Argument licensing in Zulu*

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Abstract

This paper argues that nominals in the Bantu language Zulu are subject to the Case Filter, despite empirical similarities to Bantu languages that have been argued to lack case effects (e.g. Harford Perez 1985, Diercks to appear). Evidence for this proposal comes from the behavior of nominals that lack an augment vowel in Zulu, which are restricted to certain syntactic positions within *v*P. It is argued that structural licensing for augmentless nominals occurs within *v*P, via a licensing head located directly above *v*P or an applicative head inside *v*P. Nominals can be structurally licensed either in situ or through raising-to-object from an agreeing subject position. Nominals with an augment vowel do not display distributional restrictions. It is argued that the augment vowel is an inherent case marker, leading to the apparent absence of case effects for these nominals. Syntax Case Raising Bantu languages

1 Introduction

This paper contributes to the growing debate over the role of Case Theory in Bantu languages. For several decades, researchers have been investigating how nominals are licensed in various Bantu constructions, and whether standard notions of Case Theory are capable of capturing the distribution of nominals in these languages. Research on this question has tended to address whether case is globally relevant in Bantu languages, and much of the work has focused on the presence or absence of case-type effects associated with preverbal subjects.

In this paper, I examine the behavior of nominals in Zulu with respect to raising constructions (Zeller 2008) and the distribution of the initial 'augment' vowel that marks some nouns in the language (Mzolo 1968, Von Staden 1973). I argue that these two syntactic factors, and the way in which they interact, show that while on the surface Zulu shares many properties with Bantu languages that have been argued to lack case effects, it does require syntactic licensing for a subset of its nominals: those that lack the augment vowel. Specifically, I show that for this subset of augmentless nominals that are sensitive to licensing effects, all case licensing takes place within *v*P. The preverbal subject position (Spec,TP) is not a licensing position for these nominals.

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My analysis of the preverbal subject position as a non-case position is in line with the findings of researchers arguing against a standard application case theory in Bantu (cf. Harford Perez 1985; Ndayiragije 1999; Alsina 2001; Baker 2003; Carstens and Diercks to appear; Diercks to appear). At the same time, Zulu provides counter-evidence to the claim that case is inoperative in Bantu and paints a more subtle picture of how argument licensing does work. In particular, the differing behavior of subclasses of Zulu nominals allows us to see that while augmented nominals indeed do not seem to require structural licensing, perhaps for the reasons supplied by Ndayiragije (1999), augmentless nominals do.

Since Harford Perez (1985), there has been work on Bantu suggesting that case is not relevant in Bantu grammar (Ndayiragije 1999; Alsina 2001; Baker 2003; Carstens and Diercks to appear; Diercks to appear). These claims stem from the absence in Bantu of effects that we associate with case-licensing in Spec,TP, including raising out of finite clauses, as below in (1) for Zulu[1] (see also Diercks to appear for a cross-Bantu overview); licit subjects of nonfinite clauses, as in (2), (e.g. Harford Perez 1985, Diercks to appear); inversion constructions, as in (3), where a preverbal object or locative phrase controls 'subject' agreement while the subject remains after the verb (e.g. Harford Perez 1985; Ndayiragije 1999); and expletive constructions, as in (4), where the subject again remains low and expletive agreement appears on the verb (e.g. Harford Perez 1985).

(1) a. ku- bonakala [sengathi **uSipho u-** pheka iqanda]
17s- seems C 1Sipho 1s- cook 5egg
'It seems that Sipho is cooking an egg.'[2]

b. **uSipho u-** bonakala [sengathi **u-** pheka iqanda]
1Sipho 1s- seems C 1s- cook 5egg
'Sipho seems to be cooking an egg.' *Zulu*

(2) **Licit subjects of nonfinite clauses**

a. i- na- wezakana (*kwa) Maiko ku- m- pig- i- a Tegani simu
9S- PRES- possible (*for) Michael INF- 1O- beat- APPL- FV Tegan phone
'It's possible for Michael to call Tegan.' (Diercks to appear) *Swahili*

b. Sammy khu- khila ku-mw-inyawe o- kwo khu- la- sanga- sya mawe
1Sammy INF- win 3-3-game DEM- 3 15- FUT- please- CAUS mother
'For Sammy to win the game will please his mother.' (Diercks to appear) *Lubukusu*

(3) **Inversion constructions**

a. **olukwi** si- **lu-** li- seny- a bakali
11wood NEG- 11S- PRES- chop- FV 2women
'WOMEN do not chop wood.' (Baker 2003) *Kinande*

[1]Tone marking on the Zulu data is omitted. Tonal contrasts are not a focus of this paper and do not appear to impact the distribution of nominals and so are left off to avoid incorrect transcriptions.

[2]A note on glosses: Bantu noun classes agree for person, number, and noun class. Cardinal numbers indicate noun class (number is encoded into class), while ordinal numbers indicate person, with S for subject and O for object agreement. Nouns are marked with their class number. In subjunctive verb forms in Zulu, full phi-agreement occurs with a slightly different morphological paradigm and will be glossed with the abbreviation SJC. Other abbreviations used: PFV for perfective, IMP for imperfective, PAST for past, LOC for locative, DEM for demonstrative, POSS for possessive, FUT for future.

b. **omo-mulongo** **mw-** a- hik- a mukali
18LOC-3village 18S- T- arrive- FV 1woman
'At the village arrived a woman.' (Baker 2003) *Kinande*

(4) **Expletive constructions**[3]

a. **kw-** á- uray- iw- a mu-rúmé né- shumba ku- ru- kova
17S- PAST- kill- PASS- FV 1-man by- 9lion 7- 11- river
'There was a man killed by a lion at the river.' (Harford Perez 1985) *Shona*

b. **ku-** fund- is- a uSipho izingane isiZulu
17S- learn- CAUS- FV 1Sipho 10children 7Zulu
'SIPHO teaches the children Zulu.' *Zulu*

One common thread that runs through the proposals above and the evidence that they deal with is the fact that the case position under investigation is the one associated with subject agreement or Infl, usually thought of as the locus for nominative case. They do not address the issue of whether case associated with objects and object positions is operative in Bantu or not. In this paper, I examine case/licensing effects in Zulu not only with respect to subjects and subject agreement, but also with respect to arguments that appear inside *v*P. I argue that by looking at the full range of nominal arguments and positions, we do find evidence for case/licensing-driven movement. However, because this licensing takes place at the *v*P level, this proposal will not actually contradict the results of researchers who found no effect of ('nominative') case in the subject agreement position in Bantu. Crucially, the effect I demonstrate is limited to a subclass of nominals in Zulu: those without augments.

The remainder of this paper is organized as follows. In section 2 I discuss the patterns of optional A movement that are available to Zulu subjects, which puts Zulu in line with other Bantu languages that have been argued not to have case effects. In section 3 I turn to the behavior of the augmentless subclass of Zulu nominals to show that their distribution is governed by structural conditions. I argue that augmentless nominals, unlike their augmented counterparts, are subject to the Case Filter and analyze their distribution as the result of structural case being assigned only to nominals within *v*P. In section 4, I discuss the ordering of operations related to case assignment in Zulu. Section 5 examines my proposal in light of alternative approaches and section 6 concludes.

2 Optionality for subjects

In this section, I examine two types of construction in Zulu in which there are multiple positions in which a subject[4] can occur: raising and expletive constructions. In these constructions, the choice of position for the subject appears to be optional. I show that in this domain, Zulu patterns with the Bantu languages described by Harford Perez (1985) and subsequent researchers in lacking obligatory movement of subject nominals to Spec,TP positions.

[3]The noun class used for expletive/default subject agreement differs across Bantu languages, but is typically a class that is also associated with gerunds or locatives. In Zulu, class 17 is the expletive agreement class.

[4]I use the term 'subject' to refer to the thematically highest argument of a predicate, which is capable of controlling subject agreement on the predicate (though subject agreement is not required).

2.1 Raising

2.1.1 Raising-to-subject

Zulu has two (optional) raising-to-subject predicates: *fanele* ('be necessary') and *bonakala* ('seem'). *Fanele* takes an embedded CP with an optional complementizer and a *subjunctive* predicate (Zeller 2006). *Bonakala* takes an embedded CP with an obligatory complementizer and an *indicative* predicate. In both constructions, the embedded subject may either remain in situ, controlling agreement on the embedded verb while expletive agreement appears on the raising verb (5a, 6a), or raise to subject position in the matrix clause, controlling agreement on both verbs (5b, 6b):

(5) **Raising-to-subject:** *fanele* **(subjunctive complement)**

a. **ku-** fanele [(ukuthi) iqhina li- phum- e embizeni]
17S- necessary that 5steinbok 5S- exit- PFV LOC.9pot
The secret must come out.

b. **iqhina li-** fanele [(ukuthi) **li-** phum- e embizeni]
5steinbok 5S- necessary that 5S- exit- PFV LOC.9pot
The secret must come out.

(6) **Raising-to-subject:** *bonakala* **(indicative complement)**

a. **ku-** bonakala [sengathi iqhina li- phum- ile embizeni]
17S- seems C 5steinbok 5S- exit- PFV LOC.9pot
It seems like the secret came out.

b. **iqhina li-**bonakala [sengathi **li-**phum- ile embizeni]
5steinbok 5S-seems C 5S-exit- PFV LOC.9pot
The secret seems to have come out.

Zeller (2006) examines only the *fanele* cases and argues for a case-driven analysis for the *fanele* construction. He bases his proposal on Alexiadou and Anagnostopoulou (1999), who argue that languages like Greek allow raising out of subjunctive clauses because subjunctive TPs are defective and thus fail to assign nominative case. Zeller proposes that subjunctives can also be defective in Zulu, yielding raising despite the agreement in the lower clause, as illustrated above in (5a). However, because subjects may also remain in situ in subjunctive complements of raising verbs, as in (5b), it cannot be the case that all subjunctive phrases in Zulu are defective. To capture this variation, Zeller suggests that the defectiveness of subjunctive T^o is tied to the presence of a weak-phase CP, which allows for raising. While weak-phase CPs may take subjunctive complements, subjunctive T may also be selected for by a strong-phase CP, in which case T *does* assign case and no raising occurs. While Zeller provides the mechanics for capturing the distinction between raised and non-raised variants, the account lacks independent evidence for distinguishing between strong and weak CP complements in constructions like (5), where both embedded clauses can contain an overt C^o and have identical subjunctive inflection. In addition, Zeller builds his account on Alexiadou and Anagnostopoulou's cross-linguistic observation that subjunctive clauses tend to be more transparent for raising purposes, which means that extending such an account to the indicative *bonakala* cases is not straightforward, and would provide even less grounds to make structural distinctions between raised and non-raised variants.

The fact that the embedded predicates are identical in both the raised and non-raised variants of constructions involving the raising verbs *fanele* and *bonakala* thus presents difficulties for a Case-driven theory of raising in Zulu. The optionality suggests that the embedded subject is equally well licensed in either position.

2.1.2 Raising-to-object

Zulu also allows raising-to-object out of embedded subjunctives with certain verbs. In the relevant constructions, an overt DP can appear either before or after the complementizer *ukuthi*[5]:

(7) **Raising to object (subjunctive complement)**

a. ngi-funa [ukuthi uSipho a-pheke iqanda]
1ST SG.S-want that 1Sipho 1SJC-cook 5egg
'I want Sipho to cook an egg.'

b. ngifuna uSipho [ukuthi a-pheke iqanda]
1ST SG.S-want 1Sipho that 1SJC-cook 5egg
'I want Sipho to cook an egg.'

In pre-complementizer position, the DP behaves as though it is inside the matrix *v*P. The nominal in this position can undergo object agreement in the matrix clause as in (8). In the non-agreeing position in the higher clause, it must receive a *v*P-internal information structure interpretation, i.e. new information or focus; it cannot receive a topic interpretation, which Cheng and Downing (2009) show is associated with the left periphery, as illustrated in (9).

(8) **Raising-to-object feeds object agreement in the higher clause**

a. ngi- ya- **m**- funa uSipho (ukuthi) apheke iqanda
1ST SG.S- YA- 1o- want 1Sipho (that) 1SJC-cook 5egg
'I want Sipho to cook an egg.'

b. *ngi- (ya)- **m**- funa ukuthi uSipho apheke iqanda
1ST SG.S- YA- 1o- want that 1Sipho 1SJC-cook 5egg
'I want Sipho to cook an egg.'

(9) **Raising-to-object has *v*P-internal information structure**

a. A: yini indaba u- ngi- cela uku- thola uSipho?
what 9matter 2ND SG.S- 1ST SG.Oask INF- get 1Sipho
'Why did you ask me to get Sipho?'

b. B: #ngi- funa uSipho ukuthi apheke iqanda
1ST SG.S- want 1Sipho that 1SJC-cook 5egg
Either (7a) or (8a) would work in this context.

However, while the pre-complementizer DP participates in matrix phenomena, it behaves thematically like a part of the lower clause. We can see this effect most clearly in the behavior of idioms. If we place an idiom like (10) in the complement of a verb like *lindela* 'expect', the

[5]The complementizer is optional throughout these examples.

idiomatic reading in the lower clause is retained even when the idiomatic subject appears in pre-complementizer position, as illustrated by (11) below. The behavior of idioms in (11) contrasts with (optional) object control constructions like (12): with a verb like *khuthaza* 'encourage', the idiomatic reading is lost if the embedded subject appears in pre-complementizer position. The optionality of raising-to-object in (11) again suggests that the DPs involved in the constructions are licensed in either position.

(10) iqhina li- phum- e embizeni
5steinbok 5S- exit- PFV LOC.9pot
'The secret came out.'
(lit.) 'The steinbok exited the pot.'

(11) **Raising-to-object: idiomatic reading retained**

a. Ngi-lindela [(ukuthi) **iqhina** **li**-phume embizeni]
1^{ST}SG.S-expect that 5steinbok 5SJC-exit LOC.9pot
'I expect the secret to come out.'

b. Ngi-lindela **iqhina** [(ukuthi) **li**-phume embizeni]
1^{ST}SG.S-expect 5steinbok that 5SJC-exit LOC.9pot
'I expect the secret to come out.'

(12) **(Optional) object control: idiomatic reading lost**

a. A- ngi- khutazanga [(ukuthi) iqhina liphume embizeni]
NEG- 1^{ST}SG.S- encourage.NEG.PAST that 5steinbok 5SJC-exit LOC.9pot
'I didn't encourage that the secret get out.'

b. #A- ngi- khuthazanga iqhina [ukuthi liphume embizeni]
NEG- 1^{ST}SG.S- encourage.NEG.PAST 5steinbok that 5s.exit LOC.9pot
'I didn't encourage the steinbok to leave the pot.' (literal meaning only)

To summarize, the Zulu optional raising-to-subject construction matches similar facts in other Bantu languages that have been argued to lack case. The raising-to-object construction seems to share the basic properties of Zulu raising-to-subject. The optionality of raising in both constructions suggests that arguments are equally well licensed in either high or low position in Zulu, and that agreement/EPP processes are occurring independently from a DP's need for licensing.

2.1.3 The nature of agreed-with subject positions

The behavior of idioms in the raising constructions discussed above suggests that the element that can appear in either the higher or lower clause is actually thematically linked to the lower clause, even when it appears in the higher clause. This situation does not necessarily implicate A-movement, however. Some researchers, such as Baker (2003), have suggested that agreed-with subjects in Bantu never occupy an A position, but are rather dislocated and occupy an A-bar position. In this section I briefly examine evidence that indicates that all positions involved in the Zulu raising constructions are in fact A positions.

First, we saw that in the raising-to-object construction, the landing site had all the properties of a *v*P-internal position, rather than a dislocated subject position: it could feed object agreement in

the higher clause and displayed *v*P-internal interpretative properties. If the target for this movement operation is an A position, then, we expect the *origin* site for the moved element, in other words, the embedded agreeing subject position, to also be an A position as well, given the apparent ban on improper movement (Chomsky 1973, 1981; May 1979).

Second, the binding properties of the Zulu raising constructions show that the raising operation creates new antecedents for binding, again implicating A movement:

(13) **Raising-to-subject creates new antecedent for binding**

a. ku- fanele [ukuthi *ngo-buhlakana bukaSipho* **a-** m- size uThemba]
17s. necessary that in-14wisdom 14POSS.1Sipho 1SJC- 1o- help 1Themba
'It's necessary that out of Sipho$_i$'s wisdom, he$_i$ helps Themba'

b. ***u-** fanele [ukuthi *ngo-buhlakana bukaSipho* **a-** m- size uThemba]
1s. necessary that in-14wisdom 14POSS.1Sipho 1SJC- 1o- help 1Themba
(Higher agreement can't refer to Sipho; context doesn't allow other interpretation.)

(14) **Raising-to-object creates new antecedent for binding**

a. ngi-lindele [ukuthi *ngo-kutatazela kukaSipho* (**yena**) a- khohlwe
1ST SG.S-expect that in-17haste 17POSS.1Sipho (1he) 1SJC- forget
ukupheka idina]
INF.cook 5dinner
'I expect that in Sipho's haste he forgets to cook dinner.'

b. ngi- lindele **yena** [ukuthi *ngo-kutatazela kwakhe* a- khohlwe ukupheka
1ST SG.S- expect 1him that in-17haste 17POSS.1his 1SJC- forget INF.cook
idina]
5dinner
'I expect him to forget to cook dinner in his haste.'

c. *ngi- lindele **yena** [ukuthi *ngo-kutatazela kukaSipho* a- khohlwe
1ST SG.S- expect 1him that in-17haste 17POSS.1Sipho 1SJC- forget
ukupheka idina]
INF.cook 5dinner
('I expect him$_i$ to forget to cook dinner in Sipho$_i$'s haste.') (coreference impossible)

For both raising-to-subject and raising-to-object, therefore, we find evidence that the landing site involved is an A position.

2.2 Expletive constructions

As the raising constructions in the previous sections show, Zulu subject nominals display optionality in position within certain biclausal constructions. Such variation is not limited to multiclausal raising constructions: Zulu subjects also show variation in monoclausal sentences. While Zulu subjects typically appear in preverbal position, controlling subject agreement on the verb, they may also appear after the verb, in which case the verb exhibits expletive agreement, rather than agreement with the logical subject. In these constructions, the subject often, though not always, receives a focus interpretation:

(15) **Subject Inversion**

a. ku- fund- isa uSipho
17s- learn- CAUS 1Sipho
'SIPHO teaches.'

b. ku- fund- isa uSipho isiZulu
17s- learn- CAUS 1Sipho 7Zulu
'SIPHO teaches Zulu.'

c. ku- fund- isa uSipho abantwana
17s- learn- CAUS 1Sipho 2children
'SIPHO teaches the children.'

d. ku- fund- isa uSipho abantwana isiZulu
17s- learn- CAUS 1Sipho 2children 7Zulu
'SIPHO teaches the children Zulu.'

As (15) shows, subject inversion is not only possible with intransitives, but also with transitive and ditransitive predicates. In all of these cases, the postverbal arguments appear with rigid word order mirroring the syntactic hierarchy of the arguments: subject - indirect object - direct object. Zulu thus differs from Bantu languages like Kirundi, where postverbal subjects always appear at the right edge of *v*P, sometimes causing reordering within *v*P, and always receive a focus interpretation (Ndayiragije 1999). In Zulu, by contrast, the lack of reordering and of an obligatory focus reading suggests that the postverbal subjects simply remain in situ and that the verb moves out of *v*P (Buell 2005).

On the basis of similar expletive inversion cases in other Bantu languages, Harford Perez argued that low subjects provide more evidence of the lack of abstract Case licensing in Bantu, since they are licit in non-case positions. While the low position of postverbal subjects is not a barrier to case licensing under modern assumptions, the existence of these constructions does suggest that movement to preverbal, agreeing positions for subject nominals is not driven by need for abstract case. Furthermore, on a theory where postverbal subjects are case-licensed in situ in Zulu, the constructions in (15) show an instance of case-licensing that is not tied to subject agreement. In the next section, I propose that the in situ subject position in Zulu *is* a position of syntactic licensing, while the agreeing subject position is not. I argue, however, that syntactic licensing is only relevant for a certain subclass of nominals in Zulu.

3 Licensing of Augmentless Nominals

In this section, I argue that in a certain subclass of Zulu nominals, we see structural licensing effects, but that the behavior of these structurally restricted nouns in raising still shows no evidence for nominative case. What we *do* find is evidence for structural case for these nominals below T, inside *v*P. This evidence comes from from two types of construction: constructions with multiple augmentless arguments inside *v*P and predicates that agree with augmentless arguments.

Zulu nouns have two-part prefixal morphology: an augment vowel followed by a C/CV/CVC/Ø prefix:

(16) a. **i**- n- cwadi ‘book’ (cl. 9)
b. **u**- mu- ntu ‘person’ (cl. 1)
c. **i**- zim- fingo ‘sharks’ (cl. 10)
d. **i**- xoxo ‘frog’ (cl. 5)

Nouns appear without an augment in several restricted environments (Buell 2011, Mzolo 1968, Von Staden 1973). As ‘plain’ arguments, augmentless nouns either appear as wh- words or under negation (typically with an NPI interpretation).

(17) a. ni- bona **bani**?
2^{ND}PL.S- see 1who
‘Who do you see?
b. a- ngi- bon- i **muntu**
NEG- 1^{ST}SG.S- see- NEG 1person
‘I don’t see anyone.’

I focus on augmentless nouns under negation, which must appear in a downward entailing environment, such as c-commanding negation, as illustrated in (18) below.[6]

(18) a. **A**- ngi- bon- **i** muntu
NEG- 1^{ST}SG.S- see- NEG 1person
‘I don’t see anybody.”
b. *ngi- bona muntu
1^{ST}SG.S- see 1person

The constructions in (19) show that there is no clausemate restriction on the licenser: negation in the higher clause can license an NPI in the embedded clause (see Giannakidou 2000).

(19) **Cross-clausal licensing of augmentless nominals**
a. **A**- ngi- fun- **i** [ukuthi uSipho a- pheke **qanda**]
NEG- 1^{ST}SG.S- want- NEG that 1Sipho 1SJC. cook 5egg
‘I don’t want Sipho to cook any egg.’
A- ngi- cabang- **i** [ukuthi uSipho u- bon- e **muntu/lutho**]
NEG- 1^{ST}SG.S- think- NEG that 1Sipho 1S- see- PFV 1person/13thing
‘I don’t think Sipho saw anyone/anything.’

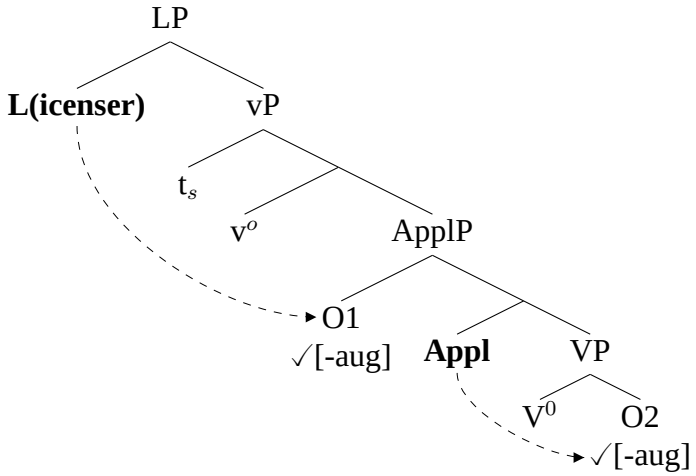
Beyond these basic restrictions on the distribution of augmentless nominals, I argue in this section that they are governed by additional syntactic licensing principles. I first outline the system of structural licensing and then demonstrate how it accounts for the full picture of augmentless nominal distribution in Zulu.

[6]Other licensers include negative adverbs, minimizing prepositions, and yes/no questions.

3.1 Structural Licensing Conditions on Augmentless Nominals

I propose that licensing of augmentless nominals takes place within *v*P via two licensing heads: a L(icensing) head immediately above *v*P and an additional APPL head in applied constructions. Each head can license the closest c-commanded nominal. The locations of these licensing heads are schematized in (20) below:

(20)



As (20) shows, at most two augmentless nominals can be licensed in an applied construction, while at most one can be licensed in constructions without an applicative. While augmented nominals are inherently cased (Chomsky 1981) and therefore do not require structural licensing, they act as defective intervenors for the licensing heads, and can therefore block lower augmentless nominals from being licensed (along the lines of Chomsky 2000). As I will show in the following sections, this licensing mechanism accounts for aspects of the distribution of augmentless nominals that cannot be attributed to the more general licensing conditions discussed above, and that are not faced by their augmented counterparts.

3.2 The *v*P-internal nature of augmentless nominals

All of the licit augmentless nominals that we have seen so far have been non-agreeing, in situ objects. We also find cases of postverbal non-agreeing augmentless subjects, as in (21) below. The ability of the augmentless nominal to appear in the low subject position suggests that the relevant Licenser must be able to license elements in spec,*v*P.

(21) **Augmentless subjects in postverbal positions**

a. a- ku- fundis- anga muntu
NEG- 17s- teach- NEG.PAST 1person
'Nobody taught.'

b. ngeke ku- fundise muntu
never 17s- teach.SJC 1person
'Nobody will ever teach.'

Augmentless nominals do face restrictions with respect to agreeing positions, however. In (22), we see that *muntu* in (22a) is in the same domain as the licit augmentless objects in (19), an

embedded clause under negation, yet is ungrammatical. Grammatical counterparts to (22a) involve either adding an augment to the agreeing subject, as in (22b), or placing the augmentless subject in non-agreeing, postverbal position, as in (22c).

(22) **Cross-clausal licensing of augmentless subjects**

a. *A- ngi- sho- ngo [ukuthi **muntu** **u-** fik-ile]
NEG- 1ST SG.S- say- NEG.PAST that 1person 1S- arrive-PFV
'I didn't say that anyone came.'

b. A- ngi- sho- ngo [ukuthi **u**muntu **u-** fik-ile]
NEG- 1ST SG.S- say- NEG.PAST that 1person 1S- arrive-PFV
'I didn't say that a/the person came.'

c. A- ngi- sho- ngo [ukuthi **ku-** fik-e **muntu**]
NEG- 1ST SG.S- say- NEG.PAST that 17S- arrive-PFV 1person
'I didn't say that anyone came.'

The ungrammaticality of (22a) is not predicted by the c-command requirement on augmentless nominal licensing, since the embedded subject is in the scope of negation. Since movement correlates with agreement, the problem for the augmentless subject here could either be the moved position *or* the agreement process (Buell 2005). However, I will now show that it's not the case that all agreement with NPIs is ruled out: augmentless nominals may control subject agreement just in case they further raise to a *v*P-internal, non-agreeing position:

(23) ***v*P-internal Constraint:** Augmentless nominals must surface inside the *v*P of their clause.[7]

So far, we have only examined cases in which licit augmentless nominals remain in situ in *v*P. In (24) below, we see an augmentless nominal engaging in raising-to-object through an agreeing position in the lower clause:

(24) A- ngi- lindel- i **muntu** **a**-pheke iqanda
NEG- 1ST SG.S- expect- NEG 1person 1SJC-cook 5egg
'I don't expect anyone to cook an egg.'

In section 2.1.2, we saw that raising-to-object was optional for augmented nominals, as in (7), repeated below:

(25) a. ngi-funa [ukuthi uSipho a-pheke iqanda]
1ST SG.S-want that 1Sipho that 1SJC-cook 5egg
'I want Sipho to cook an egg.'

b. ngifuna uSipho [ukuthi a-pheke iqanda]
1ST SG.S-want 1Sipho that 1SJC-cook 5egg
'I want Sipho to cook an egg.'

In contrast, the raised variant is *required* in an example with an augmentless nominal, as shown below in (26): an overt complementizer *must* follow the augmentless noun.

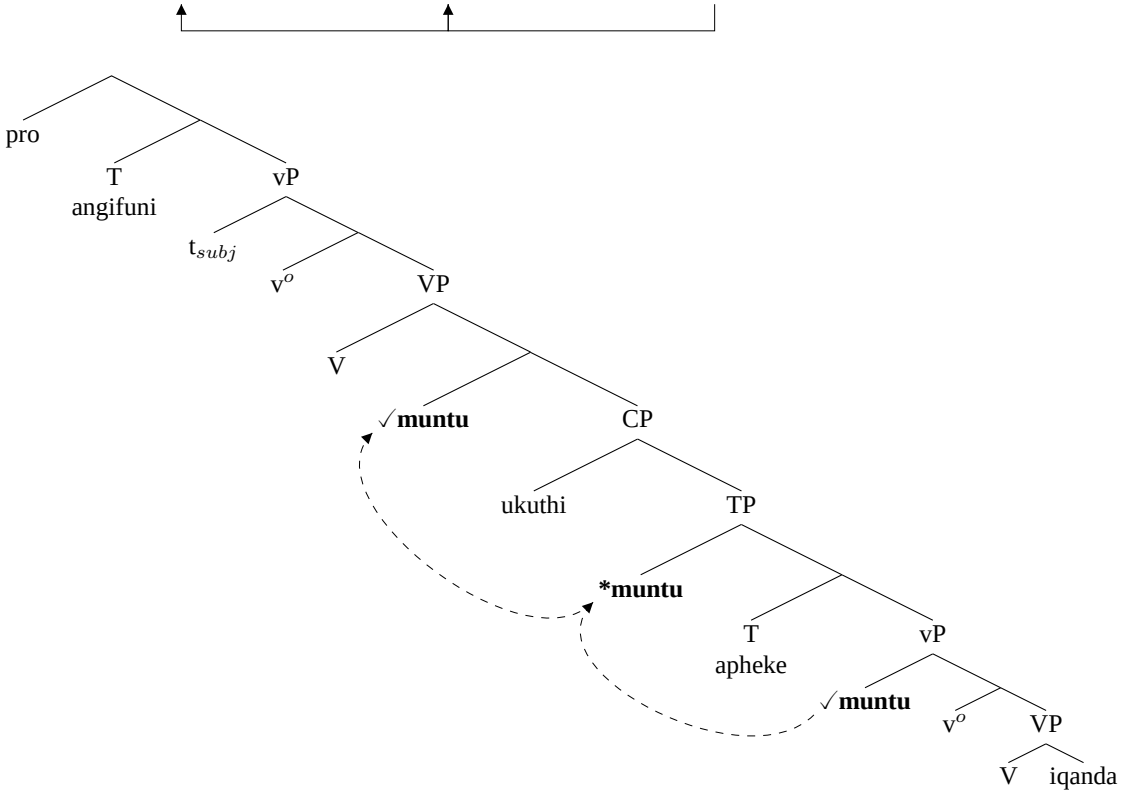
[7] I henceforth use the term '*v*P-internal' to characterize this position.

(26) a. angifuni **muntu** [ukuthi **a-** pheke (i)qanda]
NEG-1ST SG.S-want 1person that 1SJC- cook 5egg
'I don't want anyone to cook an egg.'

b. *angifuni [ukuthi **muntu** **a-** pheke (i)qanda]
NEG-1ST SG.S-want that 1person 1SJC- cook 5egg
('I don't want anyone to cook an egg.')

The distribution of augmentless nominals is schematized in (27) below. In a raising-to-object structure with an augmentless embedded subject, the augmentless nominal can either remain in situ (inside embedded *v*P) or can raise to the matrix *v*P *through* the position of lower subject agreement, but it cannot appear in the agreeing subject position on the surface. In essence, augmentless nominals in Zulu behave like all nominals in English with respect to raising: they cannot remain in the embedded subject position and must raise to matrix object position. However, unlike subjects in English raising constructions, Zulu augmentless nominals have a second licit structural position, inside the embedded *v*P. I return to this difference in section 4.

(27) angifuni ✓**muntu** [$_{CP}$ ukuthi ***muntu** apheke [$_{vP}$ ✓**muntu** iqanda (see (26))



3.3 Augmentless nominals within *v*P

In addition to the restriction that augmentless nominals surface in *v*P-internal position, augmentless nominals face further restrictions *within v*P. These *v*P-internal restrictions on augmentless nominals provide evidence for the two licensing heads, L and APPL outlined in (20) in section 3.1 above. To understand these restrictions, we must first look at the behavior of *augmented* nominals inside *v*P as a baseline.

Zulu is capable of licensing up to three arguments in non-agreeing, *v*P-internal positions, as shown by the triple object structure in (28) and the transitive and ditransitive expletives in (29) below :

(28) uThemba u- fund- is- ela uSipho izingane isiZulu
1Themba 1s- learn- CAUS- APPL 1Sipho 10children 7Zulu
'Themba teaches the children Zulu for Sipho.'

(29) a. ku- fund- isa uSipho isiZulu
17s- learn- CAUS 1Sipho 7Zulu
'SIPHO teaches Zulu.'

b. ku- fund- isa uSipho izingane isiZulu
17s- learn- CAUS 1Sipho 10children 7Zulu
'SIPHO teaches the children Zulu.'

While the data in (28) and (29) show that Zulu is capable of hosting three nominals inside *v*P, the licensing structure in (20) contains maximally two licensers, which suggests that the augmentless nominals in need of licensing can outnumber the available licensers, leading to restrictions on their distribution. In the following subsections I show that we find just such restrictions.

3.3.1 L as a licensing head

We have seen that both postverbal *v*P-internal subjects and *v*P-internal objects can be augmentless, as in (30a) and (30b), which suggested that the structural licenser L is capable of licensing nominals anywhere in *v*P. When the subject is postverbal in a transitive expletive construction, however, there are two *v*P-internal arguments and only one licenser, L. For these constructions, maximally one nominal may be augmentless, as the ungrammaticality of (30c) shows. In particular, these constructions are grammatical with an augmentless subject, as in (30d), but not with an augmentless object, as in (30e). This licensing pattern is schematized in (31).

(30) **Mono-/intransitives: one augmentless argument licensed**

a. **VS with augmentless subject**
a- ku- fik- anga muntu
NEG- 17s- arrive- NEG.PAST 1person
'Nobody arrived.'

b. **SVO with augmentless object**
umuntu a- ka- phek- anga qanda
1person NEG- 1S- cook- NEG.PAST 5egg
'A/the person didn't cook any egg.'

c. ***VSO augmentless–augmentless**
*a- ku- phek- anga muntu qanda
NEG- 17S- cook- NEG.PAST 1person 5egg
(Nobody cooked any egg)

d. ✓**VSO augmentless–augmented**

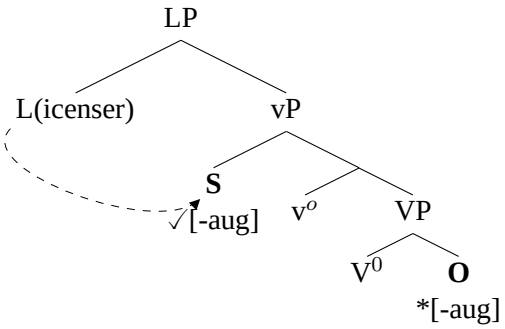
a- ku- phek- anga muntu **i**qanda
NEG- 17S- cook- NEG.PAST 1person 5egg

'NOBODY cooked the/an/any egg.'

e. ***VSO augmented–augmentless**

a- ku- phek- anga umuntu qanda
NEG- 17S- cook NEG.PAST 1person 5egg

(31)



As (31) illustrates, the L head can license a single argument inside *v*P. A *v*P-internal subject will always be closest to L and will thus block L from licensing an augmentless object.

3.3.2 APPL as a licensing head

In a double object structure, which contains an Applicative Phrase, two licensing heads are available: L and APPL. When the subject is agreeing (and *v*P-external), only two nominals appear inside *v*P: IO and DO. The presence of two licensers thus allows both nominals to be augmentless, as in (32a). While only the subject can be augmentless in TECs, as illustrated in (30), either one of the two objects may be augmentless, as in (32b) and (32c).

(32) **Double object: two augmentless arguments licensed**

a. **DO: Augmentless–Augmentless**

a- ngi- nik- anga muntu lutho
NEG- 1STSG.S- give- NEG.PAST 1person 13thing

'I didn't give anyone anything.'

b. **DO: Augmented–Augmentless**

a- ngi- nik- anga **u**muntu lutho
NEG- 1STSG.S- give- NEG.PAST 1person 13thing

'I didn't give a/the person (anyone) anything.'

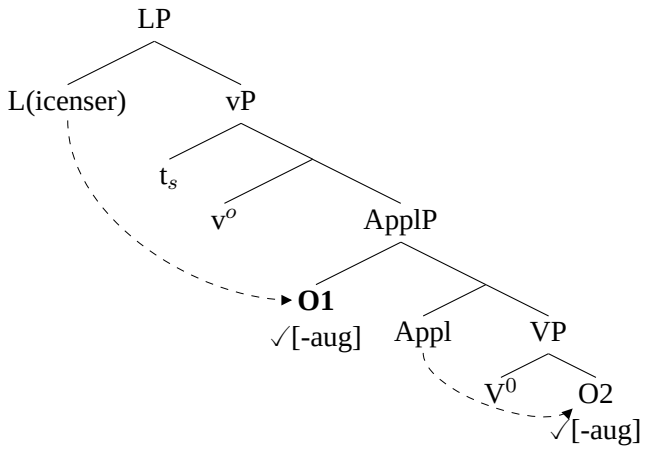
c. **DO: Augmentless–Augmented**

uThemba a- ka- phek- el- i muntu **i**nyama
1Themba NEG- 1s- cook- APPL- NEG 1person 9meat

'Themba doesn't cook anyone meat/the meat.'

In (33), we see the location of the second licensing head, APPL:

(33)



Additional evidence that APPL is the source of structural licensing for the second augmentless nominal comes from transitive expletive constructions. While in the previous subsection we saw that standard TECs only permit a single augmentless nominal (the subject), the picture is different for transitive verbs that involve an applicative morpheme. For example, a verb like *fundisa* 'teach', which contains transparent causative morphology, can be used ditransitively or as a transitive with either the indirect or direct object:

(34) a. uSipho u- fund- isa amantombazane
1Sipho 1S- learn- CAUS 6girl
'Sipho teaches girls.'

b. uSipho u- fund- isa isiZulu
1Sipho 1S- learn- CAUS 7Zulu
'Sipho teaches Zulu.'

In TEC constructions, however, verbs like *fundisa* 'teach' show different licensing patterns for each type of object: specifically, augmentless indirect objects cannot be licensed, as in (35a), while augmentless direct objects can, as in (35b).

(35) a. *a- ku- fund- is- anga muntu mantombazane
NEG- 17S- learn- CAUS- NEG.PAST 1person 6girl
(Nobody taught any girls)

b. a- ku- fund- is- anga muntu lutho
NEG- 17S- learn- CAUS- NEG.PAST 1person 16thing
'Nobody taught anything.'

If the ungrammaticality of augmentless objects in constructions like (30) were due to a general ban on augmentless objects in VSO configurations, then the grammaticality of (35b) would be unexpected. With APPL as a nominal licenser, however, we expect exactly the contrast found in (35): the direct object, introduced below APPL can be licensed by APPL and therefore can be augmentless even in the presence of a low subject, while the indirect object, which is introduced above APPL, can only be licensed by L. In constructions where the subject is *v*P-internal, the subject is also in the domain of L and thus intervenes with potential licensing of the indirect object, ruling out the augmentless indirect object.

In a ditransitive expletive, we see the same pattern. There are still two licensers, L and APPL, but now there are three *v*P-internal nominals: the subject, the indirect object (O1), and the direct object (O2). In these cases, we still find that maximally two augmentless nominals are licensed. In particular, just as in the cases in (35), we see that only one out of S and O1 may be augmentless; whether or not O2 is augmentless seems to be irrelevant to grammaticality here:

(36) **Ditransitive Expletives: two augmentless arguments licensed**

a. ✓**Augmentless–Augmented–Augmentless**

A- ku- thum- el- anga mama **i**zingane mali
NEG- 17S- send- APPL- NEG.PAST 1mother 10child 9money
'MOTHER didn't send the children any money.'

b. ***Augmentless–Augmentless–Augmentless**

*A- ku- thum- el- anga mama zingane mali
NEG- 17S- send- APPL- NEG.PAST 1mother 10child 9money

c. ***Augmented–Augmentless–Augmentless**

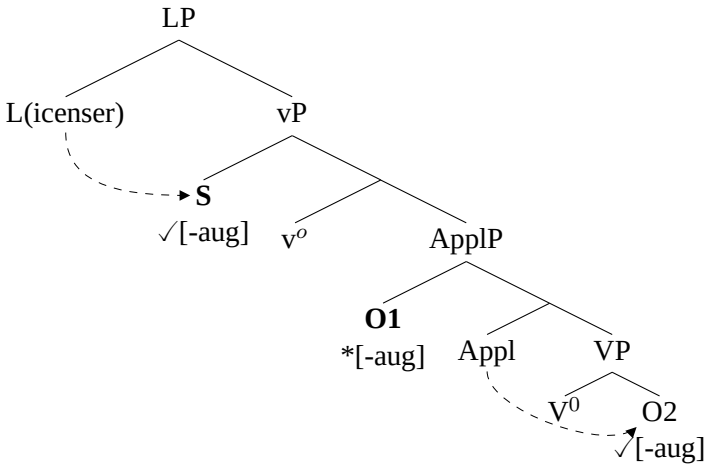
*A- ku- thum- el- anga **u**mama zingane mali
NEG- 17S- send- APPL- NEG.PAST 1mother 10child 9money

d. ***Augmentless–Augmentless–Augmented**

*A- ku- thum- el- anga mama zingane **i**mali
NEG- 17S- send- APPL- NEG.PAST 1mother 10child 9money

This situation, illustrated in (37), is exactly as predicted by the location of the licensing heads: S and O1 are in the same domain between L and APPL, while O2 is alone below APPL.

(37)



Finally, we also saw that triple object structures are permitted with augmented nominals in (28). In these cases, two applicative morphemes appear on the verb. However, in the case of augmentless nominals, we find that it is not possible for all three *v*P-internal arguments to be augmentless:

(38) *uSipho a- ka- fundis- el- i muntu bantwana zilimi
1Sipho NEG- 1S- teach- APPL- NEG 1person 2children 8language
(Sipho doesn't teach any kids any languages for anyone.)

Instead, the pattern in these triple object constructions mirrors that of the ditransitive expletives in (36): only the highest out of the first two arguments may be augmentless, as (39a) and (39b) show, while the status of the lower argument appears to have no impact on grammaticality (39c).

(39) **Triple-object: two augmentless arguments licensed**

a. ✓**Augmentless–Augmented–Augmentless**

uSipho a- ka- fundis- el- i muntu **a**bantwana lutho
1Sipho NEG- 1S- teach- APPL- NEG 1person 2children 13thing

Sipho doesn't teach (any) kids anything for anyone.

b. ***Augmented–Augmentless–Augmentless**[8]

*uSipho a-ka- fundis- el- i **u**Themba bantwana lutho
1Sipho NEG-1S- teach- APPL- NEG 1Themba 2children 13thing

Sipho doesn't teach any kids anything for Themba.

c. ***Augmentless–Augmentless–Augmented**

*uSipho a-ka- fundis- el- i muntu bantwana **i**zilimi
1Sipho NEG-1S- teach- APPL- NEG 1person 2children 8language

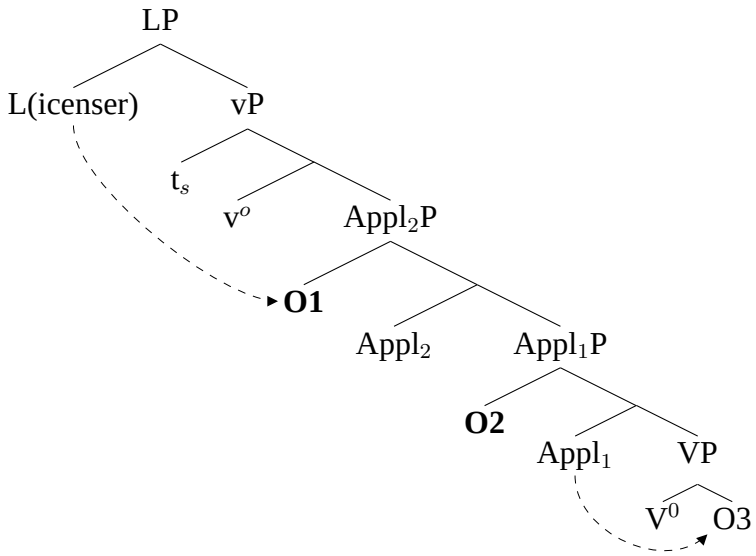
(Sipho doesn't teach any kids (any) languages for anyone.)

It is important to note that for sentences like (39a), speakers will accept an NPI translation for the augmented nominal – despite the presence of the augment. By contrast, the presence of the augment under negation typically forces a specific/definite reading for the nominal; the same speakers will only accept NPI translations for *augmentless* nominals in all contexts where the number of nominals does not exceed the number of licensers. The ambiguity of the augmented nominal in (39a) shows that the interpretive correlation with the augment is severed just under these specific structural conditions. In other words, the augment must be absent *when structurally possible* to yield an NPI reading, but when the structure requires the augment, the NPI reading is not ruled out. I return to this issue in section 5.3.

We can understand the pattern in (39) if the licensing heads are identical to those in both the TECs with applicative morphology and the ditransitive expletive cases: L is immediately above *v*P and APPL immediately dominating VP is the second licenser:

[8]For some speakers, this construction was judged to be marginally acceptable. The majority of speakers, however, found it to be ungrammatical. For the purposes of this paper, I focus on the ungrammatical judgment.

(40)



Again, the configuration in (40) allows the highest argument in *v*Pto be licensed (here, O1) by L and the direct object (O3) to be licensed by APPL. The middle argument (O2) is not local to either licenser and so must bear an augment.

3.4 Summary

In this section we have seen various structural restrictions on augmentless nominals in Zulu that don't apply to augmented nominals. Augmentless nominals are only licit inside *v*P, though they may pass through *v*P-external agreeing positions if they further move to a *v*P-internal position, as in raising-to-object constructions. Within *v*P there are further restrictions on augmentless nominals: when no applicative morphology is present, only the highest *v*P-internal argument may be augmentless. With applicative morphology, both the highest and lowest arguments maybe augmentless, but any intermediate arguments cannot. We can understand this distribution if we posit one structural licenser for augmentless nominals above *v*P and one that is associated with the (lower) APPL phrase. Each licensing head is capable of licensing only the closest argument; while augmented nominals do not require structural licensing, they function as defective intervenors, blocking the licensing of lower augmentless nominals. The following section discusses the timing of operations that license Zulu augmentless nominals.

4 Timing

In section 3 I presented evidence that the distribution of augmentless nominals in Zulu is determined by structural positions. The data and analysis in section 3 shows that for this subset of nominals, Zulu behaves strikingly like English: both languages have an obligatory raising process that forces nominals to end up in positions where they are structurally licensed:

(41) **Obligatory raising-to-subject in English**

a. **Sipho** seems [*t* to be winning.]

b. *It seems [**Sipho** to be winning.]

(42) **Obligatory raising-to-object in Zulu**

a. angifuni **muntu** [ukuthi *t* **a-** pheke (i)qanda]

NEG-1ST SG.S-want 1person that 1SJC- cook 5egg

'I don't want anyone to cook an egg.'

b. *angifuni [ukuthi **muntu** **a-** pheke (i)qanda]

NEG-1ST SG.S-want that 1person 1SJC- cook 5egg

('I don't want anyone to cook an egg.')

As in English raising constructions, I argued that the raising in (42) is required due to the unavailability of structural case in the embedded subject position, and the ability of L to license case on the raised augmentless nominal in matrix *v*P-internal object position. However, unlike in English, the character of the licensing in Zulu seems particularly surface-oriented. Recall that in addition to the raised position, the embedded subject can also appear in situ inside the *v*P of the *embedded* clause, where it is also licensed:

(43) angifuni [ukuthi ku- pheke **muntu** iqanda]

NEG-1ST SG.S-want that 17SJC- cook 1person 5egg

'I don't want anyone to cook an egg.'

In Zulu, then, it appears that augmentless nominals can move out of what is ostensibly a case-licensed position as long as they subsequently *end up* in a case position. It is ungrammatical, however, for the augmentless nominal to move from this ostensible case position to the preverbal non-case position and remain in the higher non-case position. In other words, movement seems to bleed case assignment in Zulu. In this section, I address the question of how operations are timed in Zulu to yield this pattern. I argue that while this relatively late case assignment in Zulu is a departure from case patterns in languages like English, it actually mirrors patterns found in certain dative experiencer constructions in Icelandic and Faroese (Asarina 2011, Holmberg and Hroársdóttir 2004, Sigurðsson and Holmberg 2008). I show that we can understand the timing of movement and probing for case assignment in Zulu in the same way as in Icelandic and Faroese if we assume that augmentless nominals in Zulu are subject to the Activity Condition (Chomsky 2000, 2001).

4.1 Icelandic and Faroese dative experiencers: movement bleeds probing

Holmberg and Hroársdóttir (2004) discuss raising constructions that involve dative experiencer arguments in Icelandic. They show that these dative arguments act as interveners for object agreement when they remain in situ after the verb:

(44) **Icelandic dative experiencers in situ block object agreement**

a. það finnst einhverjum stúdent tölvurnar ljótar
EXPL findSG some studentDAT the computersNOM uglyNOM
'Some student finds the computers ugly.

b. *það finnast einhverjum stúdent tölvurnar ljótar
EXPL findPL some studentDAT the computersNOM uglyNOM

(Holmberg and Hroársdóttir 2004, ex. (14))

When the dative arguments undergo A movement, however, they show that number agreement with the lower object becomes possible:

(45) **Icelandic raised dative experiencers do not block object agreement**

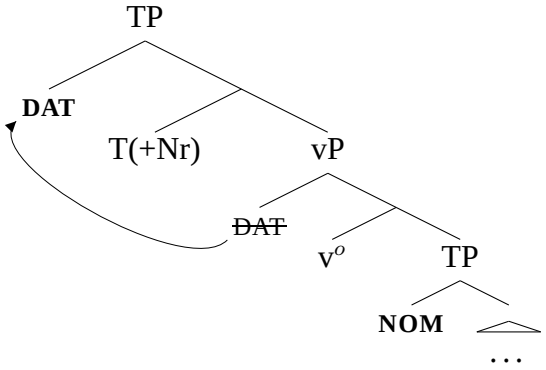
a. einhverjum stúdent finnst tölvurnar ljótar
some studentDAT findSG the computersNOM uglyNOM
'Some student finds the computers ugly.

b. einhverjum stúdent finnast tölvurnar ljótar
some studentDAT findPL the computersNOM uglyNOM
'Some student finds the computers ugly. (Holmberg and Hroársdóttir 2004, ex. (9))

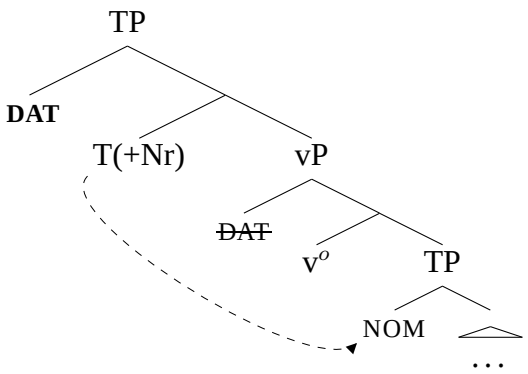
As Holmberg and Hroársdóttir point out, given that dative experiencers act as interveners for agreement, illustrated in (44), the grammatical construction in (45b) must involve A movement of the dative *before* the agreement operation takes place.

(46) **Icelandic dative A-traces are not interveners**

Step 1: DAT Raising



Step 2: Number Agreement



The derivation of (45b) illustrated in (46) has the same character as the Zulu constructions with augmentless objects: in constructions like (42b), Zulu seems to require A movement to occur before case probing takes place.

Sigurðsson and Holmberg (2008) note a similar timing pattern in one variety of Icelandic for matrix agreement with a nominative embedded argument across an intervening dative:

(47) **Icelandic optional dative intervention**

það	þótti/	þóttu	einum málfræðingi	[þessi rök	sterk]
EXPL	thought$_{SG}$/	thought$_{PL}$	one linguist$_{DAT}$	these arguments$_{NOM}$	strong

'One linguist thought these arguments to be strong.' (Sigurðsson & Holmberg 2008, (22))

Sigurðsson and Holmberg analyze the possibility of plural agreement in (47) as the result of probing *following* A movement: they claim the intervening dative argument undergoes low subject raising from Spec,*v*P to a position above the matrix T^o and that this low subject movement is movement *around* the initial position of the Number probe. The derivation of a construction like (47) involving nominative number agreement is one in which the dative argument moves *before* Number probes, and thus does not block agreement with the lower argument:

(48) **Derivation of Icelandic embedded nominative agreement**

Step 1: EXPL Pn^o Nr^o T^o [$_{vP}$ DAT [$_{TP}$ NOM ...

Step 2: EXPL Pn^o **DAT** Nr^o T^o [$_{vP}$ ~~DAT~~ [$_{TP}$ NOM ...
Raising

Step 3: EXPL Pn^o DAT **Nr+T** ~~T^o~~ [$_{vP}$ ~~DAT~~ [$_{TP}$ NOM ...
Head Mvt

Step 4: EXPL Pn^o DAT **Nr+T** ~~T^o~~ [$_{vP}$ ~~DAT~~ [$_{TP}$ NOM ...
Nr Agr

Step 5: EXPL **Pn+Nr+T** DAT ~~Nr+T~~ ~~T^o~~ [$_{vP}$ ~~DAT~~ [$_{TP}$ NOM ...
Head Mvt

(Sigurðsson & Holmberg 2008, (23)-(26))

Asarina (2011) extends this type of analysis to optional agreement with quirky dative subjects in Faroese, making explicit reference to the relative timing of case assignment and movement. In Faroese, she notes, following Jónsson (2009), that quirky dative subjects may optionally trigger number agreement with the predicate, though they never trigger person agreement:

(49) **Faroese optional quirky dative agreement**

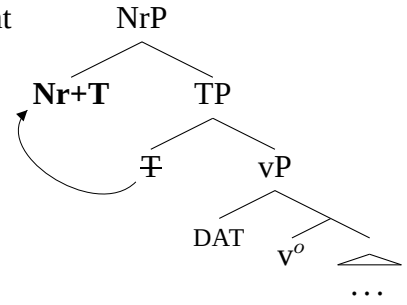
a. Teimum dáma at vera saman í bólki
they.DAT like.3PL to be together in band
'They like to be together in a band.'

b. Teimum dámar at renna kapp
they.DAT like.3SG to run race
'They like to run a race.' *Faroese* (Jónsson 2009: (25))

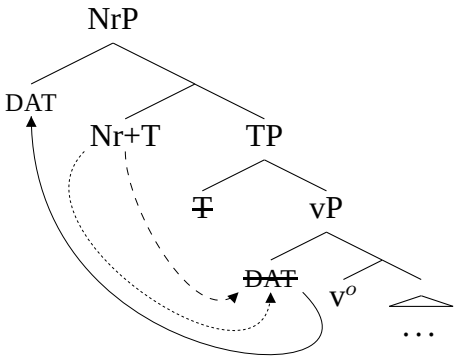
For Asarina, the Number probe is responsible for both dative case, which it can assign on its own, and number agreement, which can only occur once Number combines with T via head movement. Since elsewhere in Faroese, nominals with dative case are always defective interveners for both Number and Person agreement, she proposes that the occurrence of optional Number agreement in (49) is due to the possibility of Number agreement to *precede* dative-marking of the nominal. The derivation that yields this output is one in which head movement of T to Number precedes probing by Number: the result is that Number agreement and dative case assignment occur simultaneously, allowing for the nominal to trigger agreement before it is dative marked.

(50) **Faroese quirky dative agreement** (Asarina 2011, (47a))

Step 1: Head movement



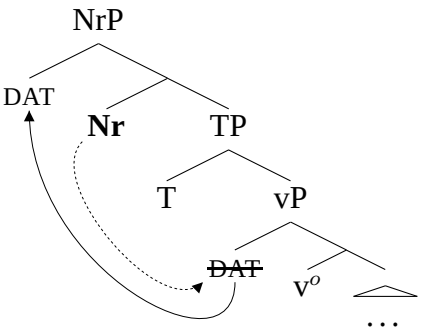
Step 2: Number AND DAT probing



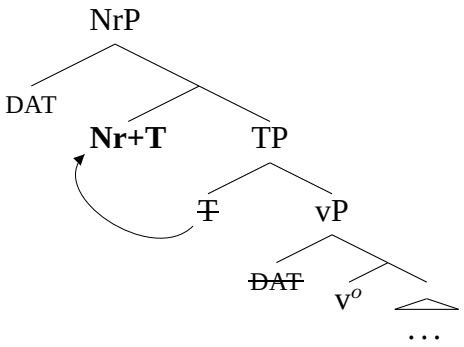
The alternative derivation is one in which Number probes *before* head movement has taken place, marking the subject as dative and causing the dative subject to raise to its specifier. After head movement, the Number + T complex probes again for Number agreement, resulting in default (SG) agreement because the dative is no longer in the domain of Number probing.

(51) **Faroese quirky dative intervention** (Asarina 2011, (47b))

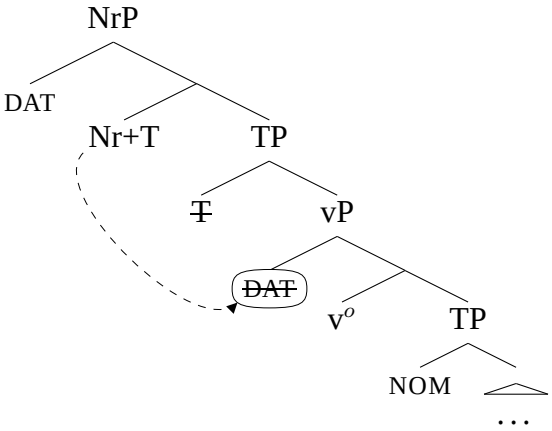
Step 1: Nr^o assigns DAT; DAT raises



Step 2: Head movement



Step 3: Number probing: fails!



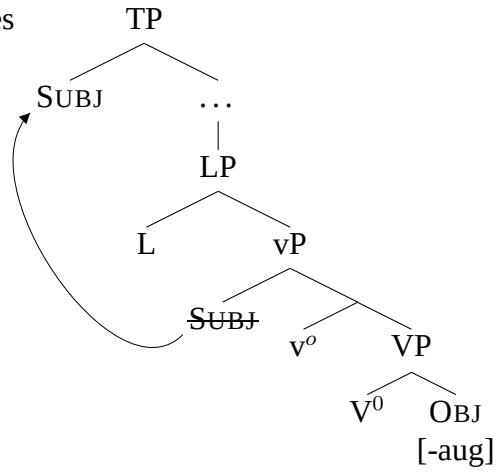
Though the circumstances above are slightly different from the Icelandic cases, we again see a crucial ordering of operations, this time resulting in 'late' case assignment.

4.2 Understanding late case assignment in Zulu

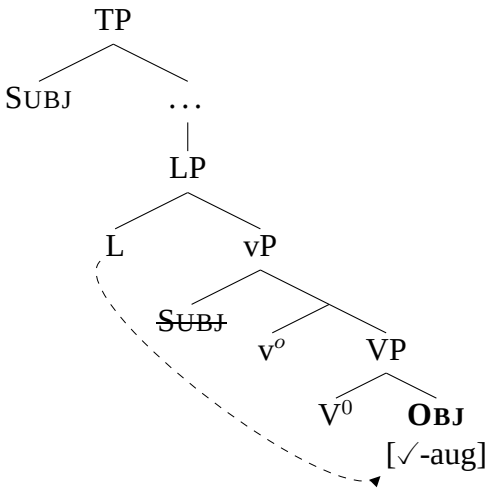
I propose that we can understand the 'late' case assignment to augmentless nominals along the exact same lines as the late phi-probing in Icelandic and Faroese. In Icelandic, A movement around a Number probe could either precede or follow probing by the Number head. When A movement occurred first, there were no intervention effects. Similarly, in Zulu, movement of a subject out of *v*P allows the object to be licensed (probed) by L. If in Zulu, as in Icelandic, either order of operations is possible, we predict the correct pattern of intervention effects with respect to the subject. When no subject movement occurs, the subject is always probed by L and thus blocks an object from being augmentless. When the subject moves before L probes, L will probe the object, licensing augmentless objects. When L probes before the subject moves, augmentless objects will not be licensed.

(52) **Licensing of augmentless objects**

Step 1: SUBJ moves



Step 2: L probes



In a derivation where the subject is augmentless and remains in situ, probing and licensing by L proceeds unproblematically. Similarly, if movement were to precede probing by L, the augmentless nominal would end up in a preverbal position without case, resulting in ungrammaticality (or obligatory raising-to-object). The opposite order of operations is problematic, however: if probing by L *precedes* movement, then an augmentless nominal should be able to be case licensed and then move to a preverbal position. As discussed in the previous section, this configuration is ungrammatical in Zulu. I propose that this derivation is ruled out by the Activity Condition (Chomsky 2000, 2001): once augmentless nominals are case-licensed, they can no longer undergo further A movement.

While this account rules out A movement by case-licensed augmentless nominals, it does not in principle disallow A-bar movement. However, A-bar moved nominals in Zulu also behave as if they are not licensed. Wh-words, for example, may be augmentless within *v*P but must bear an augment outside:

(53) **Zulu wh-words: augment required outside *v*P**

a. kw- a- fika **(u)bani**?
17s- PST- arrive 1who
'Who arrived?'

b. **ubani** o- w- a- fika?
1who 1REL- 1s- PAST- arrive
'Who arrived?'

c. ***bani** o- w- a- fika
1who 1REL- 1s- PAST- arrive

While I will not pursue a full account of this type of A-bar movement here, I simply posit that this wh-movement in Zulu is always preceded by a step of A movement. This hypothesis is supported by the appearance of agreement on the predicate that always accompanies A-bar moved elements, as illustrated in (53) above.

This proposal accounts for the apparent surface-oriented nature of case assignment in Zulu by drawing parallels with similar timing relationships in Icelandic and Faroese. In Icelandic and Faroese, however, the optional ordering of operations is more transparent than in Zulu: both agreement options are clearly attested. In Zulu, we can only readily perceive the order in which movement precedes probing. While the order of operations is essentially irrelevant to the outcome in constructions with an augmented nominal, I argue that the order in which movement follows probing with an augmentless nominal is ruled out due to the Activity Condition. While recent work on Bantu has argued against the applicability of the Activity Condition (Carstens 2011, Carstens and Diercks to appear, Diercks to appear), this analysis suggests that it is relevant in exactly the same domain for which I argue that case effects are observed in Zulu.

5 Alternative approaches

In the previous sections I have shown that while augmented nominals do not appear to face distributional restrictions in Zulu, augmentless nominals do have a restricted distribution. In section 3.1 I presented an analysis of nominal distribution in Zulu in terms of structural licensing, arguing that nominals in Zulu are subject to the Case Filter. By analyzing Zulu nominal distribution in terms of structural licensing conditions, I am forced to make specific assumptions about the timing relationships between movement and case licensing in Zulu that differ from case relations in languages like English, as I discuss in section 4. While I argue that the distributional restrictions on augmentless nominals require a structural, case-based analysis, an alternative approach would be to assume that no structural licensing is required for Zulu nominals and to seek a separate explanation for the restricted distribution of augmentless nominals. As discussed in the introduction, much recent work has pursued non-case-based approaches to Bantu nominals (Ndayiragije 1999; Alsina 2001; Baker 2003; Carstens and Diercks to appear; Diercks to appear). In this section I explore how alternative approaches would fare with the Zulu facts. I first discuss differences between the empirical domain considered by other approaches to Bantu and the domain of facts I analyze. Then I turn to potential alternative accounts for Zulu nominal distribution to show that while they provide a straightforward way to account for the apparent surface-oriented nature of the distribution of augmentless nominals, they fail to encompass the full range of facts. Finally, I turn

to alternative approaches to the augment morphology itself and discuss advantages to my analysis in terms of accounting for the messy interpretive properties that are associated with the augment.

5.1 Domain of evidence

Starting with Harford Perez (1985), many researchers of Bantu languages have focused on the surprising behavior of Bantu nominals in preverbal subject positions. Harford Perez (1985) examines properties of subjects in three Bantu languages, Shona, Kikuyu, and Kirundi, that are surprising from a classic understanding of case-licensing. Many of these properties mirror Zulu patterns discussed in section 2. As with Zulu, Harford Perez notes that these languages allow raising out of tensed, finite clauses, and that this raising is optional:

(54) a. mbavhá í- no- fungir- w- a kuti y- áka- vánd- á mú- bako
9thief 9s- PRES- suspect- PASS- FV that 9s- REM.PST- hide- FV 18- cave
'The thief is suspected to be hidden in the cave.'

b. zvi- no- fungir- w- a kuti mbavhá y- akak- vánd- á mú- bako
8s- PRES- suspect- PASS- FV that 9thief 9s- REM.PAST- hide- FV 18- cave
'It is suspected that the thief is hidden in the cave.' *Shona*

(55) a. inzovu z- aa- menyeekan- ye kó z- iish- e báa- ba- antu
10elephants 10s- PAST- be.known PF that 10S- kill- PF 2those- 2- people
'Elephants are renowned for having killed those people.'

b. vy- aa- menyeekan- ye kó inzovu z- iish- e báa- ba- antu
8S- PAST- be.known- PF that 10elephants 10S- kill- PF 2those- 2- people
'Elephants are renowned for having killed those people.' *Kirundi*

She also shows that these languages allow for postverbal subject constructions, in which expletive agreement appears on the verb, a configuration she interprets as incompatible with case-licensing of the subject by Infl:

(56) a. kw- á- uray- iw- a murúmé né- shumba ku- ru- kova
17s- PAST- kill- PASS- FV 1man by- 9lion 17- 11- river
'There was a man killed by a lion at the river.'

b. murúmé á- uray- iw- a né- shumba ku- ru- kova
1man 1S.PAST- kill- PASS- FV by- 9lion 17- 11- river
'A man was killed by a lion at the river.' *Shona*

Finally, Harford Perez points out that nominals can be licit subjects of infinitival clauses in these languages, again seemingly licensed in a non-Case position:

(57) a- rutwo gũ- thooma ũũrú kũ- ráákáragi- a mũ- rutani
2- students INF- read badly 15s- anger.CONT- FV 1- teacher
'Students reading badly angers the teacher.' *Kikuyu*

(58) va- nhu ku- rwa daka u- ku- ha= kú- ná- kú- naka
2- people INF- fight 5grudge this- 15 NEG- 15s- be INF- be.good
'This fighting grudges on the part of people is no good.' *Shona* (Fortune 1977)

From these facts, Harford Perez concludes that abstract case is simply inoperative in the Bantu languages she discusses, and that therefore case is a parameter rather than a linguistic universal. This line of argument has been taken in recent work by Diercks (to appear), who proposes a case parameter that renders case inactive in Bantu.

As we have seen in previous sections, Zulu exhibits many of these same constructions. While these grammatical properties have led researchers to posit a lack of case in Bantu, I argue that they really provide evidence only for a lack of *nominative* case in Spec,TP. Zulu presents still more evidence against nominative case in Bantu, but at the same time it provides evidence in favor of a general system of case licensing. While Zulu is thus not incompatible with these previous observations, the Zulu facts suggest that we cannot dismiss the notion of case altogether in Bantu. Reexamining these languages in terms of nominal distribution lower in the clause will shed more light on the Bantu picture.

5.2 Licensing processes

While Harford Perez (1985) and Diercks (to appear) advocate for an analysis of Bantu grammar in which case is simply inactive, other researchers have proposed explanations for the absence of classic case effects without eliminating the notion of a case- or licensing-type mechanism. I first discuss these modified approaches to case-licensing with respect to the Zulu facts. I then turn to alternative ways to account for the restriction of nominals to certain positions to show that these approaches fail to capture all of the Zulu facts.

5.2.1 Alternative approaches to case licensing

While not rejecting the relevance of case licensing altogether for Bantu languages, a recent family of proposals suggests that the mismatch between case positions and Bantu nominals stems from a one-sided relationship between the case-assigning head and the nominal. Ndayiragije (1999) proposes that case is active in Bantu, but that in these languages only the features of functional heads, and not of lexical items, need to be checked for the derivation to converge. Specifically, uninterpretable features like case on nouns do not have to check, which leads to the relatively free distribution of nominals in non-case positions in Bantu. He claims that case does not appear to drive the distribution of nominals since case assignment depends purely on the requirements of functional heads.

Carstens (2005, to appear) argues for a different type of probe-goal mismatch. For her, case is not only active in Bantu, but that it is 'hyperactive': she claims that only feature *valuation*, and not feature checking, renders goal inactive and that because Bantu nominals enter the derivation with an already-valued gender feature, the nominals will thus always be 'active' (since gender will never be valued during the derivation). Therefore Bantu nominals can enter case-checking relationships multiple times over the course of the derivation, which is why they appear to be equally-well licensed in a number of positions.

Baker (2003) and Henderson (2006) both argue that Bantu case patterns differ from classic accounts because while in languages like Indo-European, case assignment is mitigated through agreement, such a link does not exist in Bantu. Baker argues that instead, agreement is linked to the EPP and the agreement process absorbs case. Baker does not do away with a Case Filter on nominals, however; he claims that the apparent absence of case-related effects on agreeing

nominals is due to the fact that they are in dislocated positions, which independently do not need case.

While all of these proposals aim to account for the unrestricted distribution of augmented nominals, the analysis of Zulu in this paper provides a different reason for this distribution: augmented nominals are inherently cased. On the other hand, I propose that augmentless nominals do require structural case, but that augmented nominals can function as defective intervenors for case-licensing heads. The fact that augmented nominals can appear in positions where structural case is assigned suggests that while inherently cased nominals in Zulu do not require structural case, they are not incompatible with structural case, along the lines of Legate's (2005) account of inherent ergatives in Warlpiri. In this sense, my view on augmented nominals is similar to Ndayiragije's (1999): while these nominals can be in case-licensed positions, they are essentially indifferent to any case-licensing processes. Augmentless nominals in my account, on the other hand, are straightforwardly subject to the Case Filter.

5.2.2 Alternative approaches to nominal restrictions

I have shown in section 3.1 that Zulu augmentless nominals must surface in *v*P-internal position. As discussed in section 4, the surface-oriented nature of this description is at odds with the general cross-linguistic pattern of case-assignment. The empirical generalization that emerges from the data is that augmentless nominals are licensed only in their final position. A potential alternative to my approach would be to construe this pattern in terms of a more surface-oriented process, such as incorporation or clitic-attachment, which require transparent adjacency between two elements. In this section, I show that adjacency-based analyses fail to account for all of the Zulu data.

A number of proposals concerning double object constructions in Bantu languages claim that word order restrictions in double object constructions arise from the need for a nominal to be adjacent to the element that assigns it a grammatical function or theta role (Alsina 2001, Alsina and Mchombo 1993, Bresnan and Moshi 1990, among others). While these accounts focus on augmented nominals in the Bantu languages they discuss, we could imagine this logic determining the distribution of *augmentless* nominals in Zulu. While such an approach could potentially handle augmentless nominal distribution in monoclausal contexts in Zulu, since it would not necessarily require these nominals to be strictly adjacent to the actual verb, raising-to-object poses a problem: a raised object can be augmentless despite being non-adjacent to the verb that selects it.

Another semantically-driven adjacency approach would be to view Zulu augmentless nominals as incorporated nouns (Baker 1988, Farkas and de Swart 203, van Geenhoven 1998, Massam 2001, Mithun 1984, a.o.). The ability of augmentless nominals in Zulu to take modifiers and head relative clauses would necessitate that the relevant process in Zulu would be pseudo-incorporation (Massam 2001):

(59) a- ngi- bon- i [**muntu** o- gqoka isigqoko]
NEG- 1ST SG.S- see- NEG 1person 1REL- wear 7hat
'I don't see anyone wearing a hat.'

However, an incorporation account also faces empirical problems. First, as I showed in section 3.3, augmentless nominals need not be strictly adjacent to the verb: other nominals, including augmented nominals, can intervene.

(60) A- ku- thum- el- anga mama izingane **mali**
NEG- 17S- send- APPL- NEG.PAST 1mother 10child 9money
'MOTHER didn't send the children any money.'

Second, typological surveys of incorporation note that incorporated elements are scopally inert (e.g. Farkas and de Swart 2003, van Geenhoven 2002, Mithun 1984). While NPIs will take low scope, recall that wh- words, which do scope out of *v*P, may also be augmentless when *v*P-internal:

(61) ni- bona **bani**?
2^{nd}PL.S- see 1who
'Who do you see?

In addition, while augmentless nominals under negation typically receive an NPI interpretation, for some speakers proper names can also lose their augments as focused subjects under negation, without receiving an indefinite interpretation:

(62) A- ku- thum- el- anga **Sipho** izingane mali
NEG- 17S- send- APPL- NEG.PAST 1Sipho 10child 9money
'SIPHO didn't send the children any money.'

Even if we abandon semantically-driven approaches to adjacency and assume that augmentless nominals are clitics and thus must be adjacent to verbs for morpho-phonological reasons, we face similar problems. First, the same non-adjacency pattern seen in (60) remains a problem for a clitic account of augmentless nominals. Second, if phonological adjacency to a verb (or a [verb + clitic] unit) were the only relevant factor in licensing, we might expect to find constructions in which an augmentless embedded subject would be adjacent to a matrix verb and thus licensed by the matrix verb. In fact, Zulu rules out such constructions:

(63) a. ngi- fisa (ukuthi) uSipho a- pheke iqanda
1^{ST}SG.S- wish (that) 1Sipho 1SJC- cook 5egg
'I wish that Sipho would could an egg.'

b. *ngi- fisa uSipho ukuthi a- pheke iqanda
1^{ST}SG.S- wish 1Sipho that 1SJC- cook 5egg

c. *a- ngi- fis- i **muntu** a- pheke iqanda
NEG- 1^{ST}SG.S- wish- NEG 1person 1SJC- cook 5egg

While the verb *fisa* 'wish' takes a subjunctive complement with an optional complementizer, the ungrammaticality of (63b) shows that it does not have the option for object control or raising-to-object, which means that nominals that appear between the matrix and embedded verbs must be in subject position in the lower clause. In (63c), we see that the augmentless nominal, in subject position in the lower clause, is ungrammatical, despite being adjacent to the higher verb.

To summarize, this section examined potential adjacency-based accounts of Zulu as a means of deriving the apparent surface-oriented nature of the licensing requirement on augmentless nominals. While such accounts would not face problems with respect to timing of the licensing process, they nevertheless fail to encompass the full range of Zulu facts. Instead, it appears that (surface) syntactic position remains the only reliable correlate of licensing for augmentless nominals.

5.3 The augment and inherent case

Not all Bantu languages exhibit augment morphology on nominals. Of those that do, the circumstances in which augmentless nominals may appear vary (Katamba 2003). Much recent work on the augment, particularly on Zulu and related Nguni languages, has argued that it is a D^o head (Buell 2011, de Dreu 2008, Taraldsen 2010, Visser 2008). Research on the function of the augment in Bantu languages has noted that multiple factors seem to govern its distribution: semantic and pragmatic factors such as definiteness, specificity, and focus seem to play a role as well as syntactic factors, including position within the clause and presence of c-commanding negation (Hyman and Katamba 1991, 1993; Buell 2011, de Dreu 2008). These disparate factors have made it difficult for researchers to pinpoint a precise meaning for the augment morpheme. In this paper, I have argued that the augment functions as an inherent case marker in Zulu. My proposal takes the syntactic restrictions on the distribution of the augment to be primary: the absence of an augment is only permitted in constructions where structural case is assigned. In these constructions, the presence or absence of the augment can have interpretive consequences (as in determining whether the nominal receives an NPI interpretation), but outside of case-assigning environments, such distinctions are neutralized and only the augmented version is permitted.

Most accounts of case and nominal distribution in Bantu, as discussed in the preceding sections, do not examine the distribution of augmentless nominals, either alone or in comparison to their augmented counterparts. Baker (2003), however, does address the issue of the augment in his analysis of case in Kinande. Baker's focus in the paper is the apparent lack of nominative case effects in Kinande, which he analyzes as a result of the agreement process. He argues that agreed-with augmented nominals are always in dislocated, A-bar positions and thus do not require case at all. While Baker does not directly address whether accusative case is effected by his analysis, his discussion of augmentless nominals assumes that no accusative case is assigned either. He claims that augmentless nominals in Kinande are inherently cased as a way to explain why these nominals can appear in *v*P-internal non-agreeing A positions. However, while Baker notes that *v*P-internal nominals in Kinande are often augmentless, his explanation does not provide an account for the appearance of augmented nominals in *v*P-internal A positions, as in (64b) below[9]:

(64) a. mo- nga- langira simba
PST- 1st.sg- see 9lion
'I saw a lion.' (nonspecific)

b. mo- nga- langira **e**simba
PST- 1st.sg- see 9lion
'I saw a/the lion.' (specific)

In *v*P-internal position, the contrast between augmented and augmentless nominals appears to be one of specificity. However, just as in Zulu, augmentless nominals do not surface outside of *v*P in Kinande; nominals in *v*P-external positions can be ambiguous for specificity, as the contrast between pre- and post-verbal subject constructions in (65) below illustrates:

[9]All Kinande data is from Pierre Mujomba, p.c.

(65) a. **o**mundu a- ma- gonga
1person 1S- PRES- knock
'Someone's knocking.' (specific or nonspecific)
or 'The person is knocking.'

b. *mundu a- ma- gonga
1person 1S- PRES- knock
for 'Someone's knocking.'

c. ha- ma- gonga mundu
16S- PRES- knock 1person
'Someone's knocking.' (nonspecific)

d. ha- ma- gonga **o**mundu
16S- PRES- knock 1person
'A/the person is knocking.' (specific)

While more investigation is needed for these Kinande facts, the structural restrictions placed on augmentless nominals, but not on nominals with augments, appear similar to those found in Zulu. Regardless of the status of agreeing nominals in the language, the ability for both types of nominals to appear in *v*P-internal A positions is beyond the scope of Baker's (2003) account, but in line with the analysis of Zulu proposed in this paper.

6 Conclusion

In this paper, I have argued for the existence of a system of structural case licensing in the Bantu language Zulu. In proposing such a system, I depart from work on Bantu that argues against the existence of case effects in the language family (Ndayiragije 1999; Alsina 2001; Baker 2003; Carstens and Diercks to appear; Diercks to appear). While my analysis illustrates a familiar mechanism at work in Zulu, the Zulu facts conspire to camouflage the presence of the Case Filter throughout most of the grammar: as I show, structural case licensing effects only emerge for the class of augmentless nominals, whose distribution is also subject to independent grammatical restrictions. The class of augmented nominals, which I argue to bear inherent case, do not exhibit structural restrictions, as I demonstrate in section 2 and section 3, and thus show no evidence of case effects. In the case of augmentless nominals, as I show in section 3, it is only when the independent grammatical requirements are met that we can see the role that structural licensing plays. Once we consider the right environments, we see that these nominals are only licensed in specific syntactic configurations, and will undergo A movement from a non-licensed to a licensed position, just as in more familiar languages like English. I presented evidence from raising-to-object constructions and from the behavior of *v*P-internal arguments to show that all structural licensing in Zulu occurs within *v*P, mediated by a licensing head (L) directly above *v*P and by applicative heads.

One striking feature of the argument licensing system in Zulu is that the behavior of these nominals indicates that they *cannot* receive case licensing in Spec,TP position: augmentless nominals in Spec,TP must further raise to a *v*P-internal position, just as nominals in the specifier of a nonfinite TP in English must further raise to Spec,TP in a finite clause. While this finding shows that in

some ways the behavior of nominals in Zulu is in line with other Bantu languages for which no evidence for case in Spec,TP has been found, it raises some deep questions about the architecture of the grammar. In particular, in languages that exhibit subject agreement or EPP effects, the position in which nominals engage in these processes, Spec,TP, is also typically a case licensing position. This link is so pervasive that several recent proposals have suggested that these mechanisms should be formally reduced to a single component in the grammar (e.g. Chomsky 2000, Schütze 2001, Bobaljik 2008). In Zulu, it appears that case licensing operates in a different domain in the clause than do subject agreement and EPP effects, which is evidence of a dissociation of these components in the grammar of Zulu. If Zulu provides evidence that EPP/agreement and case can exist as independent grammatical mechanisms, then we need to return to the question of why such a close association between these phenomena exists in so many languages.

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