

Point of View in Mushunguli Locatives

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1. Introduction

Considerable research has been done on the syntax of Bantu locative systems, both cross-linguistically and in particular Bantu languages. However, very little work has been done on their semantics (a notable exception is Neumann 1999). As a result, characterizations of the meanings of Bantu locative morphemes are often varied or vague. For instance Ružička (1959) describes a wide variety of meanings for the locative morpheme *ku-*, within and across languages, including among others “distant locality,” “to,” “relative remoteness,” “direction,” “indefinite place,” “an area larger than defined by *pa-*,” and “locality out of sight” (224-225). Similarly, writing only about Chicheŵa, Bresnan & Kanerva (1989) state that the “meanings of the locative classes are abstract, and the particular interpretations intended are implied by the context” (39). Even Neumann’s (1999) pioneering, detailed study of Shengologa locatives provides a catalog of meanings/uses for each morpheme rather than a single unified semantics. A standing challenge, then, is to develop a unified, fully compositional semantics for the locative system of a Bantu language.

This paper represents the first steps toward such a semantics for the locative system of Mushunguli, a dialect of Chizigua spoken by approximately 23,000 people in the Jubba River region of Somalia (Lewis, 2009). The Mushunguli locative system includes three locative morphemes (each is followed by its traditional Bantu noun class number), *ha-* (16), *ku-* (17), and *mu-* (18). This paper focuses on *ha-* and *ku-*. I present the hypothesis that 1) both *ha-* and *ku-* have a general locative meaning similar to English *at*, and 2) both involve implications relating the location of the spatial scene they describe to the location of the Point of View (POV) adopted by the speaker. The paper is organized as follows. In Section 2, I provide background on spatial semantic concepts and Mushunguli locative morpho-syntax. Section 3 draws empirical generalizations about the acceptability of *ha-* and *ku-* in a variety of contexts. Based on those generalizations, in Section 4 I present informal analyses of *ha-* and *ku-*.

2. The Mushunguli locative construction

2.1. Background

In Mushunguli, locative morphemes are used in expressions describing spatial relationships between two objects. The first object, called the figure (FGR) following Talmy (1985), is the object whose location is being described. The second, called the ground (GND), is the object used as a reference for describing the location of the FGR. Thus, in the English sentence *The dog is to the left of the tree* the dog is the FGR, and the tree is the GND. The locative relation is encoded by *to the left of*. This example also makes clear that, although it is not explicitly referred to, a POV is necessary in order for *left* to be defined. At least in English, the tree has no left side intrinsically, but it inherits the direction ‘left’ based on the orientation of the POV.

(1)¹ shows two Mushunguli expressions specifying the location of a FGR (banana) relative to a GND

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¹ Abbreviations: 1.PL-first person plural; ASSOC-associative; AUG#-class augment (associated with definiteness); CL#-noun class; AGR#-noun class agreement; LCOP-locative copula; NEG-negation. Tone is not transcribed in these examples.

(book). Both involve the locative prefix *ha-* and represent typical ways to express spatial relations in Mushunguli, but (1a) is simpler and less precise than (1b).

- (1) *Physical context: A banana and a book are sitting on top of a pedestal. The banana is about 6 inches to the side of the book. The speaker and the addressee are 5-6 feet from the book.*

- a. Idiboko di hechitabu.
 i-di-boko di-i **ha**-a-i-chi-tabu
 AUG₅-CL5-banana AGR5-LCOP **CL16**-ASSOC-AUG₇-CL7-book
 ‘The banana is at the book.’
- b. Idiboko di hankhanda hechitabu.
 i-di-boko di-i **ha**-nkhandha **ha**-a-i-chi-tabu
 AUG₅-CL5-banana AGR5-LCOP **CL16**-side **CL16**-ASSOC-AUG₇-CL7-book
 ‘The banana is beside the book.’

In both examples, *ha-* attaches to the morphologically complex stem *a-i-chi-tabu* (‘of the book’). I call words like *ha-a-i-chi-tabu* (‘at the book’) simple locative predicates. In (1a), which includes only the simple locative predicate *hechitabu* (‘at the book’), the locative morpheme *ha-* defines the spatial relation between the FGR and GND. In contrast, (1b) contains not only the simple locative predicate *hechitabu* (‘at the book’) but also the word *ha-nkhanda* (‘at the side of’), translated in (1b) as *beside*. *Hankhanda* (‘at the side of’) and words like it differ structurally from simple locative predicates in that they consist of only a locative morpheme plus a root. Words formed in this way express more specific spatial relations than the locative prefixes do alone. I call such words locative relators. In examples like (1b), the spatial relation between FGR and GND is expressed by the combination of the locative relator *hankhanda* (‘at the side of’) with the simple locative predicate *hechitabu* (‘at the book’). Adapting a term from Givón’s (1972) description of the equivalent construction in ChiBemba, I call such constructions complex locative predicates.

2.2. Methodology

Unless otherwise specified, the examples in this paper were elicited in the following manner. First, I physically construct the context and position the consultant and myself in the appropriate locations. The physical context for each example thus describes our actual positions relative to the FGR and GND at the time of utterance. The discourse context is roughly the same across all examples. I pretend to have lost the FGR, ask the consultant “Where is the FGR?” in Mushunguli, and then record his response. For stimuli designed to test the acceptability of a specific expression in a specific context, I use one of two methods. In one I ask the consultant to imagine our standard discourse context, and then ask whether the expression in question is an acceptable response to the standard question. Otherwise, I have the consultant ask me “Where is the FGR?”, I respond in Mushunguli, and then the consultant gives an acceptability judgment on my utterance.

I describe the methodology at length here to emphasize the importance of context construction in semantic fieldwork. It is well known that working with translation equivalents alone is not sufficient for capturing the meanings of spatial expressions, given the diverse ways in which languages map spatial concepts to particular morphemes (Levinson & Wilkins, 2006). In addition, it is important to construct contexts that are as realistic as possible, in this case involving physical arrangements and live discourse participants. Initially, working with pictures from the Topological Relations Picture Series (Bowerman & Pederson, 1992), I elicited only a fraction of the possible combinations of locative expressions, and had no indication of the importance of POV in Mushunguli locatives. Furthermore, constructing both physical and discourse contexts, while cumbersome, allows the researcher to control relevant aspects of the context rather than relying on the consultant to mentally represent the appropriate situation.

3. The distributions of *ha-* and *ku-* across different physical contexts

3.1. The distribution of *ha-*

In (1) both simple and complex locative predicates involving *ha-* are used to describe a spatial relation of proximity between the FGR and the GND. The utterances in (1) are acceptable when the GND is proximal to the interlocutors.² However, when the interlocutors stand more than 30-40 yards away, neither example in (1) is an acceptable way to describe exactly the same scene. This pattern is consistent regardless of the FGR-GND relation. (2) shows that *ha-* can be used to describe other FGR-GND relations – containment and surface contact – in addition to proximity (1). The examples also confirm the acceptability pattern with respect to the position of the interlocutors. In these examples, *ha-* is acceptable in the α contexts, where the GND is proximal to the interlocutors, and not the β contexts, where it is distant.³

- (2) a. *Physical context: A bowl containing a banana is sitting on the ground. The speaker and the addressee are {5-6 ft. ^{α} / 30-40 yds. ^{β} } from the bowl.*

Di hedibakuli.
 di-i {**ha ^{α}** /**#ha ^{β}** }-a-i-di-bakuli
 CL5_{agr}-LCOP CL16-ASSOC-AUG₅-CL5-bowl

‘It [the banana] is at the bowl.’

- b. *Physical context: A banana is affixed to the trunk of a tree at about shoulder height. The speaker and the addressee are standing {5-6 ft. ^{α} / 30-40 yds. ^{β} } from the tree*

Di homti.
 di-i {**ha ^{α}** /**#ha ^{β}** }-a-u-m-ti
 CL5_{agr}-LCOP CL16-ASSOC-AUG₃-CL3-tree

‘It [the banana] is at the tree.’

Both (1) and (2) show that sentences including *ha-*locatives are acceptable when the GND is proximal to the interlocutors, and unacceptable when the GND is distant. However, it is worth asking whether a more specific characterization is possible. Is *ha-* sensitive to the proximity of the speaker, the addressee, or something else? In fact, *ha-* appears to be sensitive to the location of either the speaker or the addressee, depending on context. When the speaker and addressee are separated so that the GND is close to the speaker but not to the addressee, *ha-* is acceptable (3a), and when the positions are reversed and the GND is close to the addressee, *ha-* is also acceptable (3b).

- (3) a. *Physical context: An onion is sitting on top of a cloth napkin which is itself spread out on the ground. The speaker is a few feet from the cloth. The addressee is 30-40 yards from the cloth.*

Chi henguwo.
 chi-i **ha-a-i-n-guwo**
 CL7_{agr}-LCOP CL16-ASSOC-AUG₉-CL9-cloth

‘It [the onion] is at the cloth.’

- b. *Physical Context: An onion is sitting on top of a cloth napkin which is itself spread out on the ground. The speaker is approximately 30 yards from the cloth. The addressee is 3 feet from the cloth.*

Chi henguwo.
 chi-i **ha-a-i-n-guwo**
 CL7_{agr}-LCOP CL16-ASSOC-AUG₉-CL9-cloth

‘It [the onion] is at the cloth.’

² An anonymous ACAL reviewer suggests a different possibility. The proximity of the FGR to the interlocutors, rather than that of the GND, could be the relevant factor for determining the acceptability of locative constructions with *ha-*. Nothing in the current data set differentiates between these possibilities.

³ Additionally, the subjects are dropped, which does not effect the meaning of the utterance, but which is more natural for my consultant in this discourse context.

The data in (3) show that proximity to either the addressee or the speaker is sufficient to license the use of *ha-*. This indicates that *ha-* encodes proximity not to a particular discourse participant, but to a more abstract entity that can be related to either discourse participant depending on the context. POV is just this sort of entity. For instance, when the English example mentioned above (*the dog is to the left of the tree*) is heard out of the blue, the speaker is generally assumed to be describing the scene from her own perspective. That is to say, the dog is to the left of the tree from the speaker's POV. However, she can as easily adopt a different POV. In a context where the addressee is trying to catch the dog and has just asked the speaker where the dog is, the speaker can, perhaps more helpfully, use the same sentence to mean that the dog is to the left of the tree from the addressee's perspective.

A comment from my Mushunguli consultant suggests that something similar is going on in (3b): he explains that *henguwo* ('at the cloth') is appropriate "because you asked me 'Where?'"⁴ As in the English example, our standard elicitation discourse context makes the addressee's perspective as salient as the speaker's. Of course the speaker's perspective is also available, as illustrated in (3a). These examples suggest that using *ha-* requires that the GND be proximal to the POV, which can be associated with either discourse participant. A very limited set of examples involving locatives embedded under propositional attitude predicates and verbs of saying suggests that the POVs of other individuals can also be adopted, but more work is needed to substantiate that claim. In any case, determining which POV is adopted in which contexts is outside the scope of this paper.

Taken together, the examples in this section demonstrate that *ha-* can be used to describe a range of FGR-GND relations: proximity, containment, and surface contact. The examples also show that simple locative predicates formed with *ha-* such as *hechitabu* ('at the book') can be used only when the GND is proximal to the POV. Based on (1b), which included a locative relator with *ha-*, it is tempting to conclude that locative relators with *ha-* are also acceptable only when the GND is proximal to the POV. This conclusion is not correct. Utterances in which the only instance of *ha-* is part of a locative relator are acceptable when the GND is distant from the POV, as demonstrated by (4).

- (4) *Physical context: A banana is affixed to the trunk of a tree at about shoulder height. Physical context: the speaker and the addressee are standing {5-6 ft.^α/30-40 yds.^β} yards from the tree.*

Di hankhanda komti.
 di-i ha-nkhanda {#ku^α/ku^β}-a-u-m-ti
 CL5_{agr}-LCOP CL16-side CL17-ASSOC-AUG₃-CL3-tree

'It [the banana] is at the side of the tree.'

(4) shows that not every use of *ha-* requires that the GND be proximal to the POV. Therefore, *ha-* must not encode proximity between the GND and the POV in its conventional entailments. But if *ha-* does not encode proximity between the GND and the POV, why is such proximity required in order for examples (1)-(3) to be acceptable? This is the first puzzle that must be explained by an account of the meanings of Mushunguli locatives.

3.2. The distribution of *ku-*

Considering (4), it is reasonable to hypothesize that simple locative predicates with *ku-* are acceptable only when the GND is distant from the POV. That hypothesis provides a nice symmetry: simple locative predicates with *ha-* encode proximity to the POV, and simple locative predicate with *ku-* encode distance. The idea appears to be confirmed by the examples in (5). These examples also show that *ku-* can be used to describe the same range of FGR-GND relations as *ha-*: proximity, containment, and surface contact.

⁴ For a discussion of both the importance and the limits of consultants' comments as data, see Matthewson (2004).

- (5) a. *Physical context: A banana and a book are sitting on top of a pedestal. The banana is about 6 inches to the side of the book. The speaker and the addressee are {5-6 ft.^α/ 30-40 yds.^β} from the book.*

Idiboko di kwechitabu.
i-di-boko di-i {#ku^α/ku^β}-a-i-chi-tabu
AUG₅-CL5-banana CL5_{agr}-LCOP CL17-ASSOC-AUG₇-CL7-book

‘The banana is at the book.’

- b. *Physical context: A bowl containing a banana is sitting on the ground. The speaker and the addressee are {5-6 ft.^α/ 30-40 yds.^β} from the bowl.*

Di kwedibakuli.
di-i {#ku^α/ku^β}-a-i-di-bakuli
CL5_{agr}-LCOP CL17-ASSOC-AUG₅-CL5-bowl

‘It [the banana] is at the bowl.’

- c. *Physical context: A banana is affixed to the trunk of a tree at about shoulder height. The speaker and the addressee are standing {5-6 ft.^α/ 30-40 yds.^β} from the tree.*

Di komti.
di-i {#ku^α/ku^β}-a-u-m-ti
CL5_{agr}-LCOP CL17-ASSOC-AUG₃-CL3-tree

‘It [the banana] is at the tree.’

The examples in (5) suggest that simple locative predicates with *ku-* are in complementary distribution with simple locative predicates with *ha-*. Since unlike derived *ha-*locatives, locative relators with *ha-* do not require proximity between the GND and the POV, to make the symmetry between *ha-* and *ku-* complete, locative relators with *ku-* should not require distance between them. The examples in (6) suggest that they do not. Like the example in (4), where a locative relator with *ha-* combines with a simple locative predicate with *ku-*, the examples in (6) also involve a mismatch between the prefix of the locative relator and the prefix of the simple locative predicate.

- (6) a. *Physical context: A blanket is spread on the ground. A book is on top of the blanket near its left edge from the speaker and addressee’s perspectives. The speaker and the addressee are {5-6 ft.^α/ 30-40 yds.^β} from the blanket.*

Chi kunkhanda henguwo.
chi-i ku-nkhanda {ha^α/#ha^β}-a-i-n-guwo
CL7_{agr}-LCOP CL17-side CL16-ASSOC-AUG₉-CL9-cloth

‘It [the book] is on the side of the cloth.’

- b. *Physical context: A car is parked in a parking lot. A backpack is lying on the ground about 5 feet from the intrinsic left side door of the car. The speaker and addressee are standing 5-6 feet from the front bumper of the car*

Di kumoso hedigari.
di-i ku-moso {ha^α/#ha^β}-a-i-di-gari
CL5_{agr}-LCOP CL17-left CL16-ASSOC-AUG₅-CL5-car

‘It [the bag] is to the left of the car.’

The data examined so far suggest a very tidy picture of perfectly complementary distributions of *ha-* and *ku-*. Simple locative predicates with *ha-* are acceptable only when the GND is proximal to the POV, and simple locative predicates with *ku-* only when the GND is distant. Neither type of locative relator places any restriction on the location of the GND relative to the POV. Furthermore, both locatives have the same meaning; they encode relatively unspecific FGR-GND relations, something like English *at* but perhaps more general. This picture, it turns out, is too tidy. The description of the meanings of both locative morphemes and the generalizations about the distribution of *ha-*locatives are correct, but the distribution patterns of *ku-* are more complex than the examples above illustrate.

First, situations exist in which simple locative predicates with *ku-* are acceptable even though the GND is proximal to the POV. Simple locative predicates with *ku-* are sometimes acceptable in these contexts when combined with a locative relator with *ku-*, as in (7).

- (7) a. *Physical context: An onion is sitting on the ground 3-4 feet from a cloth napkin, which is laid out flat. The speaker and the addressee are standing side by side 1-2 feet from the napkin, on the side opposite the onion.*

Chi kunkhanda kwenguwo.
chi-i **ku-nkhanda ku-a-i-n-guwo**
CL7_{agr}-LCOP CL17-side CL17-ASSOC-AUG₉-CL9-cloth
'It [the onion] is at the side of the cloth.'

- b. *Physical context: A banana and a small pile of mud are sitting on top of a round table. The speaker and addressee are sitting at the table. The mud is on the opposite side of the banana from the speaker. The addressee is at a 90 degree angle to the speaker, so that both the banana and the mud are in front of him.*

Matope ya kunyuma kwediboko.
ma-tope ya **ku-nyuma ku-a-i-di-boko**
CL6-mud CL6_{agr}-LCOP CL17-behind CL17-ASSOC-AUG₅-CL5-banana
'Mud is behind the banana.'

These examples might be used suggest that somehow the presence of a locative relator with *ku-* cancels the distance implication of the simple locative predicate with *ku-*. However, such cancellation effects are not consistent. In some cases locative relators with *ku-* combined with simple locative predicates with *ku-* are unacceptable when the GND is proximal to the POV, as in (8a). Furthermore, sometimes locative relators with *ku-* are unacceptable for describing a proximal GND even when the locative relator with *ku-* is the only *ku-* locative in the sentence, as in (8b). Examples like this appear to violate the second generalization about *ku-*: that locative relators with *ku-* do not involve any sort of distance implication.

- (8) a. *A banana is affixed to the trunk of a tree at about eye level. The speaker and addressee are standing together about 5-6 feet from the tree, on the same side as the banana.*

#Di kunkhanda komti.
di-i **ku-nkhanda ku-a-u-m-ti**
CL5_{agr}-LCOP CL17-side CL17-ASSOC-AUG₃-CL3-tree
Intended meaning: 'It [the banana] is at the side of the tree.'

- b. *A bag is on the ground the near the intrinsic left side of a car. The speaker and addressee are standing a few feet beyond the bag, on the same side of the car.*

#Di kumoso hedigari
di-i **ku-moso ha-a-i-di-gari**
CL5_{agr}-LCOP CL17-left CL16-ASSOC-AUG₅-CL5-car
Intended meaning: 'It [the bag] is to the left of the car.'

Although the data for *ku-* are complex, they do yield two generalizations. First, if a simple locative predicate with *ku-* is the only *ku-* locative in a sentence, the sentence is acceptable only when the GND is distant from the POV (4 & 5). Second, locative relators with *ku-* are unacceptable if the FGR and the POV are located in the same region relative to the GND (8) and acceptable otherwise (6 & 7). For example, the sentence *Di kumoso hedigari* ('It is to the left of the car') is unacceptable if the POV is also to the left of the car as in (8b), and acceptable otherwise, as in (6b). This pattern is represented schematically in Figure 1, where the numbers represent the location of the FGR in the example with that number, and the rectangle represents a generic GND object. The picture in Figure 1 generalizes to nearly all of the data on locative relators with *ku-*. The second puzzle for an analysis of the meanings of Mushunguli locatives, then, is to account for the variation in the acceptability of *ku-* locatives based on the relative locations of FGR, GND, and POV.

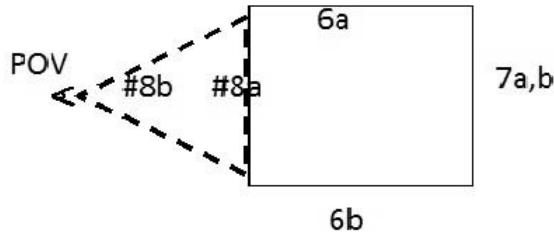


Figure 1: Acceptable locations for a FGR described by a locative relator with *ku-* when the GND is proximal to the POV. The rectangle represents a generic GND object. Numbers represent the location of the FGR relative to the GND in a given example. Numbers marked with # represent infelicitous examples.

4. The Meanings of *ha-* and *ku-*

4.1. *Ha-*, *ku-*, and the FGR-GND relation

The examples above make clear that both *ha-* and *ku-* denote a relatively unspecific FGR-GND relation that is compatible with the FGR being in, on, or near the GND. This relation can be represented in the meanings of *ha-* and *ku-* as follows. In the case of simple locative predicates, the locative prefix combines with the GND to denote a region in, on, and around the GND - the space occupied by the GND plus some sort of “halo”.⁵ Locative sentences that include only a simple locative predicate, such as those in (2) and (5), assert that the FGR is within the region denoted by the simple locative predicate. They assert that the FGR is in, on, or near the GND.

The same analysis can be extended to locative relators as well. As seen above, the stems of locative relators denote specific spatial relations. Usually, they do so by referring to a specific part of the GND. In some cases, this reference is morphologically transparent. One such example is the stem *-ndani*, which is used in locative terms referring to the inside or underside of an object. This root is derived from the Mushunguli word for stomach, *nda*, and the unproductive Proto-Bantu locative suffix *-ni* (Dave Odden, p.c.). The stem *-ndani* combines, for example, with *ku-* to form *kundani* (‘inside/in the stomach of’). In other cases, the morphological relation is less transparent, and the locative term does not include a word referring to a specific body part like ‘stomach’ but rather has a more abstract spatial meaning, like side or top. That body part terms are used to form spatial meanings is not unusual. Neither is it unusual for abstract, purely spatial terms to be used, nor for both types of roots to be used in one locative system. (Heine, 1989).⁶

In locative constructions, the part (body part or abstract spatial part) denoted by the locative stem becomes in some sense a new, more specific GND. The locative prefix combined with its argument then denotes the region in, on, and around that part of the original GND. A sentence including a simple locative predicate thus means that the FGR is in the region in, on, and around a specific part of the GND. For example, *hankhanda* (‘at the side of’) is used to describe a FGR that is on/in the GND and towards the side, touching the side of the GND, or a short distance away from the side of the GND. This proposal for

⁵ The exact size of the region specified by the simple locative predicate depends on a number of contextual factors (e.g. the size of the GND). This kind of variability makes sense conceptually: being near a building, for example, requires less actual physical proximity than being near a table. For a discussion of such effects in English, see Herskovits (1986).

⁶ Occasionally locative stems refer to landmarks canonically located in a particular direction from the GND, a pattern which is also described by Heine (1989). An example is *hasi* (‘below’), which is also the word for ground. These cases do not effect the analysis presented here. Rather than taking a part of the GND as its argument, the locative morpheme takes the landmark entity (e.g. the ground under the GND, in the case of *hasi*). In Mushunguli landmark-oriented locative stems are less common than those that relate to body parts or abstract spatial parts.

the meanings of *ha-* and *ku-* accounts for all of the FGR-GND relations described in the examples above. The more difficult task is accounting for the acceptability or unacceptability of examples based on the relative positions of FGR, GND, and POV.

4.2. The meaning of *ha-* and the reference location

Two empirical generalizations about *ha-* were made above. simple locative predicates with *ha-* are acceptable only when the GND is proximal to the POV, and locative relators with *ha-* are acceptable regardless of the relative positions of GND and POV. To account for the first generalization, it is necessary to define proximity. One option is to think of proximity in terms of the distance between two objects. When that distance is lower than some contextual standard, the two objects are proximal, and otherwise they are not. This is perhaps the most intuitive way to think about proximity. However, it is also possible to define proximity in terms of overlap between regions in space. Above it was observed that that when *ha-* and *ku-* combine with their arguments, they denote regions in, on, and around the entities denoted by those arguments. If the region in space occupied by another object overlaps with the region denoted by a locative, the second entity is proximal to the entity denoted by the locative's argument. In concrete terms, if *hechitabu* ('at the book') denotes a region in, on, and near the book, then any other entity whose location overlaps with that region can be said to be proximal to the book.

Using the second definition of proximity, the proximity requirement of simple locative predicates with *ha-* could be accounted for as follows. We assume first that the POV has a particular location, and further that there is some region associated with the POV which encompasses its location. We call that region r_{POV} . Exactly how large r_{POV} is and exactly how it should be defined remain unclear and are topics for future research. In some ways, though, it is useful to think of r_{POV} as the field of vision from the POV. Certainly a simple locative predicate with *ha-* cannot be used when the GND is outside the field of vision from the POV. In many of the examples, though, the GND is visible, just relatively far away. Thus perhaps a better way to think of r_{POV} is to conceive of it as the region "in front of" the POV. This region does not extend indefinitely but is bounded, like the region in front of any entity (O'Keefe, 2003; Kracht, 2008). Although they may be related to perception, the boundaries do not necessarily conform exactly to the limits of sight, since often the entity with a front region cannot see or is not even sentient (e.g. "in front of" a desk). In any event, regardless of the exact boundaries of r_{POV} , if the existence of such a region is assumed, the meaning of *ha-* could be said to encode that r_{POV} overlaps with the region denoted by the locative.⁷ Such a meaning would explain the implication generated by simple locative predicates with *ha-* that the GND is proximal to the POV. This proposal is clearly too strong, however, since using a locative relator with *ha-* like *hankhanda* ('at the side of') does not assert that the region it denotes overlaps with r_{POV} , as demonstrated by (4). Solving this problem requires appealing to a yet more abstract notion, the idea of a reference location.

The idea of a reference location is most easily explained via comparison to reference time, which is familiar from tense-aspect semantics. As discussed by Partee (1984), *inter alia*, a reference time is necessary as an anchor for the past tense, which cannot simply be an existential quantifier over times in the past. In a famous example, Partee observes that *I didn't turn off the stove*, uttered when driving on the freeway, is only meaningful if the addressee can retrieve a salient reference time from context (245). In this case the most likely reference time is something like 'just before we left on this trip'. Partee observes that the reference time can also be fixed by a linguistic expression. To extend her example, consider the sentence *The morning of the fire, I didn't turn off the stove*, also uttered while driving on the freeway. The reference time is no longer the day of the journey, but a different specific morning in the past.

If we assume the existence of a reference location, which like reference time can be contextually

⁷ This proposal is similar to, though the converse of, a proposal made by Faller (2004) for the meaning of the Cuzco Quechua past tense marker *-sqa*. Faller argues that *-sqa*, which attaches to verbs, encodes that the location of the event or state denoted by the verb is at least partially outside the speaker's perceptual space. Faller's analysis of *-sqa* differs significantly from the analysis of *ha-* offered here in that *-sqa* always refers to the perceptual space of the speaker. As shown above, *ha-* can refer to the field of vision from either discourse participant. Second, as will be argued below, *ha-* sometimes refers to a linguistically specified reference location which is not related to any POV at all. On the other hand *-sqa* always refers to a perceptual space, not merely any kind of region.

or linguistically determined, then defining a unified semantics for *ha-* becomes possible. *Ha-* encodes that there is overlap between the region denoted by the locative term and the reference location. For simple locative predicates such as *hechitabu* ('at the book'), there is no linguistically specified reference location. The reference location must be determined by context. In the simple discourse context used in the examples above, the most salient reference location is r_{POV} , region associated with the POV assumed by the speaker. In the absence of other information, the location immediate to the interlocutors is most salient, just as the most immediate time is in Partee's example. Exactly how a given location becomes most salient in the context, or whether r_{POV} is always the most salient contextual reference location is a matter for future study. In any case, since r_{POV} is the reference location selected by simple locative predicates with *ha-*, the implication that the GND is proximal to the POV derives from the implication that the region denoted by the locative overlaps with r_{POV} . Because *ha-* encodes overlap between the reference location, r_{POV} , and the location around the GND, the POV must be relatively close to the GND.

Modeling *ha-* as encoding overlap between the reference location and the region denoted by the locative term also accounts for the lack of a proximity requirement in locative relators with *ha-*. Locative relators take simple locative predicates as arguments. As described above, a simple locative predicate denotes a region, specifically the region in, on, and around the GND. That region serves as the linguistically determined reference location for any locative relator which takes the simple locative predicate as its argument. A locative relator with *ha-* thus encodes overlap between the region it denotes and the region denoted by the simple locative predicate with *ha-*. As a concrete example of both types of *ha-*locatives, consider (1b), repeated below for convenience.

- (1b) Idiboko di hankhanda hechitabu.
 i-di-boko di-i **ha-nkhanda ha-a-i-chi-tabu**
 AUG₅-CL5-banana CL5_{agr}-LCOP **CL16**-side **CL16**-ASSOC-AUG₇-CL7-book
 'The banana is beside the book.'

The *ha-* in *hechitabu* ('at the book') takes the book as an argument and denotes the region surrounding and containing the book. Furthermore, it encodes that that region overlaps with the reference location. The reference location is r_{POV} , because there is no linguistically specified reference location. As a result, in this context *hechitabu* encodes that the region in, on, and around the book overlaps with r_{POV} , effectively requiring that the book be proximal to the POV. *Hechitabu* then combines with *hankhanda* ('at the side of'), which denotes the regions around the sides of the book. The *ha-* in *hankhanda* encodes that these region overlap with a reference location. In this case, however, there is already a linguistically determined reference location in the semantics: the region denoted by *hechitabu*. As a result, *hankhanda* simply encodes that the regions in, on, and around the sides of the book overlap with the region in, on, and around the book. This analysis accounts for all of the *ha-* examples above.

To summarize, *ha-* 1) denotes a region in, on, and around its argument and 2) encodes that this region overlaps with the reference location. The reference location may be given contextually, in which case it is r_{POV} (at least in our simple discourse context). The reference location may also be given linguistically by a region-denoting term. Locative relators with *ha-* take such linguistically specified regions, the regions denoted by other locatives, as their reference locations.⁸

4.3. The meaning of *ku-*

4.3.1. Meaning

The meaning of *ku-* as it relates to FGR-GND relations is straightforward. *Ku-*, like *ha-*, takes an entity as its argument and denotes the region in, on, and around that entity. Similarly, a locative sentence

⁸ Locative relators are generally unacceptable without a simple locative predicate as an argument; however, this analysis predicts that in principle it should be possible to supply locative relators with contextually given reference locations. The only such examples elicited so far involve overt demonstrations, where the reference location is identified by gesturing in its direction. For example, if the interlocutors are discussing a bird, which has landed beside them, and one of the interlocutors loses track of the bird and therefore asks *Di kuhi ididege?* ('Where is the bird?'), it is acceptable for the speaker point toward the bird and respond *di hankhanda* ('It [the bird] is to the side'). The utterance is unacceptable in this context without the demonstration, so presumably the region indicated serves as the reference location.

involving *ku-* denotes that the location of the FGR overlaps with the region denoted by the *ku-*locative. Unlike *ha-*locatives, however, *ku-*locatives do not encode overlap between the regions they denote and a reference location. Neither does *ku-* encode that the region it denotes and the reference location are distant from one another. If it did, none of the locative relators with *ku-* could have coherent meanings. For example, because the location of the book (denoted by *kwechitabu*) is the reference location for *kunkhanda*, the meaning of *kunkhanda kwechitabu* ('at the side of the book') would have to be something like "in, on, or near the side of the book but distant from the book itself." Thus the facts suggest that the meaning of *ku-* does not encode anything about the reference location. *Ku-* simply denotes the region in, on, and around its argument. That argument may be the GND, as in simple locative predicates, or a part of the GND, as in locative relators.

4.3.2. *The Implicature associated with ku-*

It is clear that *ku-* cannot encode that the GND is distant from the reference location. It is equally clear that in many contexts the meaning of a sentence involving a simple locative predicate with *ku-* includes an implication that the GND is distant from the POV. The examples in (5), which are all acceptable only if the POV is distant, illustrate this point. This distance implication is not part of the conventional content of *ku-*. Rather, it is a conversational implicature generated by the use of *ku-*.

Conversational implicatures are inferences derived from the reasoning about what is said in a conversation using general conversational principles. Some of the principles are expressed by Grice's maxims of quantity (Grice, 1975). In the case of *ha-* and *ku-*, the maxim involved is the first maxim of quantity: "Make your contribution as informative as required" (Grice 1975: 45). Although there is much debate about the nature of quantity implicatures, particularly in embedded contexts, accounts of basic examples have much in common. Common accounts generally start with the idea of lexical scales, which are closed sets of lexical items ordered by entailment. If there are two or more lexical items such that a given utterance including one term asymmetrically entails an identical utterance that differs only in that it uses a different term from the set, then the terms constitute a lexical scale. A canonical example of such a scale is $\langle all, some \rangle$ in English. A sentence including *all* asymmetrically entails an otherwise identical sentence using *some*. If it is true that *all of the babies are cute*, then it is also true that *some of the babies are cute*, but not the reverse.

A quantity implicature arises upon the use of a weaker scalar term (Levinson 2000; Geurts 2010, *inter alia*). Because a stronger term would be more informative, using a weaker term implicates that the speaker is not in a position to use the stronger term. If she were, she would use it in order to be more informative. Thus a speaker who says *some of the babies are cute* implicates that she is not in a position to say that all of them are. There could be two reasons for this. On the one hand, the speaker might not know the cuteness status of some babies. This is a weak quantity implicature, or an ignorance implicature. On the other hand, the speaker might know the status of all relevant babies, but also know that some of the babies are ugly. In that case, the speaker would be implicating not just that she doesn't know the cuteness status of all babies, but that in fact it is not the case that all babies are cute. This implicature is called a strong quantity implicature. As the example illustrates, the difference between the two relies on the knowledge state of the speaker. If the speaker is assumed to be knowledgeable about the applicability of the higher scalar term (here *all*), then the strong implicature arises. If the speaker is not assumed to be knowledgeable about the applicability of the higher term, the weak or ignorance implicature is drawn. Not only are there two types of quantity implicatures, but implicatures are not generated upon every use of a scalar term. For example, if the question under discussion in the discourse is *Who has seen some of the James Bond movies?* it is felicitous to say *John has seen some of them* even if, in fact, John has seen all of the movies.⁹

Returning to *ha-* and *ku-*, it is easy to see that a sentence including a simple locative predicate with *ha-* asymmetrically entails an otherwise identical sentence including a simple locative predicate with *ku-*. This is because both sentences encode identical FGR-GND relations, but the *ha-* sentence also encodes that the region around the GND overlaps with r_{POV} . Schematically, it is as though the *ku-* sentence asserts

⁹ See van Kuppevelt (1996) for a discussion of the ways in which discourse structure and relevance constrain implicature generation. See Roberts (2012) for a theory of discourse structure and the broader significance of questions under discussion.

'*p*' (the proposition giving the location of the FGR) and the *ha*- sentence asserts '*p*' (the same proposition as asserted by the *ku*- sentence) and *q* (the proposition that the region around the GND overlaps with r_{POV} '). Since '*p* and *q*' entails '*p*', but '*p*' does not entail '*p* and *q*', the two morphemes form a lexical entailment scale of the sort described above. As a result, using *ku*- implicates that the speaker is not in the position to use *ha*-. Because the speaker can be presumed to be knowledgeable with respect to the location of r_{POV} , a strong implicature is generated. The implicature is that the region around the GND and r_{POV} do not overlap. By extension, the GND is not near the POV.

The same reasoning applies to examples like (4; *Di hankhanda komti*; 'It is at the side of the tree'), which combine a locative relator with *ha*- with a simple locative predicate with *ku*-. Such utterances are asymmetrically entailed by their *ha*- alternatives (e.g. *Di hankhanda homti*; 'It is at the side of the tree.'). In these cases, the implicature also arises, and the sentence implicates that the GND is distant from the POV.

Using a simple locative predicate with *ku*- usually generates a quantity implicature that the region denoted by the locative does not overlap with r_{POV} . However, the implicature does not arise with every use of simple locative predicate with *ku*-. This is predicted on the current analysis. As noted above, linguistic and contextual factors can prevent conversational implicatures from arising. As a result, simple locative predicates with *ku*- can sometimes be used even though the region around the GND and r_{POV} do overlap (e.g. 6). In Section 4.4.1 I will briefly discuss ways in which linguistic and contextual factors influence implicature generation, but a full-fledged account of that influence is a matter for future research.¹⁰

Finally, it is easy to see why the scalar implicatures that could be generated by locative relators with *ku*- like *kunkhanda* ('at the side of') do not arise. The matching locative relators with *ha*- (e.g. *hankhanda*; 'at the side of') encode overlap between the regions they denote and their reference locations. The reference locations for these terms are the regions denoted by the simple locative predicates they take as arguments. For example, in *Idiboko di hankhanda hechitabu* ('The banana is at the side of the book') the reference location for *hankhanda* ('at the side of') is the region denoted by *hechitabu* ('at the book'), the region in, on, and around the book. If *hankhanda* is replaced with *kunkhanda* ('at the side of'), the reference location is still the region in, on, and near the book. To implicate that overlap does not exist between the location denoted by the locative relator *kunkhanda*, the region at the side of a book, and the reference location is nonsensical, as discussed above. Thus no implicatures arise as a result of using a locative relator with *ku*-. What still remains to be explained by the current account is the unacceptability of locative relators with *ku*- when the FGR and the POV are on the same side of and close to the GND (see Figure 1).

4.3.3. *The presupposition associated with ku-*

Locative relators with *ku*- are unacceptable when the FGR and POV are on the same side of the GND because *ku*- presupposes that the FGR and the POV are not located in the same region. Obviously, this presupposition is satisfied in all of the cases where the GND is distant from the POV, the same cases in which using *ku*- generates a quantity implicature that region around the GND does not overlap with r_{POV} . The fact that in some ways r_{POV} correlates with the field of vision from the POV only serves to emphasize this point. If the GND is so far from the POV as to not be visible, clearly the POV and the FGR are not located in the same region. In situations where the GND and POV are far from one another, the presupposition of *ku*- is satisfied, but the existence of such distance is not the only way to satisfy the presupposition.

Another way to satisfy the presupposition of *ku*- is for the sentence to specify the region in which the FGR is located more precisely. Then, if the POV is located outside the more precise region, the presupposition can be satisfied even if the GND itself is close to the POV. All of the examples that use locative relators with *ku*- when the GND is proximal to the POV satisfy the presupposition in this way. Consider (6b), repeated below for convenience.

¹⁰ In addition to not arising in certain contexts, as pointed out by an anonymous ACAL reviewer, implicatures generated by the use of *ku*- should be directly cancellable. However, data testing this prediction have yet to be elicited.

- (6b) *Physical context: There is a car parked in a parking lot. A backpack is lying on the ground about 5 feet from the intrinsic left side door of the car. The speaker and addressee are standing 5-6 feet from the front bumper of the car*

Di kumoso hedigari.
 di-i **ku**-moso {**ha**^α/**#ha**^β}-a-i-di-gari
 CL5_{agr}-LCOP **CL17**-left **CL16**-ASSOC-AUG₅-CL5-car

‘It [the bag] is to the left of the car.’

In (6b) it is clear that the region around the GND (the car) overlaps with r_{POV} . The car is only a few feet from the interlocutors, and the region in which the backpack is located is clearly visible. Also, the simple locative predicate *hedigari* (‘at the car’) is acceptable, and its meaning encodes just such overlap. Furthermore, due to the implicature that arises from the use of a simple locative predicate with *ku-* alone, this example would be unacceptable if it were just *di kwedigari* (‘It is at the car’). As it stands, however, the example is acceptable because the POV (not r_{POV} , which does not matter for satisfying the presupposition of *ku-*) is not in the same region as the FGR. The POV is not in the region to the left of the car, and the presupposition of *ku-* is satisfied. The presupposition of *ku-* refers to the most specific region denoted by the locative expression, and not simply to every region denoted by a *ku*-locative. This is shown by (9). If the presupposition referred individually to both the region behind the tree (denoted by *kunyuma komti*; ‘behind the tree’) and the region around the tree (denoted by *komti*; ‘at the tree’), then (9) would be unacceptable.

- (9) *A banana is affixed to the trunk of a tree at about eye level. The speaker and addressee are standing together about 5-6 feet from the tree, on the opposite side from the banana.*

Di kunyuma komti
 di-i **ku**-nyuma **ku**-a-u-m-ti
 CL5_{agr}-LCOP **CL17**-behind **CL16**-ASSOC-AUG₃-CL3-tree

‘It [the banana] is behind the tree.’

4.3.4. Ku- summary

The meaning of *ku-* is straightforward. It takes an entity as its argument and denotes a region in, on, and around that entity. However, whether or not *ku-* can be used in a given context depends not just on its entailments but on its presupposition and the quantity implicature generated by its use. *Ku-* presupposes that the FGR and the POV are not located in the same region. In addition, using a simple locative predicate with *ku-* often generates the implicature that the region denoted by that locative does not overlap with r_{POV} , the region associated with the POV, which entails that the GND is distant from the POV. Together, the entailments, presupposition, and implicature account for the range of data given above.¹¹

4.4. Predictions of a presupposition and implicature based account

4.4.1. Optional implicature generation

As mentioned above, conversational implicatures arise due to the expression of a particular meaning in a particular context. If the implication that the region denoted by a simple locative predicate with *ku-* and r_{POV} do not overlap is in fact an implicature, it should be possible to construct minimally different contexts such that using a simple locative predicate with *ku-* in one generates the implicature but using

¹¹ There is a class of examples that this analysis cannot account for. These examples have involve locative relators with *ku-* with stems that have meanings such as ‘inside.’ For example *Di kundani hedibakuli* (Intended meaning: ‘It is in the bowl’) is unacceptable when the bowl is proximal to the POV, despite the fact that the presupposition of *ku-* should be satisfied, given the impossibility of the POV also being located inside the bowl. In contrast, *Di kundani henyumba* (‘It is inside the house’) is acceptable when the house is proximal to the POV. I hypothesize that the difference between the two examples, and the unacceptability of the former, has to do with the meaning of *-ndani* (‘inside/the stomach of’), but I leave specifying the exact meanings of the locative stems to future research.

the same simple locative predicate with *ku-* in the other does not. Examples (10) and (11) constitute just such a minimal pair. The question in (10) follows a series of elicitation questions in which I have been asking about the direction from the GND to the FGR. The implicit question under discussion in the discourse is something like “What direction is the FGR from the GND?” When I present an incorrect answer, the consultant corrects me with a sentence that uses a simple locative predicate with *ku-*, even though the GND is proximal to the POV. Because the distance between the POV and the GND is neither at issue nor salient, the implicature does not arise.

- (10) *Physical context: A bag is lying on the ground 4-5 feet from the intrinsic left side of a car. The speaker and addressee are standing 5-6 feet from the front bumper of the car. Discourse context: the researcher asks if it is possible to answer the question Di kuhi idibursa? ('Where is the bag?') with Di kulume hedigari ('It [the bag] is to the right of the car').*

Ha di	kulume	hedigari	mali. Di	kumoso
ha di-i	ku-lume	ha-a-i-di-gari	mali di-i	ku-moso
NEG CL5 _{agr} -LCOP	CL17-right	CL16-ASSOC-AUG ₅ -CL5-car	NEG CL5 _{agr} -LCOP	CL17-left

kwedigari.
ku-a-i-di-gari
CL16-ASSOC-AUG₅-CL5-car

‘It [the bag] is not to the right of the car. It is to the left of the car.’ .

In contrast, (11) follows several stimuli in which I have been manipulating the distance between the GND and the POV by positioning the interlocutors at different distances from the car. As a result, distance, not direction, is salient and relevant to the conversation. In this context, the implicature arises and the consultant rejects the exact sentence used in as a correction in exactly the same physical context.

- (11) *Discourse context: After several questions dealing with the difference between hedigari, mwedigari, and kwedigari (the word for ‘car’ attached to each of the three locative prefixes), the researcher asks if it is possible to answer the question Di kuhi idibursa? ('Where is the bag?') with Di kumoso kwedigari ('It [the bag] is to the left of the car').*

Ha di	kumoso	kwedigari	mali. Di	kumoso
ha di-i	ku-moso	ku-a-i-di-gari	mali di-i	ku-moso
NEG CL5 _{agr} -LCOP	CL17-left	CL17-ASSOC-AUG ₅ -CL5-car	NEG CL5 _{agr} -LCOP	CL17-left

hedigari.
ha-a-i-di-gari
CL16-ASSOC-AUG₅-CL5-car

‘It [the bag] is not to the left of the [not-proximal] car. It is to the left of the [proximal] car.’

That the distance implication associated with simple locative predicate with *ku-* is sensitive to discourse context is predicted by an implicature based account. It is not predicted by any analysis that considers the distance implication part of the conventional entailments of simple locative predicates with *ku-*. Of course, examples like (10) and (11) raise an important methodological question, which is whether their acceptability and unacceptability are dependent in some way on the unnatural conversational context of an elicitation session.¹² That question can only be answered by analyzing samples of

¹² The examples in this section also raise a more fundamental question about elicitation methodology. Linguists often consider each stimulus, question, or grammaticality judgment to be a world unto itself. We imagine that consultants mentally reset the context to a blank slate before we present them with the context for the next utterance. Certainly that is what we attempt to do when consulting our own intuitions about our native languages. Obviously natural language conversations do not work that way. Conversations do not automatically revert to empty contexts at each new utterance, as though the current topic were the only topic discussed so far. Thus there is no reason that linguists should expect our consultants to mentally reset the conversational context for each new utterance. Of course, linguists know this, which is why elicitation sessions (should) involve intermixed questions on a variety of topics. It is also why experiments have large numbers of filler questions. Even so, regardless of how we structure

conversation between Mushunguli native speakers and determining if context plays a similar role in the generation of the distance implicature of *ku*-locatives in those more natural contexts. Collecting natural conversations and performing such analyses is a goal for future studies.

One final puzzling generalization is that the distance implicature associated with simple locative predicates with *ku*- appears to arise without fail unless the simple locative predicate is paired with a locative relator with *ku*-. That is to say, whenever a simple locative predicate with *ku*- occurs alone as the only locative in the sentence or together with a locative relator with *ha*-, the implicature arises. It is possible that this generalization holds only in the very limited discourse contexts used to elicit these examples, and that in a wider range of discourse contexts the implicature would show variability regardless of the other locatives in the sentence. It is also possible that combining a simple locative predicate with *ku*- with a locative relator with *ha*- makes the lexical contrast highly salient, essentially forcing the implicature to arise.

4.4.2. Satisfying the presupposition of *ku*-

Above I argue that *ku*- presupposes that the FGR and POV are not located in the same region. The presupposition is the reason that examples like (6b/8b), which involve locative relators with *ku*-, are acceptable when the FGR and POV are on different sides of the GND but unacceptable when they are on the same side. This analysis predicts that if the locations of the FGR and the POV are differentiated elsewhere in the sentence, then examples like (8b), where the FGR and the POV are both on the left side of the GND, should be acceptable. Example (12) shows that this is indeed the case.

- (12) *Physical context: A bag is on the ground the near the intrinsic left side of a car. The interlocutors are standing on the same side of the car, a few feet beyond the bag.*

Di longozi **kwetu**, kumoso hedigari
 di-i longozi **ku-etu** **ku**-moso ha-a-i-di-gari
 CL5-LCOP front **CL17-1.PL** **CL17**-left CL16-ASSOC-AUG₅-CL5-car

‘It [the bag] is in front of us, to the left of the car.’

In (12) the location of the POV is explicitly referred to by the locative *kwetu* (‘at us’), and the region in which the FGR is located is thus differentiated from the location of the POV. In fact, the region in which the FGR is located is defined in terms of its relation to the POV. This satisfies the presupposition of *ku*-, and makes using *kumoso hedigari* (‘to the left of the car’) acceptable in exactly the same physical context in which it was previously unacceptable (8b). It also emphasizes the fact that the presupposition of *ku*- refers to the location of the POV itself, not to r_{POV} , the region roughly correlated with the field of vision. Any object that can be described as *longozi kwetu* (‘in front of us’) is within r_{POV} . Examples like this provide support for the presuppositional account of this aspect of the meaning of *ku*-.

5. Conclusions

This paper presents the first steps toward an analysis of the semantics of the Mushunguli locative morphemes *ha*- and *ku*-. It also represents the first steps of an attempt to provide a unified semantics for the locative morphemes of any Bantu language. I have argued that both *ha*- and *ku*- denote a region in space in, on, and around the entity denoted by their arguments. In addition, *ha*- encodes that this region overlaps with the reference location, a region that is either specified linguistically or retrieved from context. At least in the discourse contexts presented in this paper, when the reference location is retrieved from context, it is a region associated with the POV assumed by the speaker. *Ku*-, on the other

an elicitation session, the previous questions, and indeed the previous sessions, constitute a discourse context. In elicitation sessions that are time-limited and require considerable attention to physical details, like the positioning of bananas, backpacks, and cars, it is often not feasible intersperse filler stimuli designed to elicit e.g. verb paradigms, tone patterns, or conditionals. Furthermore, even if such questions were intermingled, the physical dimensions being manipulated in the spatial stimuli would make the topics at issue both obvious and salient. Difficulties like these highlight the need for experimental and corpus-based approaches to cross-linguistic semantic research. All of the conclusions drawn in this paper would benefit from investigation using such approaches.

hand, does not encode overlap with the reference location. Using *ku-* does, however, presuppose that the POV and FGR are not in the same region. Therefore, *ku-* is infelicitous when the FGR and GND are both located in the space denoted by the locative expression. Additionally, due to the contrast between the meanings of *ha-* and *ku-*, often using a simple locative predicate with *ku-* implicates that the region around the POV and the region denoted by the simple locative predicate do not overlap. In most cases this is equivalent to implicating that the GND and POV are distant from one another.

The proposals presented here will not be complete until they are extended to involve other kinds of discourse and linguistic contexts. For example, how Mushunguli locatives are used to describe the locations of events (as *in the kitchen* does in the English sentence *John is cooking in the kitchen*) remains to be investigated? The results of those investigations may require making changes to the semantics proposed here. The meanings proposed here also need to be modeled in a falsifiable, formal framework. Both of these are goals for future research. In addition, this research has implications for research on locatives in other Bantu languages. Since *ha-* and *ku-* are the Mushunguli instantiations of locative morphemes present throughout the Bantu family, it is likely that the class 16 and 17 morphemes in other Bantu languages have similar meanings and presuppositions, and perhaps generate similar implicatures. Furthermore, the analysis presented here, when combined with the cross-linguistic catalog of locative meanings provided by Ružička (1959), suggests that POV plays a significant role in the meanings of most, if not all, Bantu locative systems.

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