strong classes:
 - Strong classes are trisyllabic
- Third position demonstratives are constructed by adding *ya* to the first position form

As has been previously alluded to, a demonstrative is either used *deictically* or *referentially* (Canonici, 1996). To be used deictically, the demonstrative is pointing to a place; to be used referentially, the demonstrative is referring to a person or event in time (Canonici, 1996).

3.3.1 Syntax of the demonstrative

The following four positions are where the Bantu demonstrative is most typically syntactically positioned:

- The most common position is to be placed before the basic form of the noun. (This refers to the noun without its initial vowel)

E.g. *lo mntu uyathetha*

- When it is placed after the noun, it is in apposition to it.

E.g. *Abafana labo bayasihleka*

- When the noun is omitted as the 'nucleus' of the noun phrase, the demonstrative can replace its standing within the sentence, while still referring to it (an anaphoric function). This allows the demonstrative to function as both subject or object of the sentence. Furthermore, it can be inflected with pronominal prefixes.

E.g. *Lena iyamamatheka*

- The demonstrative can accompany an absolute pronoun.

E.g. *Abafana bagawule wona lo (umthi)*

(Canonici, 1996)

3.4 Adverbs: Isihlomelo

One of McLaren's first remarks on the case of adverbs in isiXhosa is that they are not types of words which are frequently used in the language (McLaren, 1936). His reasoning behind this is that there is a 'remarkable richness of the language in verbs describing different modes of action' (McLaren, 1936). It appears as though, generally, where English uses adverbs, isiXhosa will replace these with nouns in the locative case, or with pronouns and nouns prefixed with the preposition *nga* (McLaren, 1936).

The following are a list of adverbs of place found in isiXhosa as recorded by McLaren (1936):

'Proper' adverbs

Adverb	Translation	Adverb in sentence	Translation
apha ngapha	here	yima apha ulinde	stay here and wait
apho, ngapho	there	hlalani apha	sit there
phaya ngayapha	yonder	hamba ukhangele phaya	go and look yonder
kho khona	here	ndikhona	I am here
khona	there	apho bahlala khona	where they live (there)
lee	very far off	umlambo ukude lee	the river is very far off

Table 9: IsiXhosa adverbs of place (McLaren, 1936)

Chapter 4: Methodology

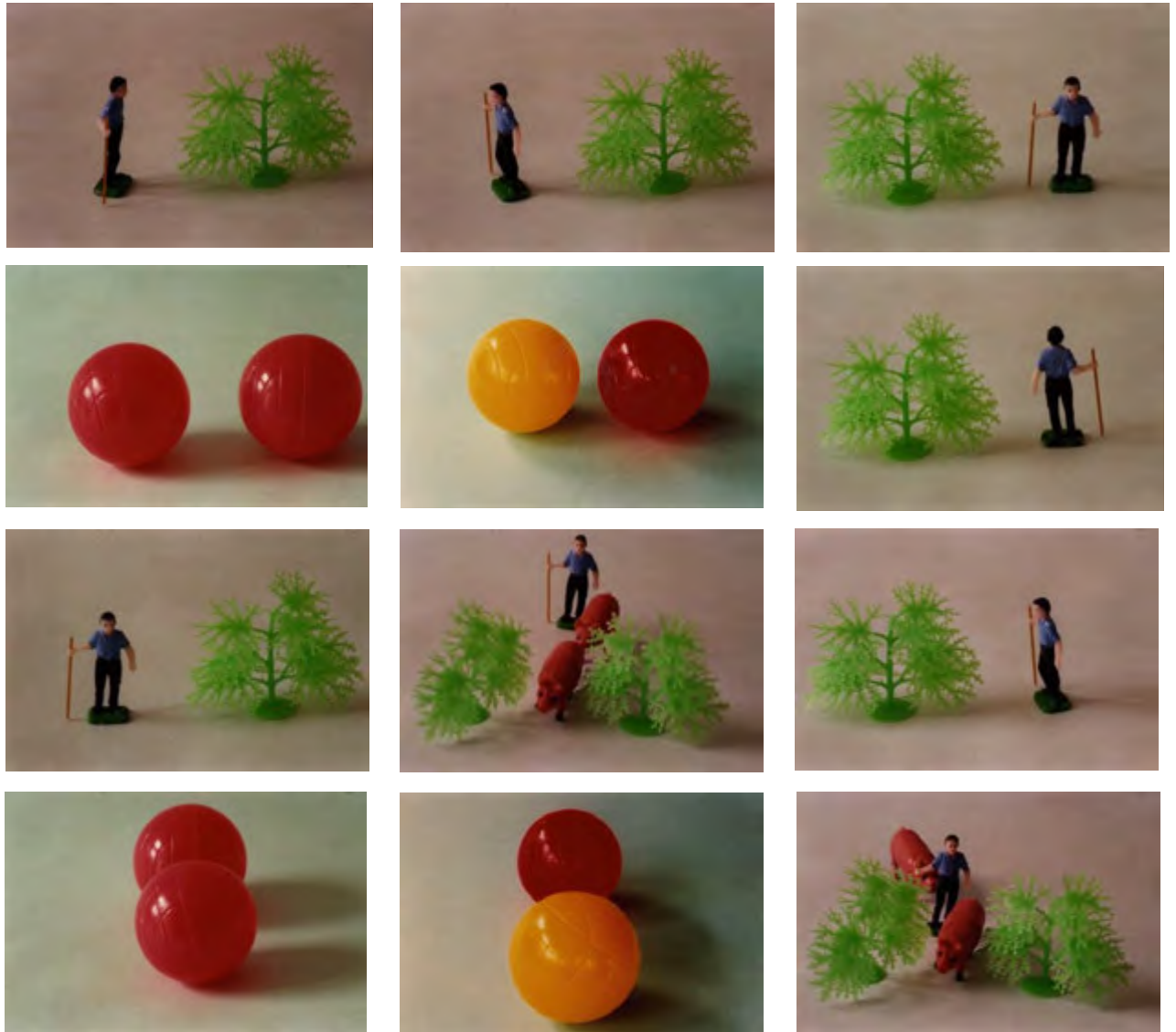
In the data gathering of isiXhosa spatial language the research tool employed was ‘Man & Tree and Space Games’ designed by the ‘Max Planck Institute for Psycholinguistics, Nijmegen’ (Levinson, November 1992).

The ‘Man & Tree and Space Games’ is a set of templates developed to ‘explore spatial reference in field settings’ (Levinson, November 1992). These templates depict various objects, both inanimate and animate, in strategic spatial orientations that are not ‘obviously lexicalisable in English’ (Levinson, November 1992). These pictures are employed in a particular way which provides a ‘language-independent metric’ for the purpose of eliciting spatial language by using a director-matcher approach (Levinson, November 1992). The ‘Man & Tree and Space Games’ spatial kit includes various sets of images corresponding with instructions on how to play these games with language consultants. Through the playing of the games, the participants begin to use spatial language and thus the researcher has a means of extracting this particular themed language.

For the purpose of this thesis, only one game from the space kit was selected. This set was what Levinson refers to as the ‘photo-photo matching game’ (Levinson, November 1992).

The Space Games set used in this series of data collection, consists of twelve photographs made up of either various orientations of a man and a tree, or of various orientations of two balls. See all twelve images below:

Figure 8: 'Man and tree', Max Planck Institute for Psycholinguistics, Nijmegen.



Note that although many of the images consist of the same contents, it is their spatial orientation which differs from image to image. The subtle differences between such photographs, requires that the participant is particularly detailed with his/her choice of language, giving every piece of information regarding the objects' spatial orientation that he is able to.

This particular method of data extraction also requires there to be no video recording, allowing the process to be easily achievable. The participants are coupled and are interviewed/play the game within this pair. The orientation of the couple (e.g. seating) also does not interfere with the perception of orientation of the images as they are interacting with still life photos. This means that no matter which direction the participants face, left and right within the image, will be consistently orientated and perceived in the same way.

The interviewees taking part in this particular investigation were asked to sit back to back. See below. This was so that the participants could communicate and hear each other, but were unable to see each other's images – an important element for the success of the game.

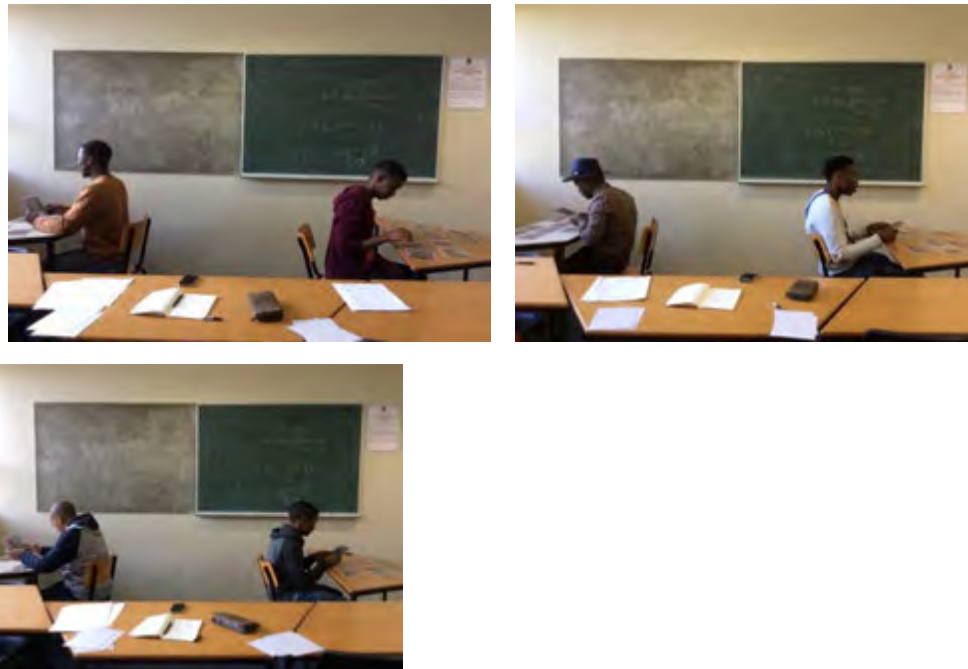


Figure 9: Photographs of the three sessions

The three couples of language consultants will be referred to as, 1) Bathini and Sinalo, 2) Lamla and Qhawe, 3) Nogqla and Mandilakhe. In a further chapter below the analysis will work through each photo referencing the relevant extracts from these couple interviews. The names of the consultant have been abbreviated and the sets are referred to as, 'B&S'; 'L&Q'; and 'N&M'.

All six isiXhosa speaking males are between the ages of eighteen and twenty-three; were born in the Eastern Cape of South Africa; their mother-tongue/home language is isiXhosa; they moved to the greater Cape Town area at some point during their schooling education; are now currently pursuing their studies at a tertiary institution located in the Northern suburbs of Cape Town.

All interviews took place in a classroom on their university campus. Present in the interviews were the two language consultants interviewed, the researcher (myself), as well as another independent student from the same tertiary institution. This additional isiXhosa speaker was involved in the isiXhosa transcription and translation. He was present at all interviews to respond to isiXhosa/English communication issues. He also transcribed the recordings (in isiXhosa) as well as produced a translation of each interview from isiXhosa to English.

Both participants in the sets received a physical copy of the same twelve photographs (see figure eight). They were asked to choose a 'director' and a 'selector' for the purpose of the game. The 'director' then chose one photo after the other, and explained in isiXhosa to the 'selector' what he saw on the picture, with an emphasis on spatial description. According to the description by the 'director', the 'selector' tried to identify the corresponding photo. The participants were free to talk between themselves, asking questions, until they felt entirely sure that they had reached consent on what photo they talked about. After this decision, they had to reveal their choice to the researcher (me). If the photos matched, they were removed from the set to continue with the next photo pairing. If the photos did not match, the participants had to continue until the correct pairing was reached. No external assistance was provided in this process. The extractions of spatial language in the matching game form the data basis for the analysis further below.

After the transcription and translation process was completed, the analysis of the spatial language was conducted through the following steps. The interlinear translation of the relevant text passages allows for analyzing the underlying models at play within the spatial language.

All language data captured and presented in this thesis are presented as following:

- (X) Each language example is numbered consecutively throughout the ‘findings’ chapter and onwards.

Line 1: isiXhosa gloss

Line 2: English paraphrased equivalent

The official South African orthography for isiXhosa is used in writing the isiXhosa language examples.

Various factors posed challenges to the methodology employed, both during the interview stage, as well as later during the interlinear translation and analysis phase. These challenges are briefly discussed below:

- One of the focal points of this thesis topic was to investigate the underlying spatial models and frames of references interplaying within isiXhosa spatial language. As will be evident within the analysis, this brought about a focus upon two different spatial models, ‘a face to face’ model, or a ‘single file’ model. The complexity that arose with investigating this particular models was that many of the photographs showed images of a man as well as pigs. Both have intrinsic fronts and backs, as they have faces. When an object has an intrinsic front, it is not possible to identify which of the two models is employed. More pictures with objects without intrinsic front-back distinctions would have been helpful. This however only became obvious in the data analyzing stage of the study.
- Image (1), as well as image (6) (for number correspondence refer to ‘findings’ chapter) created room for error and confusion with regards to the ‘correct’ or rather consistent method of orientation between partners, as well as couples. Because the

balls in these pictures have no intrinsic front-backs, it was possible for the 'director' and the 'selector' to hold the photo in various ways. This caused confusion as the actual photo does not define a specific orientation on how it is meant to be hold.

- Another element which arose and interfered with the methodological process was what can be referred to as a habit of 'process of elimination'. For the participants, their perceived goal was to match each of the photos as accurately as possible. For the researcher, the perceived goal was to extract as much spatial language data as possible. At times the difference in these agendas caused the other to be hindered. Often when the matching set was drawing to a close and there were only two photos to match remaining, the participants did not need to explain very much at all as there were not as many photos for the 'selector' to choose from. Thus, it was through a process of elimination that the photos were sometimes matched. This however resulted in a loss of potential spatial language data with certain photos.
- Upon observation and analysis, in some cases participants were able to match photos by object description as oppose to spatial orientation description. Such language data does not help the investigation into spatial language and thus removes an opportunity for more spatial language data to be extracted.
- The final observation, which will be discussed in more detail under the findings and discussion chapters, was the heavy influence of English upon the isiXhosa speaking participants. The findings that arrive out of this investigation are indeed legitimate findings no matter the make-up of the group. However, to claim the findings of this particular study as a means to draw conclusion on isiXhosa spatial models, seems questionable. The impact of English upon all of these speakers through their schooling, both secondary and tertiary level, is of a large amount and it is essential that this is taken into consideration when engaging with the conclusions drawn from this particular study.

Chapter 5: Findings

The following analysis of the spatial language in isiXhosa is based on the data elicited in the survey as described above. Specific phrases and sentences considered relevant for the analysis of spatial language were extracted from the overall language data corpus gathered in the interviews. These selected isiXhosa sentences were then translated into English. In addition to this free English translation, which is meant to capture the actual overall meaning of a sentence, an interlinear glossing has been added. This interlinear glossing follows the structure of the original isiXhosa phrases and provides English translations morpheme-by-morpheme. The parsing of the sentences reveals the grammatical structures and with that allows insights into the underlying models of spatial orientation which were employed by the speakers in specific utterances.

The analysis of the language data will be conducted image by image, with all twelve images of the spatial kit set being discussed. However, not every description for each image by every language consultant has been included, as not all were relevant for the analysis of underlying models of orientation. For example, speakers occasionally described the objects they saw at the photos in great detail by ignoring their spatial orientation. Furthermore, as mentioned above, towards the end of the matching sessions, the participants tended to match the pictures simply via a process of elimination. In these cases, the language data recorded did not contribute to the corpus of spatial language.

Not surprising, the same pictures triggered similar descriptions among the participants. Thus the data presented here is derived from three sets of descriptions of the same 12 images with six speakers involved. By providing the examples of similar and repetitive descriptions, strengthens the case of the patterns being observed, and thus must be considered to be valuable information.

In the analysis of each image the relevant descriptions of each pair are listed and inter-linear glosses are provided. Thereafter, a brief analysis of the description of the particular pair follows. A short descriptive analysis is then provided for each photograph as a whole,

overlooking all of the relevant descriptions by participants. This procedure allows attention to be drawn to patterns of the use of spatial models. It also opens up questions such as “what possible reasons could be given to justify some of the word choices of the speakers?”, “what spatial terminology is used in isiXhosa?”

A more in depth and interwoven discussion regarding the observations is provided in the following ‘discussion’ chapter. This ‘findings’ chapter provides a structural investigation into the spatially related patterns within isiXhosa.

Note: Please see ‘methodology’ chapter for an explanatory key of interlinear translation structure. Also see list of abbreviations at beginning of this document for corresponding guide of abbreviations to follow in analysis below.

Image (1)



B&S

- (1) Etyheli ikwicala lasekunene
‘The yellow is on the left’
- (2) Zibusondelelana ezi bhola
‘They are nearly close to each other, these balls’
- (3) Zijongene
‘They are facing each other’
- (4) Akukho enye esemveni wenye
‘There is no one behind the other’

The speaker’s choice of left and right identification in this picture is evidence of a hearer-speaker deictic format. The speaker orientates his left and right using himself and the other listener, as the central point of orientation.

Whether the speakers are employing either a face to face model or single file model, is not deducible. This is in spite of the fact that the speaker does give the two balls, faces. In most cases, giving the object a face would indicate which model is being used. However, in this case, the faces that are given to the balls are also orientated to face 'each other', as is said. This particular orientation would then not result in differing language descriptions between the two models.

L&Q

- (5) Ibhola yokuqala i-orenji kwaye isekunene
'The first one is orange and it is on the right hand side'
- (6) Enye ibomvu isekhohlo
'The other one is red and it is on the left'

Examples (5) and (6) are arguable evidence of the single file model in use. The left and right orientation are indicative of this. However, another possible reason for such a description is mere momentary confusion between that of the speaker's left and right orientation. An investigation into whether the speaker orientates his left and right similarly in other pictures, produces reason to question his apparent use of the single file model and one could also assume that this was momentary confusion.

N&M

- 7) Enye i-orenji isekhohlo
'The orange one is on the left'
- (8) Enye ibomvu isekunene
'The red one is on the right'

The speaker's description of left and right orientation demonstrate a hearer-speaker deictic model in practice; he uses himself as the central point of orientation and thus his left and right coordination is dictated by his own positioning.

Image (2)



B&S

- (9) Uyiphatheyo induku kwicala lakhe lasekunene
'He is carrying a stick on his right side'
- (10) Kwicala lasekhohlo kukho umthi
'On the left side there is a tree'
- (11) Ujonge apha phambili
'He is facing the front'

The speaker's descriptions indicate that an object-deictic model is being used in this instance. Instead of describing that the stick is on the left side of the photograph, in other words the left hand side of the speaker and listener, Bathini instead references the direction in relation to how this would be orientated from the object's perspective. The stick is located on the left side of the photograph from speaker-listener perspective. However, for the object (the man) himself, the stick would be located on his right side. This indicates that it is an object-deictic model being employed.

Furthermore, because of the speaker's choice to describe that the man is 'facing the front', one knows that it is the face-to-face model being used. The speaker locates the direction toward himself, as going forward for the object. That said, the man is an object with a prescribed intrinsic face and this makes it difficult to know whether it is indeed a face-to-face model in practice, or whether his choice of description is based upon the presence of the intrinsic face of the object, predefining which direction 'forward' is.

L&Q

- (12) Kukho indoda, ijonge phambili, ijonga kum
'There is a man and he is facing forward, towards my direction'
- (13) Kulo mfanekiso le ndoda isekunene kunomthi
'In this picture this man is on the right near the tree'
- (14) Iphathe intonga ngasekunene
'He is carrying a stick on the right'

The same analysis applies in these extracts as to the above speakers, Bathini and Sinalo. One could argue that the face to face model is present, due to the fact that the speaker says the man is 'facing forward, towards my direction'. However, because the object in question is a

man and thus has an intrinsic face, whether ‘forward’ is dictated by the direction of the man’s intrinsic face or by the presence of the face to face model, is unknown.

Again, similarly to the analysis of Bathini and Sinalo, the speaker’s orientation of left and right appears to be dictated by the objects, as oppose to himself. This results in an object-deictic model being used.

Image (3)



B&S

- (15) Umntu usemveni kwezinto endonokuthi ziihagu ezimbini
‘The person is behind the tree and two pigs’
- (16) Emacabangenu kwelasekhohlo nasekunene kukho imithi
‘On sideways, left and right, there are trees’
- (17) Uphathe le nduku yakhe kwakhona ujonge phambili
‘He is carrying his stick again and he is facing the front’
- (18) Ukwelicala lingasekhohlo
‘He is on the left side’

The speaker’s choice to describe what he sees as the man being ‘behind the tree’ indicates two things. The first of these is that by doing so he indirectly gives the tree a ‘front’ side, in other words, a face, which the man is then located behind.

The second implication of the man being described as ‘behind the tree’ is that this indicates there is a face to face model at play in the perception of the speaker. If the man is behind the tree, the tree is in front of the man. Such an orientation of these objects is evidence of a face to face model where the tree is perceived as being at the ‘front’ as well as facing the ‘front’, i.e. the face of the speaker.

Once more, in this extract the particular left and right orientation is evidence of the hearer-speaker deictic model.

L&Q

(19) Apha phakathi kwalo mithi kukho iihagu, zimbini; ziyalandelelana
 'Here in the middle of the trees, there are two pigs, one is behind the other'

(20) Ngasemva kukho le ndoda, iphathe intonga kwesandla sasekhohlo
 'At the back there is a man, carrying a stick with his left hand'

The speaker's choice to locate the man 'at the back', because he is the furthest away of the objects in the picture to the speaker himself, immediately tells us that the face to face model is being used. However, it is difficult to prove the practice of the face to face model with objects that already have intrinsic faces, such as the man as well as the pigs. Both of these objects have intrinsic faces which could disprove the use of the face to face model as a linguistic practice, but rather it could be used as a result of allowing the intrinsic faces to dictate the orientation of direction. Whether the speaker chooses to use the face to face model because of his intrinsic linguistic perception, or whether his use of it is dictated by the object in speaking having its own intrinsic face and thus allowing that to dictate the orientation of direction, is not provable in this particular instance.

N&M

(21) Kukho indoda ngemva, iphathe intonga ngesandla sekunene
 'There is a man behind, carrying a stick with his right hand'

Much like the other examples in this set, the man being located 'behind' demonstrates a face to face model in practice. The particular left and right orientation, the speaker is allowing the objects within the photograph to dictate and thus he has conformed to an object-deictic model.

Image (4)

B&S

(22) Enye iphambili, enye isemva
 'One is in front and the other one is at the back'

(23) Zincamathelene ezi bhola
 'They are contacting each other'

This particular extract raises the notion of three dimensional perception in isiXhosa. Because one cannot see the totality of both objects, the speaker assumes that this means the one object must be touching the other, and it is due to their contact that the entire object cannot be seen. Such a perception of the objects, indicates a two dimensional observation, as oppose to a three dimensional perception.

However, if an object is three dimensional, there would be another rationale as to why the complete object could not be seen. These images used in the data set all consist of three dimensional objects, yet because they have been photographed they are essentially now existing in two dimensional format. This is a possible reason for the speakers perceiving them as two dimensional objects.

Note that the description 'front' and 'back' in this case, give no indication of spatial orientation. The speaker has used the term 'one' to identify both objects and thus one cannot know which of the objects he perceive as being at the 'front', or at the 'back'.

L&Q

(24) Zibomvu ngombala; ziyalandelelana
 'They are red in colour, following each other'

(25) Xa unozijonga ziyalandelelana
 'When you look at them, one is behind the other'

- (26) izithunzi zezibhola zijonge kwelicala lisekunene
 'Their shadows are facing the right hand side'

Again, the speaker's choice of left and right orientation falls under a speaker-hearer deictic model.

N&M

- (27) Enye isemveni kwenye
 'One is behind the other'

- (28) Ekunene kukho isithunzi sazo
 'On the right are their shadows'

- (29) Akukho sithuba phakathi kwazo
 'There's no space between them'

Example (29) reinforces this notion of the three dimensional perception in the isiXhosa language. If one perceives these two balls as three dimensional, even though their totality is not visible, there is an understanding of why this is the case. Again, these speakers perceive there to be no space at all between the objects, which raises the question around three dimensional perception.

Example (28) is evidence of the speaker-hearer model, 'right' being orientated by the speaker as oppose to by the objects.

Image (5)



B&S

- (30) Uqhuba iihagu kodwa mna ndingathi uqhuba ihagu enye
 'He is herding pigs but I can say he is herding one pig'

- (31) Enye isemveni kwakhe
'The other one is behind him'
- (32) Ekhohlo kuye kukho umthi
'On his left hand side there's a tree'
- (33) Nasekunene kukho umthi phakathi naphakathi
'On the right side there is another tree in the middle'

In (30), Bathini's choice of word is 'herding'. Such a choice is indicative of cultural language making its way into isiXhosa spatial grammar and language. We know that Bathini is trying to convey the meaning that there is one pig 'going ahead' of the man, because in (31), Bathini references the second pig as being 'behind him'. The following chapter includes a more in depth discussion on the use of this term.

Furthermore, the reference to one of the pigs being 'behind him' (31) is again the structure of a face to face model. Much like the other examples, although this appears to be a face to face model in practice, due to the object already having an intrinsic face and thus an intrinsic 'forward', the presence of the face to face model is questionable.

L&Q

- (34) Omnye ukwicala lasekunene omnye usekhohlo
'The first one is one right hand side while the other one is on the left'
- (35) Kuqala ihagu kulandele lo mntu uphathe le ntonga
'The pig is at the front, and then the man follows, he carries a stick'
- (36) Emva kwa lo mntu kulandele futhi enye ihagu
'At the back of this man there is a pig again'

Same analysis applies as that of (31).

N&M

- (37) Kukho umntu ophathe intonga ngesandla sasekunene
'There is a person carrying a stick with his right hand'
- (38) Emveni kwala mntu kukho ihagu
'Behind the pig there is a person'

Example (37) uses an object-deictic framework, where 'right' has been established in relation to the objects in question.

Example (38) is more evidence of the case of a face to face model in use, but questioned by the objects already having intrinsic faces. In this case the speaker uses the pig as the central object, and established a ‘forward’ and ‘back’ direction for the animal. However, this is dictated by the animal already having an intrinsic front.

Image (6)



B&S

- (39) Ndinebhola etyheli ingaphambili, ebomvu isemva
 ‘I have yellow ball on the front and the red ball at the back’

The balls, which have no intrinsic fronts and backs, are clear indicators of whether a face to face or single file model is being used. In (39), Bathini explains that it is the yellow ball in ‘front’ and the red at the ‘back’. This is evidence of the face to face model in use, as Bathini perceives the ‘back towards front’ direction (in other words, establishing where the ‘front’ is) to be moving towards himself.

L&Q

- (40) Enye ingaphambili kunenye, i-orenji umbala
 ‘The first one is at the front from the other ball; it’s orange in colour’

- (41) Enye ibuncinane kunenye ibomvu, ingasemva
 ‘The other one is smaller than the other, it’s red and at the back’

- (42) Ibhola le ingaveli yonke, ingathi isikekile bucala
 ‘The ball does not fully appear in its entirety, as though it is cut in half?’

The same face to face analysis and outcome apply in extracts (40) and (41) as to sentence (39).

Extract (42) is more evidence towards the notion around three dimensional perception in these particular isiXhosa speakers. The speaker explains how the ball’s entirety is not visible,

and then rationalises this observation with the reasoning that the ball has been potentially 'cut in half'. Again, such perception may mean that the speaker is not perceiving three dimensional spatial orientation.

N&M

- (43) lorenji iphambili, ebomvu isemva
'The orange one is in front and the red one is behind'

Similar analysis of the face to face model as explained in examples (40) and (39).

Image (7)



L&Q

- (44) Umthi ukweli cala lesandla sakho senxele
'A tree is on the side of your left hand'
- (45) Le ndoda ikweli cala langasekunene
'This man is on the right hand side'
- (46) Ijonge ngaphambili ikufulathele
'He is facing forward, his back to you'

The left and right description in (44) and (45) are indicative of a hearer-speaker deictic model.

Extract (46) could be perceived as the beginning of evidence around a single file model. By the speaker referencing the furthest direction from himself as 'forward', this is in line with the orientation of a single file model. However, as has been the case with the previous images involving the object of the man, the fact that the man already has an intrinsic face is a role player in deciphering what spatial perception model is in practice. Although the 'forward' established in (46) corresponds with a single file model, it could also once again be dictated

by the direction of the intrinsic face; whichever direction the face is facing, that establishes what is considered 'forward'.

N&M

(47) Kwicala kasekhohlo kukho umthi kwicala lasekunene kukho umntu
'On the left side there's a tree and on the right there is a man'

(48) Ujonge lee, ukufulathele
'He is looking far away over there, facing his back on us'

(49) Uphathe intonga isekunene
'He is carrying a stick with his right hand'

Again, left and right orientation are perceived through hearer-speaker deictic model.

Extract (48) is perhaps the most accurate example yet, in providing evidence as to what spatial model is being adopted by the speakers. The term 'facing', is a clear indication that in the speaker's mind, what is visible to him is essentially the 'front' of the spatial construction before him. Even though the object (the man) has an intrinsic face, and the speaker understands that the man himself is facing a certain direction, the speaker's choice of language indicates that a face to face model is in use; the man's back is 'facing' the speaker. By saying that, the speaker gives the man a new intrinsic face for the purposes of orientating the man within a face to face model.

Image (8)



B&S

(50) Kukho umntu kweli cala lasekunene uphetha induku
'There's this person on the right hand side, and he is carrying a stick'

(51) Ujonge phambili
'He is facing the front'

Examples (50) and (51) are no different from previous examples in this data set. Left and right orientation form part of a speaker-hearer deictic model; the face to face model is in use but again under question due to the intrinsic face of the man.

L&Q

- (52) Umthi usenxele kwesandla sakho
'A tree is on the left side of your hand'

Hearer-speaker deictic perception of left and right orientation.

N&M

- (53) Kukho umthi ngasekhohlo
'there is a tree on the left'

Image (9)



B&S

- (54) Umthi ukwicala lasekunene
'The tree is on the right hand side'
- (55) Lo mntu ujonge kwicala lase kunene, ujonge umthi
'This person is facing the right hand side, looking at the tree'
- (56) Kwicala lakhe lasekunene kwakhona uphethe induku
'On his right hand side he is carrying a stick'

Extract (54) and (55) are evidence of hearer-speaker deictic. In extract (56) however, we see the speaker to switch to an object-deictic model.

Image (10)



B&S

- (57) Ekunene kukho umthi
'On the right there is a tree'
- (58) Isandla sasekhohlo siyabonakala esakhe
'His left hand can be seen'
- (59) Kubekho isandla sasekunene siphethe induku
'There's his right hand carrying a stick'
- (60) Usemveni kwakhe umthi, uwufulathele, uwuzele ngomva
'Behind him is a tree, his back is turned, it is facing behind'

In sentence (60), the man's intrinsic face is dictating which way 'forward' is. Because of the intrinsic face, the tree is immediately considered as 'behind'.

L&Q

- (61) Indoda ingaphambili kulo mthi
'This man is in front of the tree'
- (62) Indoda ijonge kwicala lasekhohlo
'He is looking on the left direction'
- (63) Intonga ikweli cala lasekunene
'A stick is on the right hand'
- (64) Umthi usemva kwale ndoda
'The tree is behind this man'

Sentence (61) takes the tree as reference to locate the man, i.e. placing him in front of the tree. Since the tree has no intrinsic front in isiXhosa, the intrinsic front of the man must be considered to be the source for this front of the tree. This is a clear example of the single file model being employed, as the tree is facing the same direction as the man.

N&M

(65) Kukho umthi kwisandla sakho sekunene
'There is a tree on your right hand side'

(66) Kukho indoda ngasesandleni sakho senxele
'There is a man on the left of your hand'

(67) Ujonge kweli cala lasekhohlo
'The man is looking is looking towards the left direction'

Left and right reference throughout (65) - (67) use the speaker-hearer deictic model.

Image (11)



L&Q

(68) Enye ibhola isondele kakhuku kweli cala lingasekhohlo
'One is very close towards the left'

Lamla's orientation of left here is most potentially a once-off error, as oppose to a consistent difference in the left and right orientation. The balls do not have intrinsic fronts and thus his perception cannot be object-deictic. His reference to one being 'very close towards the left' is, through the picture, quite clearly on the right hand side.

Image (12)



L&Q

(69) Umthi ukweli cala lesandla sakho sasenxele
'A tree is on the side of your left hand'

(70) Umthi ungaphambili kwale ndoda
'The tree is in front of this man'

(71) Iphethe intonga ngakwesi sandla sakho sasekunene
'He is carrying a stick with right hand'

Speaker-hearer deictic orientation for left and right perception.

Extract (70) indicates again that because the man has an intrinsic face, this is the dictating factor as to what the speaker perceives as 'front' and 'back'. The man's face is directed towards the speaker's left hand side, and thus this would form his perception of 'front'. Thereafter, he then perceives the tree as being in 'front' as it is on the left hand side of the face, i.e. the direction in which the intrinsic face is looking.

N&M

(72) Lo mntu ujonge kula mthi
'He is facing a tree'

(73) Ujongise ngasekhohlo
'He is facing towards the left sideways'

(74) Kukho umthi ngasekhohlo
'The tree is on the left'

Extracts (72), (73), and (74) are contributing evidence to the analysis upon extract (70) above.

Chapter 6: Discussion

This chapter will link findings discussed in the review of the relevant literature and the findings presented in the previous chapter. The aim is to reach more general conclusions on patterns in spatial orientation among the isiXhosa language consultants.

The data analysed in the previous chapter prominently features the use of one particular spatial model, namely the face to face frame of reference. Based on a wide range of African languages, Bernd Heine (Heine, 1997) in his groundbreaking book “Cognitive Foundations of Grammar” claims that the vast majority of African languages use an underlying single file model in their spatial orientation. The occurrence of both models in the data presented above requires further discussion which will follow further below.

Along with the variation observed in spatial orientation picked up through the data analysis, there are also obvious cases which deviate from the general trends. This chapter seeks to also rationalize and contextualize such observations.

6.1 Object Deictic FOR vs Speaker Deictic FOR

6.1.1 An Inherent Front

Bernd Heine explains that all physical items can be distinguished between having an intrinsic, also referred to as inherent, reference frame (Heine, 1997); or, being an item which does not have an intrinsic front or back. Such objects are then referred to as ‘frontless’ or ‘non-featured’ (Svorou, 1994). For an item to have an intrinsic reference frame means it is ‘consistently associated with a front and a back sub-region’ (Heine, 1997).

This concept can be understood through the example of that of a house. The front region of a house is situated where the main entrance is (Heine, 1997). Similarly, a computer’s front regions would be located where the person who uses it is seated. This is different from natural objects such as trees, hills or rocks which usually lack the intrinsic reference frame (Heine, 1997). The spatial orientation of non-featured objects is entirely determined by the context it is placed in. This might be in relation to the speaker or hearer (Heine, 1997). Non-featured objects in western cultures might however be fronted in other cultures. For

example, the Chamus, a Maa-speaking community at Lake Baringo in Kenya consider trees of having intrinsic fronts. In their understanding, the front of a tree is where it will ultimately fall when it dies. Thus it is determined by the leaning direction of the trunk, the direction of the heaviest branches or the side on which the largest number of branches is located, and in this order (Heine, 1997). When using a tree as ground reference, Chamus speakers will always locate objects or persons according to the intrinsic front of the tree, thus ignore the speaker or hearer deictic orientation. Another example of cultural specific orientation with regard to intrinsic properties of objects is the perception of mountains in Kikuyu, a major Bantu-speaking community in the in Central Kenya. In Kikuyu, the steeper side of the mountain is perceived as being 'behind' the mountain and the opposite side is then perceived as its front (Heine, 1997). This intrinsic fronting of the mountain is employed when spatial relations of objects are expressed, such as the house is behind or in front of the mountain, i.e. it is at the steep or the more shallow side of the mountain.

6.1.2 Object Deictic Orientation

In the case of object deictic orientation, rather than the speaker or the hearer being the deictic center of the orientation, the deictic center may be an inanimate item, such as a car or a chair (Heine, 1997). Such cases are referred to as object-deictic orientation; and it is the objects in use themselves which dictate the spatial orientation.

Object deictic orientation also has the potential to exhibit various interesting cross cultural variations (Heine, 1997). For example, the Mayan Tzeltal of Mexico have one of the most elaborate object-deictic orientation systems. Articles to the extent of knives, leaves, feathers and planks (Heine, 1997) are considered to have an object deictic organization (Levinson, 1994).

6.1.3 Speaker Deictic Orientation

Within this system, items are typically orientated within immediate reach of the speaker, hearer or both (Heine, 1997). Spatial orientation is described with reference to the orientation and perspective taken on by the speaker and/or hearer. Since the speaker and hearer typically face each other when they engage in communication, they will in most

cases have ‘contrasting deictic coordinates’ and, hence, contrasting spatial reference (Heine, 1997). Instead of the speaker-deictic orientation, the term ‘relative system’ has been used instead by other authors (Heine, 1997).

The isiXhosa data gathered in this survey seems not to support any preference among the two deictic orientations, both, speaker-deictic as well as object-deictic models are used in various contexts and differed settings.

Frequently used isiXhosa phrases such as ‘*on the side of your left hand*’ (‘ukweli cala lesandla sakho sasenxele’) are employing a speaker-hearer deictic orientation. At times object-deictic orientation was used to convey directional information the the description of exactly the same spatial relations at the same pictures, such as it is ‘*facing the front*’ (‘ujonge apha phambili’) or ‘*looking at you*’ (‘ujonge kuwe’).

What is however significant in the isiXhosa spatial language data collected is that while neither speaker-deictic nor object-deictic seem to be more used than the other, intrinsic front-back distinctions are prominently used, as soon as intrinsic featured objects show up. If objects with intrinsic fronts occur they seem to take over. Thus the object-deictic orientation with the intrinsic front and back of the object, becomes the dominating reference in the spatial orientation.

The same speaker might switch between speaker and object deictic orientation in the same context and description of a spatial setting:



L&Q

- (69) Umthi ukweli cala lesandla sakho sasenxele
‘A tree is on the side of your left hand’

(71) Iphethe intonga ngakwesi sandla sakho sasekunene
 'He is carrying a stick with right hand'

When the speaker describes the orientation of the tree, he references the listener's left and right orientation ('your left hand'), this is using a speaker hearer deictic orientation. However, when the speaker goes on to describe the orientation of the stick, he switches to an object deictic orientation as he is referencing the man's, which is the object, own left and right. The following sentence is also an example of employing the object deictic orientation:

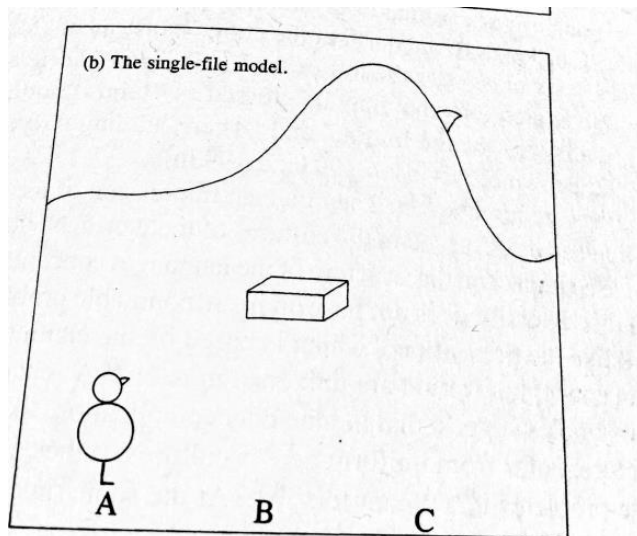
(56) Kwicala lakhe lasekunene kwakhona uphetho induku
 'On his right hand side he is carrying a stick'



6.2 Single file Model vs face-to-face Model

The basic difference between the face to face model, and the single file model is the different allocations of fronts and backs to non-featured objects (Heine, 1997). Non-featured objects are either aligned with the intrinsic front of the speaker, i.e. facing the same direction as the speaker, which is the single file model, or they are considered as facing the speaker, face to face model.

The illustration below represents the use of the single file model : the box (B) is perceived as being located behind the hill (C). The hill then, is perceived as following an imagined single file line, and thus faces forward, in the direction of the person (A). The box is then considered to be behind the hill (Heine, 1997).



re 1-1 The face-to-face and the single-file models.

Figure 10: The single file model illustrated (Heine, 1997)

The following sentence extracted from the data analysis appears to employ a single file model:



L&Q

(61) Le ndoda ingaphambili kulo mthi
'This man is in front of the tree'

The speaker uses the tree as the grounding reference by which to locate and orientate the man. 'The man is in *front* of the tree' places the man in front of the tree. In isiXhosa culture and spatial language trees do not inhibit intrinsic fronts. For that reason, the fronting of the tree must have been done with reference to the man on the picture. The direction the tree is aligned to the man reveals the single file model as the underlying mode of orientation.

By employing a face to face model, the same hill (C) is now perceived as having a front which faces the speaker or person's (A) face. The box is therefore be considered to be in front of the hill (C) (Heine, 1997).

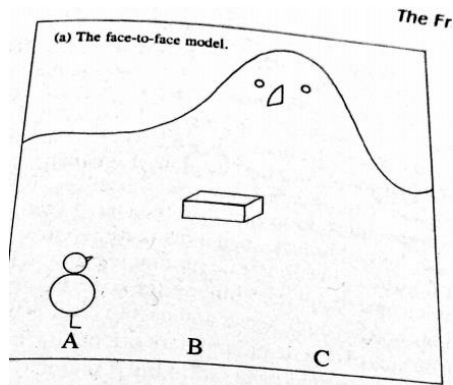


Figure 11: The face-to-face model illustrated (Heine, 1997).

The following sentence demonstrates the use of a face to face model:



B&S

- (39) Ndinebhola etyheli ingaphambili, ebomvu isemva
 'I have yellow ball is on the front and the red ball at the back'

This example is a particularly helpful example in order to assess which spatial model is in use as the objects in practice do not have intrinsic fronts or backs (as oppose to the man in the previous image). Here the speakers explain that the yellow ball is in 'front' and the red ball is at the 'back', giving evidence that the speaker is the grounding for orientation by employing a face to face model.

While in the above example, it is not entirely clear if the speaker or the objects is the reference for grounding in the orientation, it is explicitly the objects in the following example:

L&Q

- (40) Enye ingaphambili kunenye, i-orenji umbala
 'The first one is at the front from the other ball which is orange in colour'

The (yellow) ball is explained to be in 'front from the other', the orange ball, which is facing the speaker, thus the face to face model is employed.

Hill (1974) (1982) refers to these two models slightly differently by calling them the 'closed' and the 'open' systems of orientation, e. face to face and single file model respectively (Heine, 1997).

According to Bernd Heine (Heine, 1997) the face to face model is the only model to be found practiced throughout the Western world, and across most other parts of the world. In contrast, there are only few languages on the African continent which seem to employ the single file model, such as for example Hausa, spoken in Northern Nigeria and several neighboring countries. The single file model is by far the most commonly used orientation in speaker deictic spatial expressions within African societies.

The isiXhosa language data in this study demonstrated however, that while the single file model is in fact used at times, the face to face model seems to be far more common. This alternation between the two basic models of speaker deictic orientation may be due to multiple reasons. It seems that there might be a shift from the single file to the face to face model. The most likely reasoning for such a shift is language contact. As explained in the methodology chapter of this thesis, all six language consultants are, and have been, exposed to a large amount of English. This could very well be the reason for seeing such a 'western' model at play within their isiXhosa.

This particular research however cannot postulate such a far reaching claim for isiXhosa in general, as the number of language consultants as well as age, and educational range was highly limited. In addition, the research tool employed in this survey did not produce sufficient spatial expressions which utilized either the face to face or single file model. In the majority of the description, intrinsic fronts of the features objects on the pictures, i.e. the man and the pigs were employed as grounding references. Research with tools specifically designed to verify or falsify the observation made in this study, namely that both face to face and single file model coexist in the isiXhosa used among educated, young speakers in the Western Cape.

Chapter 7: Conclusion

To summarise, this study has sought to investigate some of the aspects found within the spatial language of isiXhosa. It has identified those elements of isiXhosa found within the spatial domain and through strategic methodological processes, has analysed their function and form within the context of isiXhosa use.

Beyond the above, the aim of this investigation was to begin an attempt at uncovering the underlying linguistic structures, models and frameworks directing and shaping how isiXhosa is used, and how it is driven with regards to the topic of space. Gaining such insight, reveals an understanding of the underlying cognition of those who speak isiXhosa, but simultaneously begins to be a starting point for assessing what the driving forces of this very cognition are. Furthermore, such investigations also provide insight into the beginning of informing how other languages are spatially bound and driven.

The manner in which this investigation took place was through conducting three coupled interviews with six isiXhosa language consultants: all males, all between the ages of eighteen and twenty-three, and all studying at the same tertiary institution in the Western Cape. These interviews required the participants to play a 'photo-matching' game, in which the photo depicted various spatial orientations of objects. The process allowed the language consultants to use language relating to space and thus producing the data for the study.

Thereafter, the transcription and translation process was conducted upon the data so that it might be ready for an interlinear translation analysis. Conducting an interlinear translation upon all of the relevant data was a process that uncovered what spatial models were behind the language these participants were using.

As the researcher of this study, through the process of drawing conclusions upon the function and results outcome of this venture, I do not shy away from the reality that the empirical evidence discovered through study cannot postulate wide and broad claims for the language of isiXhosa in general.

When considering the outcomes of this study, one must take into account the limited number of language consultants, their educational range, age and the high exposure of their language to English. These facts, point to the reality that the methodology used in this study was perhaps not completely sufficient in extracting enough spatial language data so to draw reliable conclusions of patterns within the language.

As has been discussed in previous chapters, the case of many of the objects in the images already having intrinsic fronts does skew the results greatly, and thus not reveal accurate frames of references generally used in isiXhosa.

That noted, the proposed aims and agendas of this study have indeed been successfully achieved. The data collected has indeed revealed particular insights into the topic of spatial language in isiXhosa.

The data reveals a clear pattern of preference regarding spatial models. Although the single file model is seen to be used occasionally, it is the face to face frame of reference that is far more frequently occurring. This gives reason to question the Bernd Heine's claim that the vast majority of African languages use an underlying single file model in their spatial orientation (Heine, 1997). Such an observation is possible due to various factors. The most probable reasoning is an apparent shift of models due to language contact phenomena. As discussed, all six language consultants are highly exposed to English.

Furthermore, the isiXhosa data seems not to prefer one between the two deictic orientations; that of the speaker deictic and that of the object deictic models. Both of these are used in various context and settings. That noted, there is a pattern of the speakers using intrinsic front-back distinctions, in the case when intrinsic featured objects are in use. For that reason, it is the object-deictic orientation which dominates reference in the spatial orientation of isiXhosa.

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