Where's the topic in Zulu?

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Where's the topic in Zulu?[1]

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Abstract

This article provides a detailed investigation of the prosody and syntax of dislocation in Durban Zulu, an Nguni Bantu language spoken in South Africa. With focus elements obligatorily appearing in an immediately after the verb position, non-focused elements within a verb phrase have to be right- or left-dislocated. We discuss the asymmetries between right- and left-dislocation, showing that only left-dislocated elements can be topics. We argue that aside from a pre-subject Topic position, there is also a Topic position between the subject and the verb phrase. The prosodic phrasing cues in Zulu show that both the CP and the vP phases play a crucial role in determining the alignment with Intonational Phrases.

1. Introduction

In this article, we investigate the prosody and syntax of dislocation in Durban Zulu, an Nguni Bantu language spoken in South Africa. (We are using 'dislocation' here in a non-technical way to refer concisely to the displacement of DPs from their canonical positions.) Dislocation correlates with the information structure status of a DP in Zulu. As shown by the data in (1), a non-subject focused constituent – for example, a wh-question particle or wh-phrase or the

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answer to a wh-question – must occur *immediately after the verb* (IAV).[2] Other, non-focused constituents are dislocated away from this position.

(1) Left and right dislocations[3]

a. Left dislocation

Q *ízi-vakâ:shi*) *u-zi-phekéla:-ni*)*?*
8-visitor you-OM8-cook.for-what
'What are you cooking for the visitors?'

A *ízi-vakáshi ngi-zi-phekél' í-nya:ma*).
8-visitor I-OM8-cook.for 9-meat
'I am cooking visitors some meat.'

b. Right dislocation

Q *úm-fúndísi ú-yí-thólê:-phi*) *ín-dánda:tho*)*?*
1-teacher SM1-OM9-find-where 9-ring
'Where did the teacher find the ring?

A *úm-fúndísi ú-yí-thólé é-táfúle:-ni*)
1-teacher SM1-OM9-find LOC9-table-LOC
ín-dánda:tho).
9-ring
'The teacher found the ring on the table.'

A closer look at left and right dislocation reveals interesting asymmetries in their prosody, syntax and information structure which, we argue, motivate more than one syntactic Topic position for left dislocation and vP-adjunct status for right dislocated elements. In contrast, we show that the IAV 'position' for focused complements is not a dedicated syntactic projection. Rather, IAV focus is 'in situ', optimized by dislocating non-focused DPs from VP. The argument for this analysis is organized as follows. In Section 2 we provide more examples of dislocation and a brief sketch of their prosodic and interpretational properties. In Sections 3 and 4, we provide syntactic arguments in favor of the in-situ analysis of IAV focus and the adjunct status of right dislocations. In Sections 5 and 6, we provide a syntactic analysis which accounts for the asymmetries found with left and right-dislocated elements. We conclude by discussing some cross-linguistic implications of the Zulu analysis for the prosody and syntax of topics.

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2. Subject DP wh-questions and answers must be clefted (Cheng and Downing 2007, 2008b). Some examples of this are given in Section 3, below.
3. Abbreviations in the glosses are as follows: FUT: future morpheme; FV: final vowel; LOC: locative; NEG: negation; OM: object marker; PL: plural; Q: yes–no question particle; REL: relative agreement; TAM: tense aspect marker. Numbers in the glosses indicate nominal agreement classes. In the data, object markers (OMs) are bolded; the 'dislocated' elements associated with an OM are underlined; parentheses indicated prosodic phrasing.

2. The context and prosody of simple dislocations in Durban Zulu

2.1. Asymmetries in left vs. right dislocation

Word order in many Bantu languages is canonically (S) V (IO) (DO) (see, e.g., Bearth 2003; Heine 1976). This is illustrated below with Zulu examples:

(2) a. *ú-Síph' ú-phekél' ú-Thánd' in-kû:khu*).
1-Sipho SM1-cook.for 1-Thandi 9-chicken
'Sipho cooked chicken for Thandi.'
b. *ín-kosíka:zi*) *í-théngel' ábá-fán' ízím-ba:tho*).
9-woman SM9-buy.for 2-boy 10-clothes
'The woman is buying clothes for the boys.'

However, in many Bantu languages, as in other language families, word order is flexible, with information structure as a factor favoring non-canonical word orders like those found with left and right dislocations. As shown by the Zulu data in (3) and (4), both right- and left-dislocations are easily elicited by asking wh-questions or polarity questions on a verb complement. This is because both the wh-question word or particle and the answer to the wh-question, both in new information focus as well as an answer to a polarity question, must occur *immediately after the verb* (in IAV). This is shown by the contextually unacceptable answers in (3e, f). In these two cases, the focused element *ábázali* 'parents' is not in IAV. Verb complements with contrastive focus also typically occur in IAV position, as shown in (4c).[4] A verb complement repeated from the question can be displaced from its canonical postverbal position either to preverbal position, as shown in (3aA, 3bA, 3cA/A2), or to a position following the element in IAV, as shown in (4).

(3) Left dislocations
a. Q *ámá-bhayisékíl' u-**wá**-níkê: ô:-ba:ni*)*?*
6-bicycle you-OM6-give 2-who
'Whom did you give bicycles to?'
A *ámá-bhayiséki:li*) *si-**wá**-níkê: ábá-ntwa:na*).
6-bicycle we-OM6-give 2-child
'We gave bicycles to the children.'

4. As Buell (2005, 2006, 2009) makes clear, while IAV position is obligatory for certain items in focus, the opposite correlation does not hold. Items in IAV position are not necessarily in focus, as this is also the canonical position for verb complements under broad focus and also the required position for certain adverbials. The interested reader should consult Buell's work for more detailed discussion of this point.

b. Q *u-**wa**-thénga:-ph'*) *ama-thíkíthí* *(e)si-tíme:la*)*?*
you-OM6-buy-where 6-ticket 7-train
'Where do you buy tickets for the train?'
A *ama-thíkíthí* *(e)si-tímel'* *u-**wa**-théng'* *e-m-shín-i:ni*)
6-ticket 7-train you-OM6-buy LOC-9-machine
'You buy train tickets from the machine.'

c. Q *ízin-cwâ:di*) *ú-Síph'* *ú-**zi**-thumelélé:* *ízi-ngâ:ne*)
10-book 1-Sipho SM1-OM10-send.to 10-child
yî:ni) *nóm'* *ábá-za:li*)*?*
Q or 2-parent
'Did Sipho send the books to the children or to the parents?'
A *ú-Si:phó*) *ízi-ncwád'* *ú-**zi**-thumelelé:* *ábá-za:li*).
1-Sipho 10-book SM1-OM10-send.to 2-parent
'Sipho sent the books to the parents.'

d. A2 *ízin-cwâ:di*) *u-Síph'* *ú-**zi**-thumelélé:* *ábá-za:li*).
10-book 1-Sipho SM1-OM10-send.to 2-parent
cf. *ungrammatical if focused answer is not in IAV*

(i) *#uSipho u-ba-thumelele izincwadi abazali.*
(ii) *#abazali uSipho u-ba-thumelele izincwadi.*
(Both answer, 'What did Sipho give to the parents?')

(4) Right dislocations

a. Q *ízí-vakâ:shi*) *zí-**yí**-thengelê:-ni*) *ímí-ndeni*
8-visitors SM8-OM4-buy.for-what 4-families
yâ:zo)*?*
4.their
'What did the visitors buy for their families?'
A *ízí-vakáshí* *zí-**yí**-thengelé* *ízí-ngu:bo*) *ímí-ndeni*
8-visitors SM8-OM4-buy.for 10-clothes 4-families
yâ:zo)
4.their
'The visitors bought clothing for their families.'

Q *úm-fúndís'* *ú-**m**-nikê:-ni*) *ó-wín-i:le*)*?*
1-teacher SM1-OM1-give-what REL1-win-TAM
'What did the teacher give to the winner?'
A *úm-fúndí:sí*) *ú-**m**-nikez-é:* *í-méndlè:la*)
1-teacher SM1-OM1-give-TAM 5-medal
ó-wín-i:le)
REL1-win-TAM
'The teacher gave a medal to the winner.'

b. Q *úm-fúndí:sí*) *ú-**m**-niké:le-nje*) *úm-fúnd'*
1-teacher SM1-OM1-give.to-Q 1-student
izí-mba:li)*?*
10-flower
'Did the teacher give the student flowers?'
A *Châ:!* *úm-fúndí:sí*) *u-**m**-niké:* *í:-méndle:la*)
No! 1-teacher SM1-OM1-give 5-medal
úm-fú:ndi).
1-student
'No. The teacher gave the student a medal.'

Note that we find an obligatory object marker (OM) referring to an Indirect Object or Direct Object which is not in its canonical position, whether it occurs preverbally or following the *wh*-morpheme or answer in IAV position. Work like Buell (2005, 2006) and van der Spuy (1993) demonstrates that in Zulu the presence of an object marker is associated with syntactic dislocation. Strikingly, as the question-answer pair in (5) shows, an object marker on the verb referring to an object DP following a focused IAV element is obligatory, even when the postverbal complements are in the canonical order (IO DO):

(5) Q *ú-Si:pho*) *ú-**yí**-phékéla* *ba:ni*) *ín-ku:khu*)*?*
1-Sipho SM1-OM9-cook.for who 9-chicken
'Who is Sipho cooking the chicken for?'
A *ú-Síph'* *ú-**yí**-phékél'* *ízí-vakâ:sh'*) *ín-ku:khu*).
1-Sipho SM1-OM9-cook.for 8-visitor 9-chicken
'Sipho is cooking the chicken for the visitors.'

This provides one piece of evidence that the post-IAV DPs are right-dislocated. We return to their syntactic representation in Section 3, below.

Beside these similarities in left vs. right dislocations, we find asymmetries in both their discourse context and their prosodic phrasings. Even though any non-focused element is potentially a topic in many theories (e.g., Büring 1997: 54), the data in (6) illustrates that there is an asymmetry in the discourse context for left vs. right dislocations in Zulu. (More examples are given in section 4.) Non-focused DPs cannot be right-dislocated, *if they are discourse topics*. This can be seen by comparing the acceptable follow-on sentence in (6b), where the topic *ámá-ny(e) ámá-thanga* 'some pumpkins' occurs pre-verbally, with the unacceptable version in (6c), where *ámá-ny(e) ámá-thanga* has been right-dislocated:

(6) a. *ma-ní:ng'*) *amá-tha:ng'*) *e-nsím-íní* *ká-Si:pho*).
COP.6-many 6-pumpkin LOC-9.garden-LOC of-Sipho
'There are many pumpkins in Sipho's garden.'

b. *Left dislocation is preferred word order for topic in follow-on:*
*<u>ámá-ny'</u> <u>ámá-tha:ng'</u>) u-Síph' u-zo-**wa**-ník'*
6-some 6-pumpkin 1-Sipho SM1-FUT-OM6-give
ízi-hlóbo z-á:khe).
8-relative 8-his
'Sipho will give his relatives some pumpkins.'

c. *Right dislocated topic is ungrammatical as a follow-on to (a):*
*#ú-Sípho ú-zo-**wa**-níka ízi-hlóbo z-á:khe*) <u>ámá-ny' ámá-tha:nga</u>).

The data in (3) through (5) illustrate that there is also an asymmetry in the prosodic phrasing of left vs. right dislocations. (Parentheses in the data indicate the prosodic phrasing of the sentences.) The most consistent phonological correlate of the phrasing is a lengthened phrase-penult vowel. As shown in (4) and (5), right-dislocated DPs which follow the IAV position are consistently preceded by a prosodic phrase break. More precisely, an IAV wh-word or enclitic is always followed by a prosodic phrase break. There are no exceptions to this generalization in the data we have elicited. The focused answer to a wh-question on a verb complement, also in IAV position, is also typically followed by a prosodic phrase break. In a sample of 41 answers to wh-questions in our database,[5] we found a phrase break in 31 examples (75 %), no phrase break in 10 examples. We conclude from this that right-dislocated elements are preferably phrased separately from what precedes. The prosodic phrasing of left-dislocated DPs is much more variable. For example, if we compare a question-answer pair like (3a, b), we see that left-dislocated DPs are sometimes phrased separately from what follows and sometimes they are not. Indeed, at first blush we seem to find free variation in the prosodic phrasing of left-dislocated DPs: in a sample of 42 sentences with left dislocation in the same elicitation corpus, we found that 22 phrase separately from what follow, while 20 do not.

In Sections 4 and 5 we take a closer look at left- and right-dislocated DPs, and develop a syntactic analysis which accounts for these asymmetries. The variability in the prosodic phrasing of left-dislocated DPs will also find an account in the syntactic analysis. To better understand the syntactic analysis of dislocations, we first provide an analysis of IAV focus in Zulu.

5. The sample corpus referred to here is a data set collected during, roughly, a six month period of work with Meritta Xaba, using the standard interview elicitation technique.

3. IAV focus is in situ

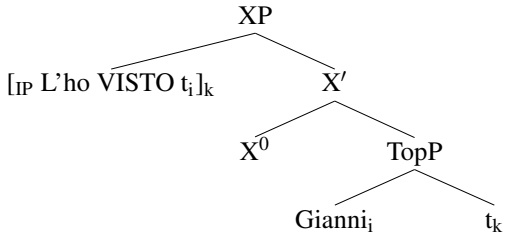
In this section, we argue that focused elements in IAV are in situ at the right edge of *v*P; they do not move to a special (IAV) focus position. Rather non-focused elements move, due to syntactic and prosodic constraints on the realization of phrasal prominence. Although this analysis has some similarities to recent work on focus and dislocation in Italian by Samek-Lodovici (2006), as we show in Section 3.1, Samek-Lodovici's analysis cannot extend to Zulu. In Sections 3.2 and 3.3 we present our own analysis.

3.1. Against focus by movement

Recent work on dislocation favors a parallel analysis of right and left dislocation (cf. Cecchetto 1999; Samek-Lodovici 2006; Vallduví 1990 among others). Left dislocation involves movement of a noun phrase to SpecTopP. In Samek-Lodovici's (2006) analysis, right dislocation involves subsequent remnant movement to SpecXP, as shown in (7b), which illustrates the derivation of (7a) in his analysis:

(7) a. *L'ho VISTO, Gianni.*
(I) him have seen John
'I SAW John.'/'I DID see him.'

b.



As we can see in (7b), *Gianni*, being the topic, moves to SpecTopP. The remaining IP subsequently undergoes movement to a projection (XP) higher than TopP. In other words, regardless of whether we have a right- or left-dislocated DP, the DP moves to the TopP. In the case of right-dislocation, subsequent remnant movement of IP is necessary. Furthermore, in this analysis, like that of Vallduví (1990), focused elements are not in FocusP; rather they are at the right edge of IP. Data from Durban Zulu partially supports this approach to focus. We first present the Zulu data which is consistent with the analysis in (7b), and then go on to show that it cannot account for the complete range of Zulu data.

In Zulu, one can find an argument from the distribution of NPIs, parallel to the one given by Samek-Lodovici (2006) in Italian, for rejecting a FocusP

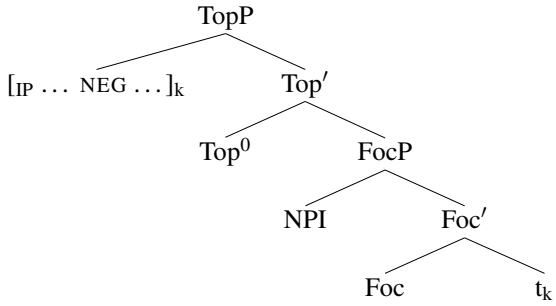
analysis of IAV position. As shown in (8b) and (9b), a focused NPI (*lutho, muntu*) is still licensed by negation.[6] Note that the NPI is also followed by a phrase break when in focus, on a par with other IAV focus elements:

(8) a. Context: I already told you what Sipho gave to Thandi.
Yes. But what did Sipho give to Themba?
b. Answer: Sipho didn't give anything to Themba.
ú-Síph' *áká-**m**-nik-áng-a* *lú:th'*) *<u>ú-The:mba</u>*).
1-Sipho NEG.SM1-OM1-give-NEG-FV anything 1-Themba

(9) a. Context: I already told you to whom Sipho gave the book.
Yes. But to whom did Sipho give the bicycle?
b. Sipho didn't give anyone the bicycle.
ú-Si:pho) *áká-**lí**-ník-áng-a* *mu:-nt'*)
1-Sipho NEG.1.SM-OM5-give-NEG-FV anyone
<u>í-bhayiséki:li</u>).
5-bicycle

As Samek-Lodivici argues, if we assume a FocusP analysis like that in (10), after the NPI moves to SpecFocusP, the rest of the IP (containing the negation) must be remnant-moved to SpecTopP (to ensure a right-edge focus or an IAV effect), resulting in a structure in which the NPI is outside the scope of its licensor:

(10)



We conclude from this that the focused NPI (and other elements in IAV) cannot be in a Focus Phrase in Zulu.[7]

6. In Zulu, the NPI *mu-ntu* differs from the non-NPI *u-mu-ntu* 'person' by the lack of the pre-prefix/augment of the noun, *u* (see Buell 2005; Doke 1961, among others).
7. See Cheng and Downing (2008a) for more detailed presentation of arguments against equating IAV in Zulu with either a high or a low FocusP. And see Hyman and Polinsky (in press) for arguments against equating IAV with FocusP from the Bantu language, Aghem. As Buell (2009) and Cheng and Downing (2008a) demonstrate, however, their analysis of IAV in Aghem does not straightforwardly extend to Zulu. Like Hyman and Polinsky (in press), we do not rule out the possibility that IAV could be equated with FocusP in some Bantu languages. See van der Wal (2006) for plausible analysis along these lines for Makhuwa.

The most serious problem with a FocusP analysis for Zulu focused elements, though, is that non-focused, given elements must also be dislocated at the same time. We have seen in the data in Section 2 that a focused element in IAV goes hand in hand with the dislocation of the non-focused phrase (which has to be object-marked). That is, movement of a focused element could not just involve crossing over a non-focused element. As Buell (2009) points out, sentences such as (11), with the focused/*wh*-element crossing over a non-focused element, are not grammatical. The problem illustrated in (11) is that the object *isinkwa* 'bread' is not object-marked, showing that it has not been dislocated as required when a focused element occurs in IAV:

(11) **Ba-bhaka kanjani*$_i$ *isi-nkwa* t_i*?*
2-bake how 7-bread
'How do they bake bread?' (ungrammatical without object marking)

In other words, by positing movement of a focused element to the FocusP, we would also need to posit a chain-reaction type of movement of a non-focused element. We cannot think of any syntactic or semantic motivation which could drive such movement.

However, other Zulu data do not support some of the predictions put forth by the analysis in Samek-Lodivici (2006) (exemplified in (7b)). For example, this analysis claims that the right-dislocated phrase is in TopicP and the focus has been remnant moved. Samek-Lodovici (2006) shows that this accounts for apparent clause-initial focus in Italian:

(12) *MARCO, abbiamo visto.*
Mark, (we) have seen
'We have seen MARK.'

In his analysis, the focused DP, *Marco*, is first moved out of IP, and the remnant IP moves to TopicP. Subsequent movement of the phrase containing *Marco* to XP derives the clause-initial position of the focused element.

In contrast, Zulu does not allow clause initial focus. Preverbal focus of arguments requires clefts.[8] Clefts in Zulu are appositives with a two-part structure: (1) copula (depressor tone) plus a clefted head, and (2) an adjoined complex noun phrase, for example, a headless relative clause. (See Cheng and Downing (2007, 2008b) for further discussion and motivation of this analysis of clefts.) Wh-questions on subjects and answers to these questions must be clefted, as shown in (13a) below. Preverbal non-subject DPs with contrastive focus must also be clefted, as shown in (13b):

8. Contrastive focused locatives can occur in clause-initial position, as we show in Section 5. See Morimoto (2000) and references therein for detailed discussion of the strong cross-Bantu tendency for preverbal position to be reserved for topics and to be unavailable for focus.

(13) a. *Subject cleft*
Q *òó-ba:n'*) *abá-dlala é-sí-kól-e:ni*)*?*
Cop.2-who 2.REL-play LOC-7-school-LOC
'It is who who is playing at school?'
A *Abá-ntwa:n'*) *abá-dlala é-sí-kól-e:ni*).
2child 2.REL-play LOC-7-school-LOC
'It is the children who are playing at school.'

b. *Non-subject cleft*
u-Nhlâ:nhla) *é-ngi-zo-khúlúma na:ye*) *hhá:yí ú-Si:pho*).
Cop.1-Nhlanha REL-I-will-talk with.1 not 1-Sipho
'It is Nhlanhla I will talk to, not Sipho.'

The possibility of remnant movement incorrectly predicts clause-initial focus should be found in Zulu just like in Italian.

A final problem with extending the analysis of right-dislocation in (7b) to Zulu comes from the fact that the "remnant" can contain more than one wh-element:

(14) *u-niké ba:ni*) *î:ni*), *ú-Si:pho*)*?*
1a-give who what, 1-Sipho
'What did he give to whom, Sipho?'

Multiple wh-questions like the one in (14) yield a pair-list answer, showing that the wh-phrases undergo movement at LF (see Dayal 2002). However, given an analysis along the lines of (7b), the first wh-phrase is contained within the remnant IP. Movement of the wh-phrase out of the remnant IP is equivalent to incurring a subject-island violation. We therefore do not expect to have a pair-list reading, contrary to fact.

To sum up this section, we have argued that Samek-Lodovici's (2006) analysis of dislocation in Italian only partially accounts for superficially similar facts in Zulu. Like Italian, IAV focused elements in Zulu are not in FocusP. However, unlike Italian, a focused DP cannot occur clause initially (unclefted), and a right-dislocated DP is not in TopicP. In the next sections, we first present our analysis of IAV focus and right-dislocation. We take up the analysis of left-dislocated elements in Sections 5 and 6.

3.2. A syntactic alternative

If the right-dislocated element is not in TopicP and focused elements are not in FocusP, then where are they? What we propose in this section is that focused elements are not found in a particular position because they move to a designated focus position. Rather, the interaction of independently-motivated constraints on the optimal syntactic and prosodic realization of focus straightforwardly

motivate dislocating non-focused elements, leaving focused elements in situ, linearly in IAV.

As the first step in the analysis, recall that if one of the verbal objects (i.e., D.O. or I.O.) is focused, the non-focused one can be right dislocated (if it is not the discourse topic), and it is separated from the argument in IAV focus by a prosodic phrase boundary, as in (15a, b):

(15) a. *úm-fá:na ú-**yí**-nikezê:-ni) ín-tómbazâ:ne)?*
1-boy SM1-OM9-give-what 9-girl
'What did the boy give to the girl?'

b. *ú-Si:pho) ú-**yí**-phékéla ba:ni) ín-ku:khu)?*
1-Sipho SM1-OM9-cook.for who 9-chicken
'Who is Sipho cooking the chicken for?'

In (16a, b), we see that when an indirect object or a direct object is right-dislocated, it is dislocated to a position preceding the adjuncts. Dislocated arguments following the adjuncts are considered ill-formed, as can be seen by comparing (17a, b) with (16a):

(16) a. *ú-Síph' ú-**m**-phékélê:-n') ú-Thâ:ndi) émzini*
1-Sipho SM1-OM1-cook.for-what 1-Thandi LOC.home
wakh' ízo:lo)?
your yesterday
'What did Sipho cook for Thandi at your house yesterday?'

b. *ú-Síph' ú-**yí**-phékélé ba:n') ín-kúkh' ízo:lo)?*
1-Sipho SM1-OM9-cook.for who 9-chicken yesterday
'Who did Sipho cook chicken for yesterday?'

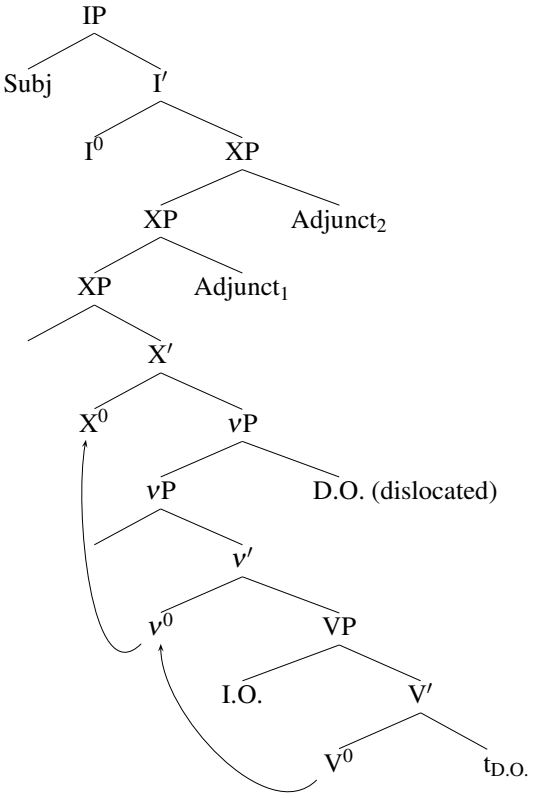
(17) a. **u-Sipho u-**m**-phekele-ni emzin' wakho*
1-Sipho SM1-OM1-cook.for-what LOC.home your
izolo u-Thandi?
yesterday 1-Thandi
'What did Sipho cook for Thandi at your house yesterday?'

b. **u-Sipho u-**m**-phekele-ni izolo u-Thandi?*
1-Sipho SM1-OM1-cook.for-what yesterday 1-Thandi
'What did Sipho cook for Thandi yesterday?'

Taking the adjuncts into consideration, we propose that right-dislocated arguments are adjoined to *v*P, with adjuncts base-adjoined to the XP,[9] as illustrated in the structure in (18):

9. Following Julien (2002) and Buell (2005), we assume that the verb in Zulu undergoes movement to a position between I^0 and v^0 (we label it here as X^0). This is mainly because of the fact that a verb in Zulu contains both inflectional prefixes and suffixes.

(18)



Under this structure, the focused element (in the case of (18), it is the indirect object) simply remains in-situ. This syntactic analysis has several advantages. First, focused NPIs are c-commanded by the negative verb. There is also no need for simultaneous movement of focused and non-focused elements. Further, adjuncts do not have to be moved to accommodate their non-focused status. Still to be explained is why non-focused arguments have to be moved, leaving focused elements *in situ*, in IAV position. We also have not yet accounted for the prosodic phrase break following the element in IAV. The OT analysis in the next section accounts for both.

3.3. Prominence and dislocation

Cheng and Downing's (2007, 2008a) work on prosodic phrasing in a range of Zulu constructions demonstrates that the right edge of *v*P and CP systematically correlate with prosodic phrase breaks. Evidence for a prosodic phrase break at the right edge of CP comes from the fact that we find a break following,

but not preceding, restrictive relative clauses and other embedded clause types; see (19c, d, e). Simple subjects are not obligatorily followed by a prosodic phrase break, as can be seen by comparing (19a, b, c) and (15b):

(19) a. [$_{CP}$ *úm-fúndísi* *ú-fúndelê:* *ábá-zal'* *ín-cwa:di.*])
1-teacher SM1-read.to 2-parent 9-letter
'The teacher read to the parents a letter.'

b. [$_{CP}$ *ízin-g'áne* *zi-hlúph'* *ís-álúkwa:zi.*])
10-child SM10-bother 7-old.woman
'The children are bothering the old woman.'

c. [$_{CP}$ *ú-Síph'* *ú-fún'* [$_{CP}$ *úkúth'* *ú-Thándi* *á-théng'*
1-Sipho SM1-want that 1-Thandi SM1-buy
í-bhayiséki:li.]])
5-bicycle
'Sipho wants Thandi to buy a bicycle.'

d. [$_{CP}$ [$_{CP}$ *Ín-dod'* *é-gqoke* *ísí-gqo:ko*]) *í-boné*
9-man REL.SM9-wear 7-hat SM9-see
ízi-vaká:shi.])
8-visitor
'The man who is wearing a hat saw the visitors.'

e. [$_{CP}$ *si-phul'* [$_{CP}$ *ím-baz'* *é-théngw-é*
we-break 9-axe REL9-be.bought-TAM
námhlâ:nje.]])
today
'We broke the axe that has been bought today.'

Evidence for a prosodic phrase break at the right edge of *v*P comes from the phrasing of adjuncts. As we have seen, arguments must precede locative and temporal adjuncts in a broad focus context or VP focus context like that illustrated in (16), above, and below in (20). Locative and temporal adjuncts are also separated from the preceding arguments by a prosodic phrase boundary. Both these facts are consistent with adjoining locative and temporal adjuncts above the *v*P, the structure proposed in (18), above.

(20) a. *ú-Síph'* *ú-phék'* *ín-ku:khu*) *kwám'* *ízo:lo*).
1-Sipho 1-cook 9-chicken 17.mine yesterday
'Sipho cooked chicken at my place yesterday.'

b. *bá-ník'* *ú-Síph'* *í-bhayiséki:li*) *namhlâ:nje*).
3PL-gave 1-Sipho 5-bicycle today
'They gave Sipho a bicycle today.'

We account for these prosodic phrasing generalizations in the Edge-based alignment theory. (See Selkirk 1986, 1995, 2000; Truckenbrodt 1995, 1999, 2005, 2007; An 2007.) The basic parsing algorithm in the Edge-based theory

requires one edge of a major syntactic constituent (XP or CP) to coincide with an edge of the corresponding prosodic constituent (Phonological Phrase or Intonation Phrase, respectively). We follow work like An (2007), Ishihara (2007), Kahnemuyipour (2004, 2008) and Kratzer and Selkirk (2007) in proposing that prosodic phrasing can also be conditioned by phases: *v*P and CP.[10] The constraints relevant for Zulu prosodic phrasing in a broad focus context in (21) and (22) together optimize a strict match between the right edge of Intonation Phrases and the right edge of syntactic phases:[11]

(21) ALIGNR[PHASE, INTPH]:
Align the right edge of every phase (*v*P/CP) with the right edge of an Intonation Phrase (IntPh).

(22) ALIGNR[INTPH, PHASE]:
Align the right edge of every Intonation Phrase (IntPh) with the right edge of a phase (*v*P/CP).

The analysis of broad focus phrasing is exemplified in the tableaux below. Note that parentheses indicate prosodic phrase boundaries:

(23) Broad focus phrasing

a. Two arguments

	ALIGNR-PHASE	ALIGNR-INTPH
☞ i. S V IO DO]$_{VP}$]$_{vP}$]$_{CP}$)		
ii. S V IO) DO]$_{VP}$]$_{vP}$]$_{CP}$)		*!

b. Argument plus Adjunct

	ALIGNR-PHASE	ALIGNR-INTPH
☞ i. S V DO]$_{VP}$]$_{vP}$) Adj]$_{IP}$]$_{CP}$)		
ii. S V DO]$_{VP}$]$_{vP}$ Adj]$_{IP}$]$_{CP}$)	*!	

In Tableau (23a), with two arguments following the verb in a broad focus context, it is optimal to parse both arguments with the verb in a single Intonation Phrase. Phrasing the arguments separately from each other, as in (23a.ii), violates the alignment constraint in (22): the phrase breaks are not both at a phase

10. Following Chomsky (2001), we take CP to be a phase. See An (2007), Fox and Pesetsky (2005) and Ishihara (2007) for discussions of whether *v*P in a particular language is a phase or not.

11. Note that most of the analyses using the notion of phases assume Chomsky's original idea that the complement of the phase head gets spelled-out. This means that for the CP phase, it is the IP (the complement of the C (phase) head) that is spelled-out. In our analysis, the complement of a phase does not play any role.

edge. In contrast, in sentences with an argument and an adjunct following the verb in a broad focus context, it is optimal for a phrase break to fall between the argument and the adjunct, as in candidate (23b.i). Phrasing the argument and adjunct together, as in candidate (23b.ii), violates the constraint in (21): the right edge of the *v*P phase is not followed by an Intonation Phrase break.

The prosodic phrasing we find in broad focus contexts clearly supports the syntactic analysis of IAV focus in Zulu given in (18). Since a focused IAV element phrases with the verb, it must be in the same *v*P as the verb. Since non-focused elements are phrased separately from IAV, they have to be outside of *v*P. We propose that the following constraints account for why non-focused arguments have to be moved, leaving focused elements *in situ*, in IAV position. First, IAV focus elements are restricted to a particular syntactic domain, namely, the minimal *v*P in the *v*P phase (see the structure in (18)), to satisfy the cross-linguistically well-supported requirement that phrasal prominence should fall on the Highest Phrase of the inner verbal domain. (See Kahnemuyipour 2004, 2008; Kratzer and Selkirk 2007.)[12]

(24) Highest Phrase Condition (HPC):
Prominence [i.e., focus] is licensed within the highest phrase (HP) in the minimal *v*P in the *v*P phase. More precisely: if prominent [focused], then in the Highest Phrase.

In the analysis of Zulu IAV focus, HPC incurs a violation whenever a constituent in narrow focus (labeled 'F') is not the Highest Phrase within the minimal *v*P in the *v*P phase.

We must also account for the fact that IAV focused elements are always followed by a prosodic phrase break. Note that this prosodic break means that IAV focused elements always have phrasal stress, realized as lengthening of the Intonation Phrase penult vowel. As a result, focused elements satisfy a robust cross-linguistic correlation between focus and stress:[13]

(25) Focus-Prominence Constraint (FPC; adapted, Samek-Lodovici 2005):
Focused constituents must be assigned prosodic prominence (i.e., phrasal stress).

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12. Note that the domain "minimal *v*P in the *v*P phase" also takes care of cases other than focused arguments. See Cheng and Downing (2008a) for more detailed motivation of the HPC and FPC constraints and also for an account of how this approach can be extended to focused adjuncts, which also have to be in IAV.
13. The constraint in (25) is adapted from Samek-Lodovici (2005: 697); similar principles can be found in work like Selkirk (1995, 2005), Szendroï (2003) and Truckenbrodt (1995). However, in Zulu, focused elements have phrasal stress, *not necessarily sentential stress*, which is always assigned to the sentence-final penult.

The FPC (25) also accounts for why non-focused elements exit the *v*P. An element in focus optimally has prosodic prominence (phrasal stress); therefore, it must be at the right edge of the Intonation Phrase conditioned by *v*P, i.e., the right edge of *v*P. (N.B.: we are assuming a high-ranked constraint which insures that the penult of the rightmost element of the Intonation Phrase is assigned phrasal stress.) That is, the HPC and the FPC are best satisfied if the focused element is the only XP in the *v*P: it is then by definition the Highest Phrase, and it is then by definition at the right edge of *v*P, assigned phrasal stress. For the movement of non-focused elements to be optimal, the constraint in (26) must be low ranked:

(26) STAY: Don't move constituents.

The overall constraint ranking which is relevant for IAV focus in Zulu is summarized below and exemplified by the tableaux in (28) and (29):

(27) Constraint ranking for Zulu prosodic phrasing:
ALIGNR-PHASE, ALIGNR-INTPH, FPC, HPC ≫ STAY

The tableau in (28) illustrates the phrasing and syntactic structure of an indirect object in broad and narrow focus, followed by a direct object:[14]

(28) Focus on the IO

Broad focus	ALIGNR-PHASE	ALIGNR-INTPH	FPC	HPC	STAY
☞ a. S V IO_H DO] $_{VP}$] *v*P] $_{CP}$)					
b. S V IO_H) DO] $_{VP}$] *v*P] $_{CP}$)		*!			
c. S V IO_H] $_{VP}$] *v*P) DO] *v*P] $_{CP}$)					*!
d. S V DO_H] $_{VP}$] *v*P) IO] *v*P] $_{CP}$)					*!
Narrow focus on IO					
e. S V $IO_{F,H}$ DO] $_{VP}$] *v*P] $_{CP}$)			*!		
f. S V $IO_{F,H}$) DO] $_{VP}$] *v*P] $_{CP}$)		*!			
☞ g. S V $IO_{F,H}$]$_{VP}$]*v*P) DO] *v*P] $_{CP}$)					*

In the narrow focus candidates (28e, f, g), candidate (28g) is optimal because it satisfies the highest-ranked constraints. The focused constituent is stressed, satisfying FPC; *and* it is the Highest Phrase in the *v*P phase, satisfying HPC;

14. In the tableaux, parentheses indicate Intonation Phrase edges; H = highest phrase; F = narrow focus. Only right-dislocation of the non-focused verbal complement is shown, but, of course, left-dislocation would be equally optimal.

and it is followed by an Intonation Phrase break, satisfying the high-ranked alignment constraints.

The same constraint grammar optimizes IAV focus for direct objects:

(29) Focus on the DO

Broad focus	ALIGNR-PHASE	ALIGNR-INTPH	FPC	HPC	STAY
☞ a. S V IO_H DO] $_{VP}$] *v*P] $_{CP}$)					
b. S V IO_H) DO] $_{VP}$] *v*P] $_{CP}$)		*!			
c. S V IO_H] $_{VP}$] *v*P) DO] *v*P] $_{CP}$)					*!
d. S V DO_H] $_{VP}$] *v*P) IO] *v*P] $_{CP}$)					*!
Narrow focus on IO					
e. S V IO_H DO_F] $_{VP}$] *v*P] $_{CP}$)				*!	
☞ f. S V $DO_{F,H}$] $_{VP}$] *v*P) IO *v*P] $_{CP}$)					*
g. S V IO_H] $_{VP}$] *v*P) DO_F] *v*P] $_{CP}$)				*!	*

In the narrow focus candidates in (29) – the broad focus candidates are the same as in (28) – candidate (29f), where the focused element is both in the Highest Phrase and is stressed, is optimal because it satisfies all of the highest-ranked constraints. Notice that candidates (29e, g), with the verbal complements (IO, DO) remaining in their canonical order, are non-optimal, as they violate HPC: the non-focused IO, rather than the focused DO, is the highest phrase.

We show in the next section, that the analysis so far straightforwardly accounts for the interpretational, as well as the prosodic, properties of right dislocated elements. In Sections 5 and 6, we show that left-dislocated elements, unlike right-dislocated ones, are in Topic positions, and that there is, in fact, more than one Topic position for left-dislocated elements.

4. Right dislocations are adjuncts, not topics

In this section and the next, we take a more careful look at the prosodic, syntactic and interpretational asymmetries between left- and right-dislocations discussed in the introduction. In the discussion of IAV position in the previous section, we proposed that right-dislocated elements are external to VP, but not in a Topic Phrase; rather they are adjoined to *v*P, as shown in (18). The prosodic phrasing and the interpretation of right dislocation elements support this syntactic analysis. As noted above, prosodically, we find a striking asymmetry in the phrasing of left vs. right dislocations. There is a consistent phrase break before a right dislocated element; however, there is only variably a phrase break after a left-dislocated element. In fact, Durban Zulu is not the only Bantu lan-

guage where we find an asymmetry in the prosodic phrasing of left vs. right dislocated elements. In both Haya (Byarushengo et al. 1976; Hyman 1999; Downing 2002) and Northern Sotho (Zerbian 2006), left-dislocated elements phrase with what follows, while right-dislocated elements phrase separately from what precedes. As we have seen, the prosodic phrase break preceding right-dislocated elements falls out if they are adjoined to *v*P, as the right edge of *v*P consistently triggers a prosodic phrase break. The variability we find in the phrasing of left dislocations is obviously not accounted for by the analysis so far, though. In the next section, we show how the proper syntactic analysis of left dislocations leads us to expect variability.

We also noted in the introduction that there is an interpretational asymmetry between left and right dislocations. Right dislocations cannot serve as discourse topics; these must occur pre-verbally. We saw one example of this asymmetry in (6), repeated below for convenience:

(30) a. *ma-ní:ng'*) *amá-tha:ng'*) *e-nsím-iní* *ká-Si:pho*).
COP.6-many 6-pumpkin LOC-9.garden-LOC of-Sipho
'There are many pumpkins in Sipho's garden.'

b. *Left dislocation is preferred word order for topic in follow-on:*
ámá-ny' *ámá-tha:ng'*) *U-Síph'* *ú-zo-**wa**-ník'*
6-some 6-pumpkin 1-Sipho SM1-FUT-OM6-give
ízi-hlóbo *z-á:khe*).
8-relative 8-his
'Sipho will give his relatives some pumpkins.'

c. *Right dislocated topic is ungrammatical as a follow-on to (a):*
#u-Sipho u-zo-(**wa**-)nika izi-hlobo z-akhe ama-nye ama-thanga.

According to our Zulu language consultant, Meritta Xaba, the sentence in (30c) is grammatical, but the right dislocated element is not appropriate as a follow-on to the first sentence. In (30c), the pumpkins could be from a local shop, not necessarily from Sipho's garden. Similarly, right-dislocating the subject in (31b) is unacceptable in the context provided because it is then not interpreted as the discourse topic. (*ízo:lo* 'yesterday' is in IAV position as it is the new information in the response):

(31) Context:
Speaker A: I wonder when they bought the bicycles. (Several people bought bicycles.)

a. *í-bhaiyisékí:l'*) *ú-Síph'* *ú-**yí**-théngel'* *ízo:lo.*
5-bicycle 1-Sipho SM1-OM5-buy yesterday
'Sipho bought the bicycle yesterday.'

b. #*<u>í-bhaiyisékí:l'</u> ú-**yí**-théngel' ízo:lo ú-Si:pho.*

The following examples make the same point: it is unacceptable for the subject to be right-dislocated when it is also the topic. As (32c) shows, right-dislocation of the subject is possible when it is not the discourse topic:

(32) *ú-Si:phó*) *<u>ímí-fi:no</u>*) *ú-**yí**-phékél'* *ízi-ngá:ne*), *hháyi*
1a-Sipho 4-vegetable SM1-OM4-cook.for 10-child not
ízí-vakâ:shi).
8-visitor
'Sipho is cooking vegetables for the children, not for the visitors.'

a. *ízí-vakásh'* *a-zí-**yí**-dl-i* *<u>ímí-fi:no</u>*).
8-visitor NEG-SM8-OM4-eat-NEG 4-vegetable
'The visitors don't eat vegetables.'
ízí-vakáshi 'visitor' dislocated:

b. #*<u>imi-fino</u>* *a-zi-**yi**-dl-i* *izi-vakashi.*
4-vegetable NEG-SM8-OM4-eat-NEG 8-visitor
cf. non-discourse topic subject:

c. *í-théng'* *imí-fi:n'*) *é-mákéth'* *ín-kósíka:zi*).
SM9-buy 4-vegetable LOC-market 9-woman
'The woman bought vegetables at the market.'
[Context: answers, *What did the woman buy at the market?*]

As work like Vallduví (1990) has shown, left-dislocated elements can typically function as discourse topics (or 'links', in his terminology), while right-dislocated elements are normally discourse 'tails': i.e., non-focus, non-link parts of the sentence. Zulu fits this cross-linguistic pattern.

It is also a very striking pattern in our data that, when answering wh-questions, if the answer contains two complement DPs, the first word order volunteered places the DP in focus in IAV position, obligatorily, while the one repeated from the questions is almost always left dislocated:

(33) a. Q *u-**wa**-thwéle* *ngâ:n'*) *<u>amá-tha:nga</u>*)*?*
You-OM6-carry how 6-pumpkin
'How are you carrying the pumpkins?'

A *<u>amá-tha:nga</u>*) *si-**wa**-thwéle* *ngó-bhasikí:di*).
6-pumpkin we-OM6-carry with1a-basket
'We are carrying the pumpkins with a basket.'

b. Q *u-b'á:n'*) *é-ní-**m**-phékela* *ín-ku:khu*)*?*
COP1-who REL-you.PL-OM1a-cook.for 9-chicken
'Who is it that you are cooking the chicken for?'

A *<u>ín-kû:khu</u>*) *si-**yi**-phékél'* *ízí-vaká:shi*).
9-chicken we-OM9-cook.for 8-visitor
'We are cooking the chicken for the visitors.'

While right-dislocation of the DP repeated from the question is judged acceptable in these contexts, where discourse topic is not (yet) clearly defined, one still has the impression that answers preferentially have the Topic-Comment (or link-focus, in Vallduví's (1990) terms) format illustrated in (33), since that order is systematically volunteered first.

Under our analysis, then, right-dislocation has nothing to do with being a topic, let alone a discourse topic. A right-dislocated element is not in a Topic position, rather, it is adjoined to *v*P, as shown in (18). As we show in the next sections, left-dislocated elements are in Topic positions. The asymmetry in the interpretation of left vs. right dislocation is mirrored in our analysis by their different syntactic status.

5. Multiple topic positions at the left edge

Our prosodic (and syntactic) analysis does not yet account for why we find a variable prosodic phrase break following a left-dislocated element. The prosodic constraints in (21) and (22) are satisfied if there is no prosodic break; no constraint optimizes a break. The data presented so far, however, mainly involve 'simple' left dislocations in the sense that most of the sentences with a left dislocated complement lack an overt preverbal subject, making their precise syntactic position difficult to determine. To gain a more fine-grained picture of the structure of the left periphery, we now examine sentences with an overt subject and show that left-dislocated elements can appear either before or after the subject. We find asymmetries in how a left-dislocated element phrases prosodically with the subject, depending on its position. We also find some asymmetries in the types of elements which can occur in pre-subject and post-subject position. After describing the asymmetries in this section, we propose, in the next section, a syntactic analysis which accounts for them.

As shown by the data in (34a–c), with post-subject topics we still find a great deal of variation: in 18/36 (i.e., half) of the examples the post-subject topic phrases with the subject. A prosodic phrase break regularly follows the topic (29/36 examples), however. Only occasionally, as shown in (34d), do we find a break between the subject and topic and no break after the topic (7/36 examples):

(34) Post-overt subject topic (underlined)

a. Context: We are in Sipho's garden. We see that there is a bucket of water.

Q *ú-Si:phó*) *ú-zo-kwenza:-ni*) *ng-a-mâ:nzi*)*?*
1-Sipho SM1-FUT-do-what with-6-water
'What is Sipho going to do with the water?'

A *ú-Sípho* *ngá-la-mâ:nzi*) *ú-zo-chelel'* *ízím-ba:li*).
1-Sipho with-that.6-water SM1-FUT-water 10-flower
'Sipho is going to water the roses with that water.'

b. Context: What did the visitors buy for their families?
A *Ízí-vakásh'* *ímí-ndeni* *yâ:zo*) *zí-**yí**-thengelé:*
8-visitor 4-family 4.their SM8-OM4-buy.for
ízín-gu:bo).
10-clothes
'The visitors bought clothing for their families.'

c. Context: What did the woman buy at the market?
A *Ín-kósikaz'* *e-máke:th'*) *í-théng'* *ímí-fi:no*).
9-woman LOC-market SM9-buy 4-vegetable
'The woman bought greens at the market.'

d. Context: Who did the woman buy the greens from?
A *Ín-kósíka:zi*) *ímí-fín'* *í-**yí**-thengé:*
9-woman 4-vegetable SM9-OM4-buy
kú-m-li:mi.)
LOC-1-farmer
'The woman bought the greens from a farmer.'

The data in (35) and (36) illustrate pre-subject topics, showing that both contrastive locative topics and non-contrastive topics can occur in this position.[15] Pre-subject topics, like post-subject topics, generally phrase separately from the rest of the sentence. Unlike post-subject topics, however, pre-subject topics seldom phrase with the subject. Indeed, we systematically find a prosodic break between a topic and a following subject: in 34 out of the elicitation corpus of 41 examples (=83 %). This holds true whether the pre-subject topic is contrastive, as in (35b), or non-contrastive, as in (36b, d):

(35) Pre-subject contrastive locative topic (underlined)

a. Q *ín-du:na*) *izí:n-dlu*) *í-z-akhé:*
9-chief 10-house SM9-OM10-build
é-sí-godi-ni *se:thu*) *nomá* *nga-phá:ndle*)*?*
LOC-7-village-LOC 7.our or LOC-outside
'Did the chief build houses inside our village or outside our village?'

15. Recall from Section 3.1 that non-locative verb complements in contrastive focus must be clefted in order to occur in pre-verbal position. See Buell (2009) for discussion of other asymmetries in focusing locatives. Note that (35b) illustrates a point made earlier, namely, not all elements in IAV position are in focus, as IAV is the canonical position for the first complement.

b. A *é-sí-godi-ni* *se:thu*) *ín-duna* *y-akhé:*
LOC-7-village-LOC 7.our 9-chief SM9-build
izí:n-dlu), *hháyí* *nga-phá:ndle*).
10-house not LOC-outside
'The chief built houses inside our village, not outside our village.'

(36) Pre-subject non-contrastive topic (underlined)

a. Q *Úm-méli* *ú-**w**-enzénja:-ni*) *ámá-phe:pha*)*?*
1-lawyer SM1-OM6-do-what 6-paper
'What did the lawyer do with the papers?'

b. A *ámá-phe:ph'*) *úm-mél'* *ú-**wá**-sayín-í:le*).
6-paper 1-lawyer SM1-OM6-sign-TAM
'The lawyer signed the papers.'

c. Q *ízin-cwâ:di*) *ú-Síph'* *ú-**zi**-thumelélé:* *ízi-ngâ:ne*)
10-book 1-Sipho SM1-OM10-send.to 10-child
yî:ni) *nóm'* *ábá-za:li*)*?*
Q or 2-parent
'Did Sipho send the books to the children or to the parents?'

d. A *ízin-cwâ:di*) *u-Síph'* *ú-**zi**-thumelélé: á-bá-za:li*).
'Sipho sent the books to the parents.'

Note that not every preverbal topic position can host a contrastive locative topic. As we can see in (37a), it is ungrammatical to place a topic like *esigodini* 'inside the village', which is in contrast with *nga-phandle* 'outside', in post-subject position. Comparing the sentence in (37a) with the grammatical equivalent in (35b) shows that contrastive locatives can only be left-dislocated to pre-subject position, not to post-subject position. The grammatical sentence in (37b) shows that contrastive topics must occur not only before subjects, but also before other topics (i.e., non-focused information repeated from the question):

(37) a. Post-subject topic (underlined) cannot be contrastive
in-duna* ***esi-godi-ni* ***sethu*** *y-akhe:* *izin-dlu,*
9-chief LOC-7-village-LOC 7.our SM9-build 10-house
hhayi *nga-phandle.*
not LOC-outside
'The chief built houses insides our village, not outside.'

b. Contrastive locative (underlined) must precede other pre-subject topic
é-sí-godi-ni *se:thu*) *izí:-ndlu*) *ín-duna*
LOC-7-village-LOC 7.our 10-house 9-chief

í-z-akhé:), *hháyí* *nga-phá:ndle*).
SM9-OM10-build not LOC-outside
'The chief built houses inside our village, not outside our village.'

To sum up this section, we have provided evidence for, potentially, three preverbal Topic positions, two preceding and one following the subject. These positions have different discourse properties. Contrastive locative topics can appear only in the leftmost pre-subject topic position. It is ungrammatical for them to follow the subject, and they also must precede other preverbal topics. This is what motivates two pre-subject topic positions. Prosodically, we find distinct patterns in the phrasing when we combine subjects and topics in preverbal position, in contrast to the free variability found when only a topic precedes the verb. Pre-subject topics are regularly phrased separately from the subject and from what follows, whether they are contrastive or not. Post-subject topics show more variable phrasing: sometimes the topic phrases together with the subject and sometimes it phrases separately. The systematic pattern we find with post-subject topics is that, like pre-subject topics, they phrase separately from what follows. In the next section we show how the proper syntactic analysis of these different topic positions accounts for both the discourse asymmetries and the prosodic phrasing differences.

6. The syntax and phrasing of topics

In this section, we argue that the key to understanding why it is possible for some left-dislocated topics (and preverbal subjects) to phrase separately from what follows falls out from a general understanding of when left edges of phases (vP and CP) coincide with prosodic phrase boundaries in Durban Zulu. Recall that the constraints in (21) and (22) account for the fact that it is only the right edges of phases (vP and CP) which consistently coincide with Intonation Phrase boundaries. Left edges of embedded CPs do not systematically coincide with prosodic phrase breaks (as shown in (19a, b, c)). We therefore must explain why preverbal topics can trigger a break. We propose below that we can account for the attested prosodic phrase breaks at the left edge of phases, if we take into consideration the status of the phases, i.e., whether they are selected or not. The left edge of phases coincides with a prosodic boundary when the phase is not selected (by a head). No break occurs when the phase is selected.

6.1. Left edges of CP and prosodic phrasing

The first step in our argument that the non-selected status of a CP conditions prosodic phrasing at its left edge comes from comparing the phrasing of re-

strictive and non-restrictive relative clauses. As shown by the data in (38), non-restrictive relative clauses in Zulu, as in many languages (An 2007; Burton-Roberts 2005; Cheng and Kula 2006; Downing in press; Kanerva 1990; Nespor and Vogel 1986; Selkirk 1986; Truckenbrodt 2005), phrase separately from their heads. That is, in this construction the left edge of the relative clause's CP coincides with a prosodic phrase break:

(38) Non-restrictive relatives (Cheng and Downing 2007)

a. *(úMnúmzane Dú:be) (ó-bhek' émnya:ngo) ng'ú:-thíshá*
1.Mr. Dube REL1-look outside COP1-teacher
wa:mi).
my
'Mr Dube, who's looking outside, is my teacher.'

b. *(Si-mem' ú-Ja:bu) (o-m-ázi:-yo)*
we-invite 1-Jabu REL.you-OM1-know-REL
é-dilî:-ni).
LOC.9-party-LOC
'We are inviting Jabu, who you know, to the party.'

In contrast, in restrictive relative clauses, the head noun is phrased together with the relative clause. This is illustrated in (19d, e), above, and in the data below:

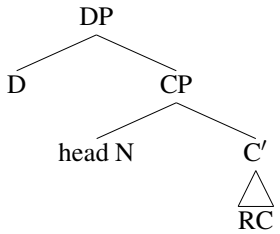
(39) *Restrictive relatives* (Cheng and Downing 2007)

a. [$_{CP}$ [$_{DP}$ [$_{CP}$ *(Ízi-túl' ámá-khósíkaz' á-zí-thénga:-yo)*]]
10-chair 6-women REL6-OM10-buy-REL
z-akhwé ithí:na)].
SM10-be.made by.us
'The chairs the women are buying were made by us.'

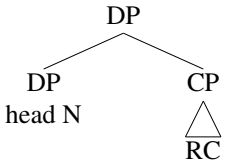
b. [$_{CP}$ [$_{DP}$ [$_{CP}$ *(Ín-dod' ízi-nj' ézí-yí-jahâ:-yo)*]]
9-man 10-dog REL10-OM9-chase-REL
í-ntshóntsh' í-qhû:de)].
SM9-steal 5-rooster
'The man who the dogs are chasing stole a rooster.'

Assuming a Kaynian analysis of restrictive relatives, the syntactic distinction between a restrictive and a non-restrictive relative can be characterized as in (40a, b):

(40) a. Restrictive relatives



b. Non-restrictive relative (Demirdache 1991)



As (40a) shows, under a Kaynian analysis, the head noun of a restrictive relative is within the CP that contains the relative clause, and the CP is a complement of the D head. In contrast, as shown in (40b), non-restrictive relative clauses have a different syntactic relation to their heads. The relative clause is adjoined to the DP, and the head noun is not included in the CP. The prosodic phrase break following the relative clause in both structures satisfies the constraints in (21) and (22). However, these syntactic structures do not suffice to explain why the left CP edge of the non-restrictive relative coincides with an Intonation Phrase boundary. To account for the prosodic break before the non-restrictive relative, we must posit an additional constraint.

There seem to be just two plausible alternatives: either the right edge of DP or the left edge of CP also aligns with an Intonational Phrase boundary. The first option, however, cannot be correct. Since subject DPs, like many left-dislocated DPs, do not necessarily phrase separately from the verb phrase, it cannot be the case that the right edge of DP is consistently aligned with an Intonation Phrase. The second option also appears to be incorrect. As we have already demonstrated, the left edge of CP does not generally coincide with a prosodic phrase break.

We propose that there is, though, a third alternative, which allows for the required variability in the phrasing of CPs on the edge where the head (or selector) lies. The key observation is that CPs which are aligned with an Intonation Phrase break at their left edge are not complement CPs, i.e., not CPs that are selected by a head. There are two cases (relevant to our current discussion) in which CPs are selected: one is in the case of a sentential complement selected by a verb, and the other involves a restrictive relative clause structure a là Kayne, where the CP is selected by D^0 (see (40a), above). We can see

that a CP is not left-aligned with an Intonation Phrase break if it is a complement. These two cases contrast with other CPs, which are not selected, e.g., non-restrictive relative CPs, sentential subjects, and other adjunct CP clauses. Non-selected CPs are the ones which are left-aligned with an Intonation Phrase. The following left-alignment constraint formalizes the proposal:

(41) ALIGNL(PHASE, I):
Align the left edge of each non-selected phase (vP/CP) with the left edge of an Intonation Phrase (I).

The prosodic break before a non-restrictive relative clause satisfies ALIGNL (41), as the left edge of a non-restrictive relative clause coincides with a non-selected CP phase edge. The CP containing a restrictive relative is selected by what precedes, and so this constraint does not optimize a prosodic break at its left edge.

In the next section, we argue that the pre-subject topic positions, which are regularly separated from the subject by an Intonation Phase break, are separated from the subject by a CP boundary which is not selected (since we are dealing with the matrix clause). Further, we suggest that Zulu also has a low Topic position below the subject (above the vP), which can accommodate the post-subject topic. We then extend the idea that the left-edge of a non-selected phase is aligned with the left-edge of an Intonational Phrase to the vP phase.

6.2. Topics, phases and prosodic phrasing

We have seen above that pre-subject topics are phrased separately from the subject ((35b), (36b)). Assuming that the left edge of the CP can count when we calculate prosodic phrasing, due to the constraint in (41), the phrasing differences between pre-subject and post-subject topics can be accounted for if pre-subject topics are generally outside of CP. The second topic position is motivated by sentences like (37b) above, where we find two pre-verbal topics, both phrased separately from the subject (see Rizzi 1997 for the system of functional heads proposed in the CP domain):

(42) $[_{CP}$ Contrastive Topic $[_{CP}$ Topic $[_{CP}$ $[_{IP}$ Subject $[_{vP} \ldots$]]]]

We have seen that post-subject topics can be phrased together with the subject, though they are usually phrased separately from the verb phrase. This was illustrated in (34c), repeated here as (43), where the post-subject topic is underlined for ease of identification:

(43) Context: What did the woman buy at the market?
A *Ín-kósikaz' e-máke:th') í-théng' ímí-fi:no).*
9-woman LOC-market SM9-buy 4-vegetable
'The woman bought greens at the market.'

A possible analysis is to consider that the subject noun phrase is topicalized in such cases, yielding a double-topic configuration. This can be schematized as follows:

(44) $[_{CP}$ Top_1 = subj $[_{CP}$ Top_2 $[_{IP}$ $\emptyset_{subj}$ $[_{vP} \ldots]$

Though this analysis is compatible with the fact that the post-subject topic cannot be interpreted contrastively (since only the highest Topic position can), it fares poorly when it comes to phrasing. First, (44) predicts a consistent prosodic phrase break between the subject and the post-subject topic, whereas we find only a variable phrase break at this position in our data. Second, it provides no motivation for the prosodic boundary that we do find between the post-subject topic and the verb phrase examples.

We propose, following work like Belletti (2004), that the post-subject topic is in a low Topic position right above the *v*P, crucially also a phase. The sentence in (43), in this analysis, has the structure in (45), where the parentheses, as usual, indicate prosodic phrasing:

(45) ($[_{IP}$ *Ín-kósikaz'* $[_{TopP}$ *e-máke:th')* ($[_{vP}$ *í-théng'* *ímí-fi:no.*)]]])
9-woman LOC-market SM9-buy 4-vegetable

Note that the *v*P phase (not selected by the preceding topic) is left-aligned with a prosodic phrase, satisfying ALIGNL (41).

In sum, we have identified three different topic positions, one post-subject and two pre-subject. The overall structure at the left and low periphery we propose is shown below.[16] Potentially non-selected left phase edges are bolded:

(46) $[_{CP}$ Contrastive Topic **[**$_{CP}$ Topic **[**$_{CP}$ $[_{IP}$ Subject $[_{TopP}$ Topic **[**$_{vP} \ldots$]]]]

16. See Rizzi (2004) for discussions of the left periphery and low periphery of the clausal structure. See Zeller (in press) for arguments that at least some Topics at the left periphery in Zulu are derived by movement, not base-generated.

Only one of these topics can have a contrastive reading, and this is the one that is structurally leftmost. The two pre-subject Topic positions both precede a CP boundary, and this is why they are systematically phrased separately from the subject, since these CPs are not selected. The analysis of (36b) is exemplified in (47):

(47) Left dislocation, pre-subject topic (underlined)
[$_{CP}$ *ámá-phe:ph'*) [$_{CP}$ [$_{IP}$ *úm-mél'* [$_{vP}$ *ú-wá-sayín-í:le*).]]]
6-paper 1-lawyer SM1-OM6-sign-TAM
'The lawyer *signed* the papers.'

[$_{CP}$ ámá-phe:ph' [$_{CP}$ [$_{IP}$ úm-mél' [$_{vP}$ ú-wá-sayín-í:le.]]]]	ALIGNR-PHASE	ALIGNL	ALIGNR-INTPH
☞ a. [$_{CP}$ (ámá-phe:ph')[$_{CP}$ [$_{IP}$ (úm-mél' [$_{vP}$ ú-wá-sayín-í:le).]]]			*
b. [$_{CP}$ (ámá-pheph' [$_{CP}$ [$_{IP}$ úm-mél' [$_{vP}$ ú-wá-sayín-í:le).]]]		*!	
c. [$_{CP}$ (ámá-phe:ph')[$_{CP}$ [$_{IP}$ (úm-mé:l') [$_{vP}$ (ú-wá-sayín-í:le).]]]			**!

In this tableau, candidate (a), with a phrase break following the pre-subject topic, is optimal as it violates only the lowest ranked constraint, ALIGNR (INTPH) (21): the phrase break following the topic does not coincide with a right phase edge. Candidate (b), with no break at the left edge of the non-selected CP, is not optimal as it violates ALIGNL (41). Candidate (c), with an additional prosodic phrase break within CP, is not optimal, as it incurs more violations of ALIGNR(INTPH) (21) than the optimal candidate.

Two puzzles remain to be discussed under this analysis: (a) why is the subject sometimes phrased separately from the verb phrase and sometimes not (i.e., when there is no topic intervening); and (b) why do we find variable phrasing of topics in the absence of a subject (see Section 2.1). We attribute the variable phrase break between the subject and the verb phrase to the status of *v*P. We treat *v*P on a par with CP, which is preceded by a prosodic phrase break if it is not selected. In the case of *v*P, it is typically selected by I^0 (making IP an extended projection of the verb phrase, in the spirit of Grimshaw 1991). This is why a subject is normally not prosodically separated from the verb phrase. However, when a low topic intervenes (yielding a TopP between the IP and the *v*P), the I^0 does not select the *v*P, as shown in (48):

(48) Left dislocation, post subject topic (underlined)
[$_{CP}$ [$_{IP}$ *(Ín-kósikaz'* [$_{TOPP}$ *e-máke:th'*) [$_{vP}$ *í-théng'*
9-woman LOC-market SM9-buy
ímí-fi:no)]]]].
4-greens
'The woman bought greens at the market.'

	[$_{CP}$ [$_{IP}$ Ín-kósikaz' [$_{TOPP}$ e-máke:th' [$_{vP}$ í-théng' ímí-fi:no]]]]	ALIGNR-PHASE	ALIGNL	ALIGNR-INTPH
☞ a.	[$_{CP}$ [$_{IP}$ (Ín-kósikaz' [$_{TOPP}$ e-máke:th') [$_{vP}$ (í-théng' ímí-fi:no)]]]]			*
b.	[$_{CP}$ [$_{IP}$ (Ín-kósikaz' [$_{TOPP}$ e-máketh' [$_{vP}$ í-théng' ímí-fi:no)]]]]		*!	
c.	[$_{CP}$ [$_{IP}$ (Ín-kósika:z') [$_{TOPP}$ (e-máke:th') [$_{vP}$ (í-théng' ímí-fi:no)]]]]			**!

Candidate (a) in this tableau is optimal, as the prosodic phrasing satisfies the two highest ranked constraints. We find a right phrase break following the *v*P/CP phase, and a left phrase break at the edge of the non-selected *v*P. We assume that a prosodic break between a subject and a following Topic or a *v*P results when the subject is actually a high topic, and thus outside of the CP. This variability in the position of the subject accounts for the variable phrase breaks following subjects.

The puzzle concerning the variable phrasing of topics in the absence of subjects can be due to a similar source. When we find a prosodic break, we propose that we are actually dealing with a high topic (i.e., a CP level topic, followed by a CP phase). The deeper puzzle is the lack of a prosodic break in the case of a low topic. The presence of the low TopP should prevent the *v*P from being selected, optimizing a phrase break. Here we can only speculate that the absence of an overt subject in languages like Zulu means that a pronominal argument is present (see Bresnan and Mchombo 1987). The pronominal argument may play a role in selecting the *v*P, despite the presence of the TopP. Further work is needed to explore this possibility.

7. Conclusion

To sum up, the prosody and syntax of Zulu topics leads us to reconsider some cross-linguistic claims about topic and focus. Work on the prosody of focus and topic in Germanic languages has emphasized the interaction of stress with focus and topic (given information), but in Zulu prosodic phrasing and word order are the most important cues to topic vs. focus status, not stress. Left and right dislocation in Italian, which are also motivated by topic and focus considerations, are argued by Samek-Lodovici (2006) to have the same syntactic source despite very similar surface asymmetries. While this may be correct for Italian, we show this is not the case for Zulu. The syntactic properties of topics in Zulu show that right and left dislocation have different syntactic sources as well as different prosody and information structure status. A further theoretical point is that our analysis of Zulu phonological phrasing relies upon the status of the phase (i.e., whether it is selected or not). CP and vP are both phases, but they are not prosodically separate from what precedes when they are complements, preceded by a selecting head. They are prosodically separate, if they are not selected.

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