

Chapter 11

Overt subjects and agreement in Zulu infinitives

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This paper explores a surprising interaction of agreement and concord inside infinitive clauses in Zulu. In Zulu, as in many Bantu languages, infinitive verbs are marked with noun class 15/17 morphology. Internal arguments of infinitives are typically unmarked, while the external argument must receive so-called associative morphology and must precede internal arguments. I argue that the external argument in these constructions is realized in Spec,vP, a finding that has a number of consequences for our understanding of clause structure and agreement in Zulu and related languages.

1 Introduction

This paper investigates infinitive clauses in the Bantu language Zulu that have overt agents. As illustrated below in (1), agents of Zulu infinitives must precede internal arguments (1a) and cannot follow them (1b).¹

- (1) a. [U-ku-nikeza kwa-khe izingane amavuvuzela]
 AUG-15-give 15.ASSOC-1PRO AUG.10child AUG.6vuvuzela
 ku-ya-ngi-casula.
 SM15-DJ-1SG.OM-annoy
 ‘His giving the children vuvuzelas annoys me.’

¹All examples in this paper are from Zulu, unless otherwise noted. Unsourced Zulu examples are taken from my own fieldwork.



- b. * [U-ku-nikeza izingane amavuvuzela kwa-khe]
AUG-15-give AUG.10child AUG.6vuvuzela 15.ASSOC-1PRO
ku-ya-ngi-casula.
SM15-DJ-1SG.OM-annoy
'His giving the children vuvuzelas annoys me.'

These constructions exhibit a puzzling constellation of properties. As the examples above illustrate, overt agents in infinitives must be marked with so-called associative morphology, which typically mark adnominal adjuncts (e.g. Sabelo 1990, Halpert 2015, Pietraszko 2019). At the same time, they require VSO word order, placing the associative-marked subject in a position that is otherwise unusual for adjuncts in the language but typical for *in situ* subjects. I will argue, using evidence from binding, that the overt subject in these constructions is truly in an argument position, in Spec,vP, despite the appearance of associative morphology. This conclusion raises an additional puzzle: as we will see in §3.2, these overt subjects do not block object agreement from appearing inside the infinitive, unlike vP-internal subjects of finite clauses in the language.

How can we reconcile this mix of properties? I will suggest two instructive parallels: Linker Phrases in Kinande (Baker & Collins 2006, Schneider-Zioga 2015b,a) and external arguments of passives in Zulu. If we treat the associative morphology that appears on subjects in infinitives as a head in the clausal spine, akin to the Kinande Linker, then the patterns found in these infinitival constructions with respect to agreement are analogous to those found in Zulu passives, as I will discuss in §4.

2 Background: A subject syntax baseline

Zulu is a Bantu language (S42) spoken primarily in South Africa. In this section, I will lay out some of the basic properties of Zulu that will allow us to understand the puzzles posed by the subjects of infinitives. In particular, we will need to establish the expected patterns of agreement and word order, the basic properties of infinitives, and the basic properties of so-called associative constructions.

2.1 Agreement and word order

Zulu nouns are divided into 14 noun classes that are notated by number. Agreement and concord processes are glossed using noun class numbers – a number that matches the number on a noun agrees with the noun. Like most Bantu languages, Zulu has obligatory subject agreement morphology and optional object

agreement morphology on verbs. In Zulu, predicates agree with vP-external arguments only: subject agreement tracks the highest vP-external (or pro-dropped) argument, while object agreement appears when a lower argument is vP-external or pro-dropped. In situations when there is no vP-external argument, an expletive agreement *ku-* (class 15/17) appears in the subject agreement spot. The verb in Zulu undergoes head movement to a vP-external position, so any preverbal arguments are outside of vP (Buell 2005, Halpert 2015).

In (2) below, we can see subject agreement tracking a pre-verbal/pro-dropped subject. The postverbal object is inside vP, so no object agreement appears.²

- (2) a. (UZinhle) *u-* xova ujeqe.
 AUG.1Zinhle SM1- make AUG.1steamed.bread
 ‘Zinhle is making steamed bread.’
 b. (Omakhelwane) *ba-* xova ujeqe.
 AUG.2neighbor SM1- make AUG.1steamed.bread
 ‘The neighbors are making steamed bread.’

When the subject remains inside vP, we get default agreement: class 17 *ku-*.³ In the examples in (3) below, the post-verbal subject is followed by a low adverb, *kahle*, ‘well,’ which must appear inside vP (Buell 2005).

- (3) a. * *U-* pheka uZinhle kahle.
 SM1- cook 1Zinhle well
 b. *Ku-* pheka uZinhle kahle.
 SM17- cook AUG.1Zinhle well
 ‘Zinhle cooks well.’

When objects remain in situ, no object agreement appears, as we saw in (2). When an object appears outside of vP, it controls object agreement.⁴

- (4) UZinhle *u-ya-m-xova* kahle *ujeqe*.
 AUG.1Zinhle SM1-DJ-OM1-make well AUG.1steamed.bread
 ‘Zinhle makes steamed bread well.’

²We can determine the position of postverbal material using the distribution of the present tense *disjoint* morpheme *-ya-*, which appears on the verb just in case vP is empty (Buell 2005, Halpert 2015, 2017). In the examples in (2), there is no disjoint morpheme (the verb appears in its bare *conjoint* form), so the postverbal object must be inside vP.

³As Buell & de Dreu (2013) note, in modern Zulu, classes 15 and 17 have become indistinguishable. For clarity here, I follow the convention of marking default agreement as class 17, but infinitives as class 15.

⁴Object agreement is typically *required* for vP-external objects, with limited exceptions in the case of double dislocation constructions e.g. Adams 2010, Zeller 2012. The placement of the low adverb *kahle* and the appearance of the disjoint (*-ya-*) here indicate that the object is outside of vP (Buell 2005, Halpert 2015).

We saw in (3b) that subjects can remain inside the vP and cannot control subject agreement from this position. When the subject remains low in a finite clause, all lower arguments must also remain vP-internal.⁵ As expected, these trapped internal arguments cannot be pro-dropped to control either subject or object agreement:

- (5) a. Ku-phek-e uSipho amaqanda.
SM17-cook-PST AUG.1Sipho AUG.6egg
'SIPHO cooked eggs.'
- b. *A-phek-e uSipho (amaqanda).
SM6-cook-PST AUG.1Sipho AUG.6egg
intended: 'SIPHO cooked them.'
- c. *Kw-a-phek-e uSipho (amaqanda).
SM17-OM6-cook-PST AUG.1Sipho AUG.6egg
intended: 'SIPHO cooked them.'
- (6) a. Kw-a-nikeza uMfundo izingane amavuvuzela.
SM17-PST-give AUG.1Mfundo AUG.10child AUG.6vuvuzela
'MFUNDO gave the children vuvuzelas.'
- b. *Kw-a-zi-nikeza uMfundo amavuvuzela (izingane).
SM17-PST-OM10-give AUG.1Mfundo AUG.6vuvuzela AUG.10child
intended: 'MFUNDO gave them vuvuzelas.'
- c. *Kw-a-wa-nikeza uMfundo izingane (amavuvuzela).
SM17-PST-OM6-give AUG.1Mfundo AUG.10child AUG.6vuvuzela
intended: 'MFUNDO gave them to the children.'

Word order in these transitive expletive constructions is completely rigid: V S (IO) DO, which I have argued reflects the base positions of the arguments (Halpert 2015). To summarize the basic picture of agreement and word order in finite clauses, we have seen in this section that agreement in Zulu corresponds with movement out of vP and that low subjects block other arguments inside vP from moving or agreeing.⁶

⁵There are a few limited cases in Zulu where a locative or instrumental argument can control subject agreement while the external argument remains in vP (Buell 2007, Zeller 2013). Zeller (2013) argues that these cases involve introduction of the instrument or locative in a position structurally higher than vP, which would make them non-exceptions to this generalization.

⁶Zeller (2015) argues that in Zulu, T – the host of subject agreement – must probe before other heads in the same phase, including the host of object agreement. If the non-agreeing subject is a defective intervener, it would necessarily block both subject and object agreement on this view.

2.2 Infinitives

Infinitives in Bantu languages often look like verbs that bear noun class morphology (Schadeberg 2003). In Zulu, verbs that have the typical distribution of infinitives are marked with noun class 15(/17) *uku-*:

- (7) a. Ngi-funa [uku-xova ujeqe].
 1SG-want AUG.15-make AUG.1bread
 ‘I want to make steamed bread.’
 b. Ngi-yethemba [uku-ni-bona].
 1SG-hope AUG.15-2PL.OM-see
 ‘I hope to see you all.’

The *uku-* prefix can attach above a variety of verbal inflectional morphology, including object agreement, negation, mood, and aspect, as (8) below illustrates. The basic generalization is that *uku-* can combine with morphology that would follow subject agreement in a finite clause.

- (8) a. uku-nga-zi-bon-i
 AUG.15-NEG-REFL-see-NEG
 ‘to not see oneself’
 b. uku-sa-m-thanda kabi uSipho
 AUG.15-DUR-OM1-love badly AUG.1Sipho
 ‘to still really love Sipho’

As (7) and (8) show, Zulu infinitives can involve quite a bit of clausal structure above the verb root and seem to preserve the internal argument structure of the verb. As the *uku-* infinitive morphology suggests, from the outside, infinitives look just like nominals: as (9) illustrates, they can control subject and object agreement under the same circumstances that nominal arguments do:

- (9) a. Ngi-ya-ku-funa [uku-xova ujeqe].
 1SG.SM-DJ-15OM-want AUG.15-make AUG.1bread
 ‘I want to make steamed bread.’
 b. Uku-xova ujeqe ku-mnandi.
 AUG.15-make AUG.1bread 15SM-nice
 ‘Making steamed bread is nice.’

The main takeaways about Zulu infinitives, then, are that they have an internal structure (below the position of subject agreement) that looks similar to finite clauses but an external structure that looks similar to nominals.

2.3 Associative: Adnominal modification

The final piece that we need in order to return to our puzzle is the so-called *associative* construction (Sabelo 1990, Halpert 2015, Jones 2018). Zulu marks a variety of adnominal dependents with a complex prefix consisting of two parts: a nominal concord that matches the head noun and a fixed *-a* vowel that predictably coalesces with the initial vowel of the noun it marks. In (10a), we can see the associative marking a possessor; in (10b), it marks a nominal modifier, and in (10c), it marks the internal argument of a low nominalization, where the root *cabang* ‘think’ has been nominalized as a class 3 noun:

- (10) a. umkhovu *wo-mthakathi*
 AUG.3zombie 3ASSOC.AUG-1wizard
 ‘the wizard’s zombie’
 b. isiminyamina *se-mikhovu*
 AUG.7swarm 7ASSOC.AUG-4zombie
 ‘a horde of zombies’
 c. um-cabango *we-mikhovu*
 AUG.3thought 3ASSOC.AUG-4zombie
 ‘the thought of zombies’

Multiple nominal modifiers can appear in the same noun phrase, each marked by a separate associative morpheme:

- (11) isiminyamina *se-mikhovu* *so-mthakathi*
 AUG.7swarm 7ASSOC-4zombie 7ASSOC-1wizard
 ‘the wizard’s horde of zombies’

To summarize, the associative marks nominal adjuncts to a nominal, can occur multiple times within a single noun phrase, and is compatible with a range of semantic relationships. Pietraszko (2019) treats the associative in closely-related Ndebele as a nominal adjunct with concord. She analyzes the *-a* morpheme as a Linker head that takes the modifying nominal (or CP) as its complement and receives a copy of the phi (noun class) features of the head noun via a DP-internal concord process. On this view, multiple associative-marked nominals can easily modify a single head noun, with each attaching as a right-adjoined adjunct.⁷

⁷See Jones (2018), though, for an analysis of Zulu associative as a D head. It’s not clear how such an analysis would account for the cases of multiple associative-marked modifiers.

2.4 Interim summary

To summarize what we have seen in this section, subject and object agreement have a tight correlation with word order: non-agreeing arguments remain in their base position inside vP, while agreement is required to track vP-external arguments. Movement of the external argument out of vP is *required* in order for internal arguments to be available for movement and agreement. Subject and object agreement contrasts with associative marking, which appears to be a concord process internal to the noun phrase that can mark multiple adnominal adjuncts. In the next section, we will return to the initial puzzle and see various ways in which these baseline expectations are not met in infinitives with overt agents. In the next section, we'll see some surprising ways in which overt subjects of infinitives depart from these baseline expectations.

3 The puzzle: Subjects in infinitives

In the introduction, we saw that Zulu infinitives with overt subjects have two basic properties: rigid VSO word order and obligatory associative morphology on the subject. Given the baseline behaviors that we observed in §2, these properties alone raise questions about the underlying structure of infinitives with subjects. In this section, I will unpack these puzzles and discuss an additional puzzle raised by the behavior of object agreement in these constructions.

3.1 Locating the associative-marked subject

As we've seen in previous sections, class 15/17 *uku-* nominalizations have the distribution of infinitives and preserve internal argument structure, as illustrated in (12) below:⁸

- (12) u-ku-saba igundane
 AUG-15-fear AUG.5mouse
 'to fear mice/a fear of mice'

⁸I have seen limited cases where an internal argument can be marked with an associative, as in (i.a) but more often, the associative forces an external argument interpretation, as in (i.b):

- (i) a. uku-bhubha kwe-zwe
 AUG.15-destroy 15ASSOC.AUG-5country
 'the destruction of the country/to destroy the country'
 b. u-no-ku-saba kwe-gundane
 1SM-with.AUG-15-fear 15ASSOC.AUG-5mouse
 'S/he has a mouse's fear.' (same fears as a mouse, NOT a fear of mice)

When an overt external argument is present (here an experiencer, rather than an agent), it *must* be marked with associative morphology:

- (13) Uku-saba *kwa*-mi ku-khulu.
AUG.15-fear 15ASSOC-1SG.PRO 15SM-big
'My fear is big.'

This behavior of class 15 infinitives contrasts with nominalizations that involve other noun classes and that typically do not permit any preverbal morphology between the root and nominal prefix. In these low nominalizations, *all* arguments of the verb, including the external argument, must be marked with associative, as (14b) shows:

- (14) a. Ngi-fisa uku-thola iziqu.
1SG.SM-wish AUG.15-get AUG.8degree
'I wish to get a degree.'
- b. Isi-fiso *sa*-kho so-ku-thola iziqu
AUG.7-wish 7ASSOC-2SG.PRO 7ASSOC.AUG-15-get AUG.8degree
si-zo-fezeka.
SM7-FUT-come.true
'Your wish to get a degree will come true.'

In these low nominalizations where the nominals that correspond to the arguments of the root verb are marked with associative morphology, we see no evidence of c-command. For example, the external argument is unable to bind a pronoun inside the internal argument in (15):

- (15) Isi-fiso *sa*-wo wonke umtwana so-ku-bona
AUG.7-wish 7ASSOC-1DEM 1.every AUG.1person 7ASSOC.AUG-15-see
uma *wa*-khe si-zo-fezeka.
AUG.1mom 1ASSOC-1PRO SM7-FUT-come.true
'Every child's_k wish to see her_m mother will come true.' (non-bound reading salient, speakers find bound reading difficult)

This lack of a bound reading is unsurprising on a view of associative adjunction like that of Pietraszko (2019), discussed in the previous section. If associative-marked nominals are always adjoined within the nominal phrase of the head that they modify, then both of the "arguments" in (15) would be right-adjoined and we would not expect the first to c-command the second.

In an infinitive with an associative-marked subject, we might expect the structure to similarly involve adjunction within the nominal domain, above the level of verbal structure associated with the root. If so, we first make a prediction about word order that we have already seen does not hold: an associative-marked subject should *follow* any unmarked internal arguments that are introduced in the verbal domain, contrary to what (16) shows:

- (16) a. [U-ku-nikeza *kwa-khe* izingane amavuvuzela]
 AUG-15-give 15.ASSOC-1PRO AUG.10child AUG.6vuvuzela
 ku-ya-ngi-casula.
 15SM-DJ-1SG.OM-annoy
 ‘His giving the children vuvuzelas annoys me.’
- b. * [U-ku-nikeza izingane amavuvuzela *kwa-khe*]
 AUG-15-give AUG.10child AUG.6vuvuzela 15.ASSOC-1PRO
 ku-ya-ngi-casula.
 SM15-DJ-1SG.OM-annoy
 Intended: ‘His giving the children vuvuzelas annoys me.’

If we maintain the assumption that the associative-marked subject involves nominal adjunction, then the word order illustrated by (16), where internal arguments must appear to the right of the subject, would have to involve right-adjunction of these internal arguments in the nominal domain as well, similar to the low nominalization cases in (14) and (15). Given the lack of c-command in (15), we would predict that an internal argument that *follows* the subject in an infinitive would also not be c-commanded by it. Again, the prediction of the adjunction hypothesis is not met. As (17) illustrates, the associative-marked subject of an infinitive *can* bind into the following (non-marked) internal argument:

- (17) Uku-nikeza *kwa-wo* wonke umuntu intombi isithombe
 AUG.15-give 15ASSOC-1DEM 1.every AUG.1person AUG.9girl AUG.7picture
 sa-khe ku-thatha isikhathi.
 7ASSOC-1PRO SM15-take AUG.7time
 ‘For everyone_k to give the girl_m his_k picture takes a long time.’

The basic conundrum: neither the word order nor the binding facts fits with an adjunction picture for the subjects of infinitives. Instead, what we’ve seen in this section is that in infinitives, we find rigid VSO word order and evidence that S c-commands O. As we saw in §2.1, those are precisely the structural properties of in situ arguments in finite clauses. Based on what we’ve learned in this section,

then, I will suggest that, despite the presence of associative morphology, the overt subject in infinitives is simply in Spec,vP.

3.2 Puzzling object agreement

The hypothesis that the overt subject in an infinitive is in Spec,vP brings with it additional predictions. Recall from §2.1 that in finite clauses in Zulu, in situ subjects block objects from moving and controlling object agreement. This agreement blocking effect contrasts with the availability of object agreement in both finite clauses with agreeing subjects *and* infinitives with no subject (as we saw in §2.2). If overt subjects in infinitives are in Spec,vP, we expect a similar object agreement blocking effect. Unlike finite clauses with low subjects, however, infinitives with overt subjects permit object agreement, as (18) below illustrates:

- (18) a. [Uku-zi-nikeza kwakhe amavuvuzela]
AUG15-10OM-give 15.ASSOC-1PRO AUG.6vuvuzela
ku-ya-ngi-casula.
SM15-DJ-1SG.OM-annoy
'His giving them vuvuzelas annoys me.'
- b. [Uku-wa-nikeza kwakhe izingane] ku-ya-ngi-casula.
AUG15-6OM-give 15.ASSOC-1PRO AUG.10child SM15-DJ-1SG.OM-annoy
'His giving them to the children annoys me.'

The full puzzle, then, involves not only the presence of associative morphology despite the VSO word order and c-command relationship between arguments, but also the availability of object agreement despite the presence of the overt postverbal subject. In the next section, I will explore a solution that links all of these properties.

4 Toward an analysis

The word order and binding facts from the previous section suggest that the external argument in Zulu infinitives is *inside* the verbal part of the infinitival clause. If infinitives involve enough clausal structure to include the external argument, why is special associative marking required on that argument, but not on the low external argument of a finite clause? Furthermore, why does the associative marker not signal the type of adjunction structure that it appears to create when marking nominal modifiers? I'll turn first to this second question,

arguing that the associative here is plausibly a head in the verbal extended projection, along the lines of what has been argued for in Kinande by Baker & Collins (2006).

As Baker & Collins (2006) discuss, when multiple nominals appear in the postverbal field in Kinande, they must be separated by a so-called Linker, as illustrated in (19):

- (19) Kinande (Bantu; Baker & Collins 2006: ex. 1)
 mo-n-a-h-ere omukali y'- eritunda.
 AFF-1SG.S-T-give-EXT 1woman Lk.1- 5fruit.
 'I gave a fruit to a woman.'

The linker matches in noun class with the *preceding* nominal but cliticizes to the following nominal. Baker & Collins (2006) argue that the Linker (Lk) is a head in the clausal spine between V and v that is involved in case-licensing. On their analysis, the Linker attracts either internal argument in a ditransitive like (19) to its specifier and agrees with that nominal. The verb undergoes head-movement to a position above the Linker head but does not need to move through Lk because Lk itself is not verbal (violating the Head Movement Constraint).

The possibility of Lk before a low subject suggests that LkP is perhaps a bit higher than Baker & Collins (2006) posit, at least above vP, in such cases, as illustrated by (20):

- (20) Kinande (Bantu; Pierre Mujomba, p.c.)
 Esyóngwé si-ká-seny-ere omo-musitu mo bakali.
 AUG.9wood SM9-T-chop-APPL.PFV AUG.18-3village Lk.18 2women
 'WOMEN chop wood in the village.'

For Schneider-Zioga (2015a,b), the Kinande Linker is not a case-licenser, but rather a copula that can be used to mediate predication relations within a verb phrase. She argues that it appears as a last-resort mechanism when multiple arguments remain in the post-verbal field.

I believe that certain insights of these accounts can apply to the puzzle of agents in Zulu infinitives. If the associative in Zulu infinitives is a Linker-like element, following Pietraszko (2019) for Ndebele, that marks true arguments of infinitives, as the binding data in §3.1 shows, then as in Kinande, it could be a head in the verbal extended projection that is “skipped” by head movement, along the lines of Baker & Collins (2006). Also like the Kinande Linker, it appears only when it is needed to “license” an external argument in an infinitive.

Why would the associative be required in infinitives with a low subject but not their finite counterpart? Here is a sketch of a potential analysis: suppose that Zulu infinitives lack some head that helps to license the subject of a finite clause; this would be a typologically common property of infinitives (vs. finite clauses). Likely candidates for such a head in Zulu could be Voice (or possibly Pred⁹) or the locus of the conjoint/disjoint alternation, which I argue in Halpert (2015) helps to license the subject in a finite clause, but which does not appear in infinitives. In the absence of this relevant category, Zulu uses a Linker to mediate predication involving the external argument. As a copular element, Lk is not involved in verbal head movement (like Kinande). Unlike in Kinande, Lk in Zulu doesn't attract a specifier. Once the infinitive is constructed, it undergoes concord with the head, as Pietraszko (2019) argues for Ndebele. The presence of the Linker head on the external argument prevents it from being a phi-goal, which allows object marking to target lower arguments.

One reason to think that Voice might be relevant in licensing subjects in infinitives comes from parallels to passive constructions with overt agents: overt external arguments in Zulu passives appear in Spec,vP, marked with the *copula* (Halpert & Zeller 2016).

- (21) Zulu (Halpert & Zeller 2016: ex. 3)
USipho w-a-nikez-w-a w-uMary incwadi.
AUG.1Sipho SM1-PST-give-PASS COP-AUG.1Mary AUG.9book
'Sipho was given a book by Mary.'

In both passives and infinitives, the subject appears immediately after the verb and before other vP-internal arguments. In both, the overt subject does not block lower arguments from controlling agreement, unlike in active or finite clauses. Both constructions morphologically mark the subject by something that normally looks like a head (copula, linker).

Halpert & Zeller (2016) hypothesize that the copula in these constructions is a head in the clausal spine that gets skipped by head-movement of the verb. We hypothesize that the appearance of this morpheme on the subject renders the subject a non-intervener for object agreement. Given the findings of Schneider-Zioga (2015a,b) that the Kinande Linker is a copula, the parallels between Kinande Linkers, Zulu passive subjects, and Zulu infinitive subjects seem even more striking. While Kinande realizes Linkers and copulas with the same morphology in a variety of situations, it is possible that the difference between morphological marking of the subject in Zulu passives and infinitives could depend

⁹See Zeller (2013).

on the ultimate category of the clause: in a clause that is ultimately verbal (passive), the copula appears; when the clause is ultimately nominal (infinitive), the associative marker and concord obtain.

5 Conclusion

This paper presents an initial description and investigation of the syntactic properties of overt subjects of infinitive clauses in Zulu. I show that these constructions require VSO word order and associative marking on the subject and demonstrate that c-command relationships hold between the subject and lower arguments. I also show that the presence of an overt associate-marked subject does not prevent an object from controlling object agreement. I argue that the subject in these constructions is expressed in Spec,vP and sketch a proposal that might account for its puzzling properties.

One intriguing issue that any treatment of this phenomenon must contend with is the question of argument licensing: in a language (and broader language family) that doesn't show typical properties of (nominative) case licensing associated with finite T (Diercks 2012, Halpert 2015), what syntactic role does the associative marker play in this construction? What can we learn about argument licensing in Bantu languages from the parallels between associative, copula, and linkers discussed in §4 and cross-Bantu variation in how overt subjects of infinitives are expressed? The data and approach sketched in this paper lay out an avenue for systematic investigation of subject expression in infinitives and the behavior of copula and linker particles both within and across Bantu languages that will advance our understanding of the role that argument licensing plays in these languages.

Abbreviations

1,2,3, ...	Noun classes	DJ	Disjoint	OM	Object marker
ASSOC	Associative	EXT	Extension	SM	Subject marker
AUG	Augment	LK	Linker		

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References

- Adams, Nikki. 2010. *The Zulu ditransitive verb phrase*. Chicago, IL: University of Chicago. (Doctoral dissertation).
- Baker, Mark C. & Chris Collins. 2006. Linkers and the internal structure of vP. *Natural Language and Linguistic Theory* 24(2). 307–354.
- Buell, Leston. 2005. *Issues in Zulu morphosyntax*. Los Angeles, CA: UCLA. (Doctoral dissertation).
- Buell, Leston. 2007. Semantic and formal locatives: Implications for the Bantu locative inversion typology. *SOAS Working Papers in Linguistics* 15. 105–120.
- Buell, Leston & Merijn de Dreu. 2013. Subject raising in Zulu and the nature of PredP. *The Linguistic Review* 30(3). 423–466.
- Diercks, Michael. 2012. Parameterizing Case: Evidence from Bantu. *Syntax* 15(3). 253–286. DOI: 10.1111/j.1467-9612.2011.00165.x.
- Halpert, Claire. 2015. *Argument licensing and agreement*. New York: Oxford University Press.
- Halpert, Claire. 2017. Prosody-syntax mismatches in the Zulu conjoint/disjoint alternation. In Jenneke van der Wal & Larry Hyman (eds.), *The conjoint/disjoint alternation in Bantu*. Berlin/Boston: Mouton de Gruyter.
- Halpert, Claire & Jochen Zeller. 2016. *The external argument in Zulu passives*. Presented on 20 June 2016 at the 6th International Conference on Bantu Languages. Helsinki.
- Jones, Taylor. 2018. An argument for *ezafe* constructions and construct state in Zulu. In *Proceedings of the Linguistic Society of America*, vol. 3, 1–15. DOI: 10.3765/plsa.v3i1.4353.
- Pietraszko, Asia. 2019. Obligatory CP nominalization in Ndebele. *Syntax* 22(1). 66–111. DOI: 10.1111/synt.12167.
- Sabelo, Nonhlanhla O. 1990. *The possessive in Zulu*. KwaDlangezwa, South Africa: University of Zululand. (MA thesis).
- Schadeberg, Thilo C. 2003. Derivation. In Derek Nurse & Gérard Phillipson (eds.), *The Bantu languages*, 71–89. New York, NY: Routledge.

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- Schneider-Zioga, Patricia. 2015a. Linking, predication, and symmetry: On the syntax of the linker in Kinande. In Ulrike Steindl (ed.), *Proceedings of the 32nd West Coast Conference on Formal Linguistics (WCCFL 32)*, 323–331. Somerville, MA: Cascadilla Proceedings Project.
- Schneider-Zioga, Patricia. 2015b. The linker in Kinande re-examined. In Ruth Kramer, Elizabeth C. Zsiga & One Tlale Boyer (eds.), *Selected proceedings of the 44th Annual Conference on African Linguistics (ACAL 44)*, 264–276. Somerville, MA: Cascadilla Proceedings Project.
- Zeller, Jochen. 2012. Object marking in Zulu. *Southern African Linguistics and Applied Language Studies* 30(2). 219–325.
- Zeller, Jochen. 2013. Locative inversion in Bantu and predication. *Linguistics* 51(6). 1107–1146. DOI: 10.1515/ling-2013-0046.
- Zeller, Jochen. 2015. Argument prominence and agreement: Explaining an unexpected object asymmetry in Zulu. *Lingua* 156. 17–39. DOI: 10.1016/j.lingua.2014.11.009.

