

‘Only’ in Nguni: a phrase-final particle meets antisymmetry theory*

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1. Introduction

1.1 Overview

In this paper we explore the syntax of the exclusive focus markers *kuphela* and *qha* - 'only' in the Nguni languages Zulu and Xhosa.¹ *Kuphela* is used in both languages; *qha* is specific to Xhosa.

As the examples in (1) and (2) show, *kuphela* typically follows the focused constituent construed as its so-called "associate" and the same is true of *qha* (focus associates bolded). While there is a strong preference for these particles to associate with an adjacent phrase, this is not absolute, as (3) and (4) demonstrate.^{2, 3, 4}

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¹ Zulu (or *isiZulu*) and Xhosa (*isiXhosa*) are Bantu languages spoken primarily in South Africa and belong to the Nguni group, which also includes (si)Swati and (isi)Ndebele. While the Nguni languages show a modest degree of lexical and grammatical variation, they are mutually intelligible and sometimes considered varieties of one language.

² Glosses: Arabic numbers = noun classes (number + gender) unless followed by s or p in which case they are person features. APPL = applicative; AUG = augment; CAUS = causative; COP = copulative prefix; DEM = demonstrative; DJ = disjoint verb form; EXPL = expletive; FUT = future tense; FV = final vowel; INF = infinitive; LOC = locative marker; NEG = negation; OM = object marker; PASS = passive; POSS = possessive marker; PRO =

- (1) a. U-Sindiswa u-phek-el-e **u-Sabelo** *kuphela* a-ma-qanda. [Zulu & Xhosa]
 AUG-1a.Sindiswa 1.SM-cook-APPL-PST AUG-1a.Sabelo only AUG-6-eggs
 'Sindiswa cooked only **Sabelo** eggs.'
- b. U-Sipho u-phek-e **a-ma-qanda** *qha*. [Xhosa]
 AUG-1a.Sipho 1.SM-cook-PST AUG-6-eggs only
 'Sipho cooked only **eggs**.'
- (2) a. U-John **u-ya-sebenz-a** *kuphela*. [Zulu & Xhosa]
 AUG-1a.John 1.SM-DJ-work-FV only
 'John only **works**.'
- b. Ngi-**hlab-a** **i-khefu** *kuphela*. [Zulu]
 1S.SM-stab-FV AUG-5.rest only
 'I'm only **taking a break**.'
- (3) U-Sipho u-nikez-e i-zin-kawu a-ma-kinati *kuphela*. [Zulu]
 AUG-1a.Sipho 1.SM-give-PST AUG-10-monkey AUG-6-peanuts only
- a. 'Sipho gave the monkeys only **peanuts**.' *Most speakers*
 b. 'Sipho gave only **the monkeys** peanuts.' *Some speakers*
 c. 'Sipho only **gave** the monkeys peanuts.' *Some speakers*
 d. 'All Sipho did was **give the monkeys peanuts**.' *All Speakers*
 e. 'All that happened was **Sipho gave the monkeys peanuts**.' *Most speakers*
 f. '*Only **Sipho** gave the monkeys peanuts.' *No speakers*
- (4) Ku-fund-is-w-a u-Busi i-si-Zulu *kuphela/qha*. [Xhosa]
 17.SM-learn-CAUS-PASS-FV AUG-1aBusi AUG-7-Zulu only
- a. 'Busi was taught only **Zulu**.' *All speakers*
 b. 'Only **Busi** was taught Zulu.' *Most speakers*
 d. 'All that happened was **Busi was taught Zulu**.' *Most speakers*

pronoun; PST = past tense; REL = relative marker; RS = relative suffix; SJ = subjunctive; SM = subject marker.

Examples are not marked for tone.

³ The methodology of data collection was for a set of Xhosa and Zulu sentences to be constructed with the help of native speakers. These and subsequent speakers explored potential ambiguities connected with *kuphela/qha*, and the allowable meanings for variations in which they were repositioned elsewhere in the clause. We provide information on acceptance rates for examples in footnotes.

⁴ In our study, eleven out of fourteen Xhosa speakers accepted some associations at a distance such as (4b), as did three out of five Zulu speakers for (3b,c). Associations with non-adjacent material are greatly facilitated by the addition of disambiguating continuations compatible with them, such as *hayi izinja* – 'not the dogs' for (3b), and *hayi uMary* – 'not Mary' for (4b). Regarding (3b), although there are reports in the Nguni syntax literature that O2 of S-V-O1-O2 cannot be focused, we did not find this; see §4.3 for details.

(1) shows *kuphela* and *qha* associating with focused DPs immediately to their left. (2) illustrates that *kuphela* can also be used adverbially, associating with an adjacent focused verb or VP; the same is true of *qha* (we have picked a VP-idiom in (2b) to rule out a reading with object focus, which would otherwise be more prominent). For most speakers, the preferred interpretations of (3) are to associate *kuphela* with the adjacent direct object (3a), with the VP (3d), or even with the whole sentence (3d), but focus association with a non-adjacent constituent, such as the indirect object (3b) or the verb (3c), is also possible for some speakers (on the lack of total agreement regarding (3a) and (3b) and the unacceptability of (3f), see §4). (4) illustrates the same kinds of options for adverbial *kuphela* or *qha* in an impersonal passive construction with 'expletive' class 17 subject agreement on the verb.

Languages where expressions meaning 'only' have been well-studied exhibit a requirement that such expressions c-command their associates (see Aoun & Lee 1993; Büring & Hartmann 2001, Erlewine 2014a,b; Tancredi 1990a, among others). The fact that associates of *kuphela* and *qha* precede them therefore raises interesting theoretical issues connected with the antisymmetry hypothesis of Kayne (1994), that is, that high-to-low relations map invariantly into left-to-right linear order, and with the related Final-Over-Final Condition of Biberauer et al. (2014) and Sheehan et al. (2017).

Our paper will present a complex picture of associations for *kuphela* and *qha*. Certain positions in Xhosa and Zulu clauses are relatively focus-neutral in that they may but need not contain focused material. We will show that *kuphela* and *qha* must c-command the highest copy of an expression in such a position for association to succeed. After considering and rejecting as inadequate several alternative accounts of the facts consistent with antisymmetry in its strongest form, we conclude that syntax is only weakly antisymmetric in the sense of Takano (2003) – that is, at least some adjuncts fall outside of antisymmetry, and *kuphela* and *qha* are among these

(assuming with Cardinaletti 2011 that some particles have the status of adjuncts).⁵ Only this conclusion is consistent with cross-linguistic evidence for antisymmetry on the one hand, and the language-particular evidence that *kuphela* and *qha* c-command associates that precede them.

There are also syntactic positions in Xhosa and Zulu clauses that are [+focus], that is, restricted to focused material – clefts, and S of active VSX constructions, especially transitive expletive constructions, henceforth TECs. We found judgments on association at a distance to material in such positions to be quite unpredictable. Among speakers who accept these associations, some were entirely consistent in requiring surface c-command by *kuphela* or *qha* of the highest copy of an associate in a [+focus] position. Others judged associations in which *kuphela* or *qha* c-commands only a low copy to be marginal or well-formed. Occasionally speakers even accepted associations to material in [+focus] positions wherein *kuphela* or *qha* c-commands no copy at all. Our impression is that the narrow focus reading characteristic of material in a cleft or VS construction is a major distractor in evaluations of when and where exclusive focus readings are licit within the same utterance (see §8 for some discussion). Associations to positions that can host either focused or non-focused material (henceforth focus-tolerant positions) are our primary concern because judgments are clearer on them. We found that they consistently require surface c-command, therefore providing some novel evidence on right-edge particles and the mapping of hierarchy to word order.

There has been prior recognition that right-edge particles appear to violate both antisymmetry theory and the related Final-Over-Final-Constraint/Condition (FOFC) of Holmberg (2000), Biberauer et al. (2014), Sheehan et al. (2017), among others. Our paper contributes to a debate over why this is so. The FOFC rules out head-final over head-initial configurations like

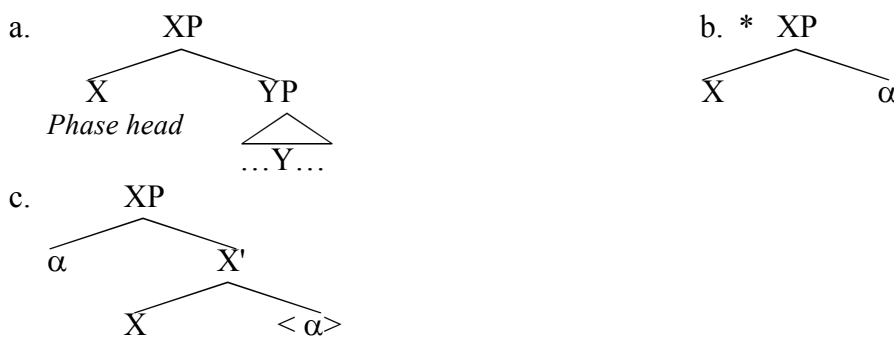
⁵ The analysis contrasts with Cardinaletti's approach to deriving the location of final particles in Italian; see below.

*[_{XP} [_{YP} Y Complement] X] within specific domains with shared categorial features -- extended projections in the sense of Grimshaw (1991). Within such domains, Biberauer et al. (2014) propose that head-finality is due to an EPP-like feature $\hat{}$. This is passed up the tree from head to head, deriving surface head-finality from universal head-complement order in the base.

Biberauer et al. (2014) suggest that many particles are acategorial and hence outside of the domains in which the FOFC applies. Therefore, though they are underlyingly initial heads, they may introduce $\hat{}$ features independently of the heads below them and raise their complements to their Specs, leading to the appearance of head-finality.⁶

Hsieh & Sybesma (2011) and Erlewine (2017) adopt a version of this approach, arguing for an underlyingly head-initial syntax for final particles in Mandarin. They propose that such particles are phase heads, triggering transfer of their complements (see (5a)). When phase interiors transfer they become unanalyzable syntactic atoms, leading to symmetric, hence unlinearizable structures (5b). They must therefore raise to c-command the phase-head in order to break symmetry, leading to surface head-finality, as in (5c).

(5) *Transfer creates non-linearizable symmetry, which movement breaks*



⁶ Though not compatible with this mechanics, *kuphela* and *qha* seem consistent with the FOFC generalization that headedness within Extended Projections is harmonic, absent evidence that they form part of such domains. See Biberauer (2017) for relevant in-depth discussion of this issue regarding particles in a range of languages.

- (7) a. U-Zinhle u-zo-cul-a *kuphela/qha* kusasa. [Xhosa]
 AUG-1a.Zinhle 1.SM-FUT-sing-FV only in.the.morning
 'Zinhle will sing only **in the morning**.'
- b. U-Zinhle u-fund-is-a a-ba-ntwana *kuphela* i-si-Xhosa.
 AUG-1a.Zinhle 1.SM-learn-CAUS-FV AUG-2-child only AUG-7-Xhosa
 i. 'Zinhle teaches the children only **Xhosa**.' [Xhosa]
 ii. 'Zinhle teaches only **the children** Xhosa' [Xhosa & Zulu]
- c. A-si-nak-ile *kuphela* u-m-dlalo wo-m-khaya. [Zulu]
 NEG-1P.SM-focus-PST.DJ only AUG-3-game 3.ASS+AUG-3-family.members
 nowe-CAF
 or-CAF
 'We are not focusing only on the derby match or the CAF.'

As noted above, the theoretical goal of our paper is to determine whether *kuphela/qha* must c-command its associate in surface syntax in Xhosa and Zulu. If it need not, then it is possible that the order [*kuphela/qha* > associate] is the underlying order, with the order [associate > *kuphela*] derived from it by raising of the associate. If, on the other hand, *kuphela/qha* must c-command the associate's highest copy, then the existence of both orders entails that *kuphela/qha* may adjoin either on the left or on the right. We explore the c-command facts in detail in §5 and their bearing on the underlying order in §7.

Because our investigation uncovered no syntactic differences between *kuphela* and *qha*, we will use them interchangeably. Most of our examples feature *kuphela* because it is acceptable in both languages, and focus on associations to preceding material for the same reason and because they constitute the antisymmetry-theoretic challenge that we wish to explore.

1.2 A note on speakers' judgments

At the request of an anonymous reviewer we are providing information on acceptance rates for key examples in footnotes. It is important for the figures we report to be interpreted in the context of restrictions relevant to them. The task of assembling evidence on c-command and associations at a distance is a complex one, for Zulu and Xhosa. Not all speakers accept

associations at a distance, and for those who do, there is some variation in judgments across examples. Also, as we show in §4, focused constituents are barred from many syntactic positions that would otherwise be very desirable to test. For each speaker we set out to interview, we first ascertained whether s/he accepted associations between adverbial *kuphela/qha* and a distant DP, in general. Then, with speakers who qualified by passing this first test, we checked whether they would accept focused material including adnominal *kuphela/qha* in a given position of interest, call it P. If they did, we next checked whether these speakers found associations at a distance between material in P and the adverbial *kuphela/qha* felicitous. Only then could we check for a surface c-command requirement with speakers who had not been excluded by negative judgments on the foregoing matters. Unanticipated difficulties with syntactic positions and long associations to them sent us back to the drawing board many times.

1.3 Structure of the paper

§2 provides a little background on the interpretation of focus and expressions meaning 'only'. §3 reviews the relevant notions of antisymmetry theory. §4 overviews the topography of focus in Nguni and its relevance to *kuphela* and *qha*. §5 presents evidence that the two particles must c-command the head of their associate's chain in surface syntax, if the associate is in a focus-tolerant location. §6 details the reasons why we do not reject antisymmetry theory, despite its incompatibility with the syntax of *kuphela* and *qha*. §7 provides arguments against the approach in Hsieh & Sybesma (2011) and Erlewine (2017). §8 discusses associations of *kuphela* and *qha* with material in [+focus] positions. §9 concludes.

2. 'Only' as an alternative-sensitive particle

2.1 Focus and 'only'

The semantics of focus is typically analyzed in terms of *alternatives* that are introduced into the discourse by a focused constituent. For example, in Rooth's (1985, 1992) influential theory of

Alternative Semantics, every node is assumed to have, in addition to its ordinary semantic value, a *focus semantic value*, which is derived by replacing the ordinary meaning of the focused constituent with contextually plausible alternatives. To illustrate, if the ordinary semantic value of a focused DP like *Mary* is the individual Mary, then its focus semantic value is the set of individuals who are potential alternatives to Mary:⁹

(8) [Mary]_F:

- a. Ordinary semantic value: the individual Mary
- b. Focus semantic value: the set of alternative individuals {Mary¹⁰, Sue, Bill ...}

The focus semantic value of the sentence in (9), which includes the focused DP *Mary*, is the set of propositions of the form "John likes y", where y is an element from the set in (8b):

(9) John likes [Mary]_F

- a. Ordinary semantic value: the proposition "John likes Mary"
- b. Focus semantic value: the set of alternative propositions {"John likes Mary", "John likes Sue", "John likes Bill" ...}

⁹ In the English examples, we follow the standard convention (going back to Jackendoff 1972) and mark the syntactic focus by means of square brackets and the focus feature F, which mediates between the semantics of focus and its prosodic realization. In languages such as English, focused constituents are prosodically prominent and marked by a pitch accent on the main stress-bearing syllable (compare *Her husband likes [the MEATballs]_F* vs. [*Her HUSband*]_F *likes the meatballs*). In contrast, we have not adopted F-marking for focused material in our Nguni examples (which we mark in bold instead), because focus is not correlated with prosodic prominence in Nguni and only influences prosodic phrasing indirectly, through its syntactic position (Downing 2010). There also seem to be no prosodic cues to disambiguate sentences with multiple possible focus readings in Zulu and Xhosa. Speakers listening to recordings of ambiguous sentences involving *kuphela* did not reliably identify intended readings even when the recorded speech was their own. On the link between syntactic position and focus, see §4.

¹⁰ Note that in Rooth's (1985, 1992) theory, the ordinary semantic value of an expression is always an element of its focus semantic value.

The Nguni focus markers *kuphela* and *qha* are *focus-sensitive* (or "alternative-sensitive") particles comparable to English *only*. "Focus/alternative-sensitive" means that the semantic contribution made by these elements depends on the alternatives introduced by the focus; they *associate* with the focus (Büring & Hartmann 2001; Erlewine 2014b; Jackendoff 1972; König 1991; Krifka 2006; Rooth 1985, 1992, among many others). Exclusive focus markers like *only* universally quantify over the alternatives introduced by their focus associate: the sentences in (10), with either adnominal or adverbial *only*, are true if every *y* from the set of alternatives in (8b) for which "John likes *y*" is true is identical to Mary (in other words, (10a) and (10b) are true if "John likes Mary" is true and all other propositions in (9b) are false):

- (10) a. John likes only [Mary]_F. (adnominal *only*)
 b. John only likes [Mary]_F. (adverbial *only*)

Note that while adnominal *only* in (10a) is adjacent to the focus, adverbial *only* in (10b) can also associate with the focused object, and (10a) and (10b) have the same truth conditions.

2.2 Association at a distance and the c-command requirement

As already illustrated by (10b), the English focus adverb *only* can associate "at a distance," giving rise to multiple association options such as those in (11) (see Jackendoff 1972).

- (11) a. John *only* [gave]_F his daughter a new bicycle.
 b. John *only* gave [his]_F daughter a new bicycle.
 c. John *only* gave his [daughter]_F a new bicycle.
 d. John *only* gave his daughter a [new]_F bicycle.
 e. John *only* gave his daughter a new [bicycle]_F.

But there is a crucial constraint on what *only* can associate with: *only* must c-command its associate. Tancredi (1990a) formulates this requirement as the *Principle of Lexical Association* in (12), henceforth the PLA.

Given this point of contrast, we propose the weak and strong versions of the PLA in (12').

(12') **Strong PLA:** If *only* associates with α and there are multiple copies of α in the representation, *only* must c-command the *highest* copy of α (Erlewine 2014b: 115).

Weak PLA: Reconstruction permits association of operators meaning 'only', thus c-command of a copy suffices (German and Dutch).

One of the tasks of this paper is to determine whether a version of the PLA holds in Xhosa and Zulu and if so, which: Weak, or Strong? This will be crucial to assessing the compatibility of *kuphela* and *qha* with Kayne's (1994) antisymmetry theory, which we review next.

3. Antisymmetry, 'only,' and the principle of lexical association

3.1 Antisymmetry theory

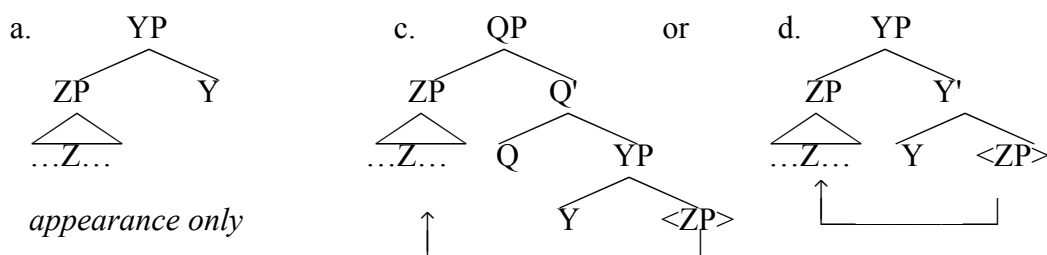
Kayne (1994) proposed the Linear Correspondence Axiom (LCA): that is, that hierarchy maps invariantly into linear order. For expository convenience we adopt the formulation in (18), from Hornstein et al. (2005: 227).

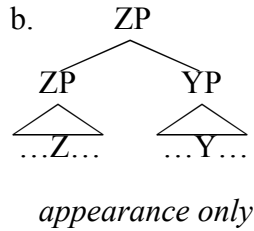
(18) Linear Correspondence Axiom LCA: A lexical item α precedes a lexical item β iff

- (i) α asymmetrically c-commands β or
- (ii) an XP dominating α asymmetrically c-commands β

Under the LCA, underlying Spec, head, complement order is universal. Apparent deviations from this pattern are taken to be the result of movement (see Kayne (1994) and Cinque (2005) for extensive discussion). We illustrate in (19).

(19) *Antisymmetric approaches: what looks like (a) or (b) is actually (c) or (d).*





3.2 *Kuphela/qha*, antisymmetry, and the PLA

As noted, *kuphela* typically follows the associate in Zulu (see (20)-(22)) and this order is very common in Xhosa too, raising LCA-related issues.

(20) U-Sipho u-nikez-e **i-zin-kawu** *kuphela* a-ma-kinati. [Zulu]
 AUG-1a.Sipho 1.SM-give-PST AUG-10-monkey only AUG-6-peanuts
 'Sipho gave only **the monkeys** peanuts.'

(21) Ku-sebenz-a **u-John** *kuphela* e-ofisi.
 17.SM-work-FV AUG-1a.John only LOC-5.office
 'Only **John** works in the office.'

(22) U-Sipho **u-yi-phek-ile** *kuphela* i-mi-fino.
 AUG-1a.Sipho 1.SM-4.OM-cook-PST.DJ only AUG-4-vegetable
 'Sipho only **cooked** the vegetables.'

In (20), *kuphela* associates with the indirect object DP of a ditransitive verb. (21) is an expletive construction with VSX word order, and *kuphela* associates with the focused postverbal subject in this example. In (22), the direct object-DP *imifino*, 'vegetables', has been right-dislocated (as indicated by the corresponding object marker of class 4 that is attached to the verb¹¹). Dislocation constructions such as (22) can express contrastive verb focus, and in this case, *kuphela* can follow, and be associated with, the focused verb.

If *kuphela/qha* are subject to the Strong PLA, that is, if they need to c-command their associates in surface syntax, then they would be expected to precede the associates under antisymmetry theory, contrary to what (20)-(22) show to be the case. Instead, the associate

¹¹ See Adams (2010); Buell (2005); Cheng & Downing (2009); Halpert 2015; Van der Spuy (1993); Zeller (2015) and others for ample evidence that object-marked DPs in Zulu are always dislocated to a VP-external position.

precedes *kuphela/qha*, but this means that the associate asymmetrically c-commands *kuphela/qha* according to the LCA, and the Strong PLA would not be met, blocking association. Accordingly, evidence for the Strong PLA in Xhosa and Zulu could motivate a reassessment of antisymmetry – either rejection or weakening of the idea that high to low maps left to right.

If, on the other hand, *kuphela/qha* are only subject to the Weak PLA in the associations in question, and thus only need to c-command a copy, no antisymmetry problem arises: we can assume that the associate precedes *kuphela/qha* by virtue of raising across it.

Another possibility is that Nguni will present Strong PLA effects that turn out to be only apparent, capturable under some alternative, antisymmetry-friendly approach which maintains that only the Weak PLA holds in Nguni.

Lastly but not least, it might be that *kuphela/qha* need not c-command the associate at all; this remains to be established in our paper.

(23) summarizes the analytical options that we have identified with respect to *kuphela/qha* and antisymmetry theory.

(23) Analytical possibilities for *kuphela/qha* vis-à-vis the LCA:

- Option 1: *kuphela/qha* need not c-command their associates.
- Option 2: *kuphela/qha* can associate with a lower copy of a moved expression in Xhosa and Zulu; thus the Weak PLA is correct for these languages, like German and Dutch.
- Option 3: The Strong PLA is correct for Zulu and Xhosa, and therefore the LCA is wrong. Syntax is not antisymmetric.
- Option 4: An antisymmetric analysis can capture apparent strong PLA effects differently.
- Option 5: The Strong PLA constrains associations in Zulu and Xhosa. Syntax is only weakly antisymmetric in that it allows rightward adjunction (Takano 2003; Carstens 2008, 2017). *Kuphela* and *qha* are adjuncts, and can c-command an associate to the left.

In what follows we will describe in detail the distributional constraints on *kuphela/qha*, showing that they reflect two factors: (i) the topography of [+focus], focus-tolerant, and anti-focus positions in Nguni clauses, and (ii) the Strong PLA (though with caveats mentioned in the introduction and discussed in §8). Associations with material in focus-tolerant positions require surface c-command by *kuphela/qha*, and are thus inconsistent with Options 1 and 2. We will argue that Option 3 must be rejected based on strong cross-linguistic arguments for underlying Spec, head, complement order. As for Option 4, we will consider an antisymmetry-friendly approach to final particles proposed in Hsieh & Sybismeh (2011) and Erlewine (2017) and show that it is not viable for *kuphela/qha*. We conclude by adopting Option 5 for these associations.

4. Capturing the distribution of *kuphela/qha*

4.1 The topography of focus and anti-focus

Based on the classes of expressions that can appear in particular clausal positions in Xhosa and Zulu, previous studies distinguish [+focus], anti-focus, and focus-tolerant locations (see Adams 2010; Buell 2008; Carstens & Mletshe 2015, 2016; Cheng & Downing 2009; Sabel & Zeller 2006; Zeller 2008, 2015, among others). This constrains the interpretation of *kuphela* and *qha* in ways that do not come up for English *only* because the associates of *kuphela/qha* are restricted to positions where foci are licit.

In this section we review and illustrate the topography of focus uncovered in the above cited works, and show how it constrains the distribution of the associates of *kuphela* and *qha*. We follow these works in exemplifying focal properties of each position by means of the distribution of (i) phrases modified by *kuphela* and (ii) wh-phrases, as these are generally recognized as [+focus] expressions. This established, we can describe the ways in which associations with *kuphela/qha* are further constrained by a surface c-command requirement.

4.2 [+focus] positions

Studies of VSO constructions in Nguni languages have proposed that the verb raises across the subject, which either fails to raise at all, as in Halpert's (2015) analysis of Zulu, or raises very locally, to Spec, of a FocusP atop vP (Carstens & Mletshe 2015, 2016). (24a) exemplifies the focus interpretation characteristic of post-verbal subjects in active VSO constructions in Xhosa (Carstens & Mletshe 2015, 2016;), and (24b) does the same for clefts (Sabel & Zeller 2006). (25) shows that these are not felicitous answers to a 'What happened?' question, which requires an all-new, sentence-focus answer whereas the subject cleft and VSO constructions convey subject focus. The examples in (26) and (27) show that wh-phrases and expressions modified by *kuphela* appear freely in these two [+focus] positions ((24)a,b are from Carstens & Mletshe 2015:190; (25) from Carstens & Mletshe 2016:797; glosses adapted. While these examples are Xhosa, the Zulu facts pattern alike).

- (24) a. Ku-theth-a **i-n-doda** **en-de** i-si-Xhosa.
 17.SM-speak-FV AUG-9-man 9-tall AUG-7-Xhosa
 'It's **the tall man** who speaks Xhosa.'
- b. **Ng-u-m-fazi** o-w-a-bon-a i-n-taka.
 COP-AUG-1-woman REL-1.SM-PST-see-FV AUG-9-bird
 'It was **the woman** who saw the bird.'
- (25) a. Kw-enzek-e ntoni?
 17.SM-happen-PST 9.what
 'What happened?' [Lit: (There) happened what?]
- b. #Ku-cul-e **u-Sindiswa** a-ma-culo.
 17.SM-sing-PST AUG-1a.Sindiswa AUG-6-songs
 'It was Sindiswa who sang songs.' *Infelicitous in context*
 [Lit: (There) sang Sindiswa songs]
- c. #Ng-u-Sindiswa o-cul-e a-ma-culo.
 COP-AUG-1a.Sindiswa REL.1.SM-sing-PST AUG-6-songs
 'It was Sindiswa who sang songs.' *Infelicitous in context*
- (26) a. Ku-fund-is-a **i-n-doda** **en-de** *kuphela* i-si-Xhosa.
 17.SM-learn-CAUS-FV AUG-9-man 9-tall only AUG-7-Xhosa
 'It's only **the tall man** who teaches Xhosa.'

- b. Ku-fund-is-a **bani** i-si-Xhosa?
 17.SM-learn-CAUS-FV 1a.who AUG-7-Xhosa
 'Who teaches Xhosa?'

- (27) a. **(Ng-)u-Sipho** *kuphela* o-phek-e i-mi-fino.
 COP-AUG-1a.Sipho only REL.1.SM-cook-PST AUG-4-vegetables
 'It was only **Sipho** who cooked vegetables.'

- b. **(Ng-)u-bani** o-phek-e i-mi-fino?
 COP-AUG-1a.who REL.1.SM-cook-PST AUG-4-vegetables
 'Who is it that cooked vegetables?'

4.3 Focus-tolerant positions

Material inside vP of an SVO(O) construction may but need not include expressions interpreted as focused. There is a preference for such items to appear in the immediately post-verbal position (see Buell 2009; Cheng & Downing 2009, a.o.), but this is not absolute, as (28b-29b) illustrate.

- (28) a. U-Sipho u-fund-is-a **a-ba-ntwana** *kuphela* i-si-Xhosa. [Zulu &Xhosa]
 AUG-1a.Sipho 1.SM-learn-CAUS-FV AUG-2-children only AUG-7-Xhosa
 'Sipho teaches only **the children** Xhosa.'

- b. U-Sipho u-fund-is-a a-ba-ntwana **i-si-Xhosa** *kuphela*.
 AUG-1a.Sipho 1.SM-learn-CAUS-FV AUG-2-children AUG-7-Xhosa only
 'Sipho teaches the children only **Xhosa**.'

- (29) a. U-Sipho u-fund-is-a **bani** i-si-Xhosa? [Zulu &Xhosa]
 AUG-1a.Sipho 1.SM-learn-CAUS-FV 1a.who AUG-7-Xhosa
 'Who does Sipho teach Xhosa to?'

- b. U-Sipho u-fund-is-a a-ba-ntwana **i-ni?** [Zulu]
 AUG-1a.Sipho 1.SM-learn-CAUS-FV AUG-2-children AUG-9.what
 'What does Sipho teach to the children?'

[SVOO] double object constructions with clause-final *kuphela*, such as (28b) or (3b) (repeated below), are sometimes judged as ambiguous, allowing for *kuphela* to associate with various constituents of the vP (for details on these judgments see note 4).

- (3) U-Sipho u-nikez-e i-zin-kawu a-ma-kinati *kuphela*. [Zulu]
 AUG-1a.Sipho 1.SM-give-PST AUG-10-monkey AUG-6-peanuts only
 a. 'Sipho gave the monkeys only **peanuts**.'
 b. 'Sipho gave only **the monkeys** peanuts.'
 c. 'Sipho only **gave** the monkeys peanuts.'
 d. 'All Sipho did was **give the monkeys** peanuts.'
- Most speakers
 Some speakers
 Some speakers
 All Speakers

- e. 'All that happened was **Sipho gave the monkeys peanuts.**' *Most speakers*
 f. *'Only **Sipho** gave the monkeys peanuts.'*No speakers*

Either argument in an impersonal passive of a ditransitive verb can be focused.

- (30) a. Ku-fund-is-w-a **a-ba-ntwana** *kuphela* i-si-Xhosa. [Zulu &Xhosa]
 17.SM-learn-CAUS-PASS-FV AUG-2-children only AUG-7-Xhosa
 'Only **the children** are taught Xhosa.'
- b. Ku-fund-is-w-a a-ba-ntwana **i-si-Xhosa** *kuphela*. [Zulu &Xhosa]
 17.SM-learn-CAUS-PASS-FV AUG-2-children AUG-7-Xhosa only
 'The children are taught only **Xhosa**.'
- (31) a. Ku-fund-is-w-a **bani** i-si-Xhosa? [Zulu & Xhosa]
 17.SM-learn-CAUS-PASS-FV 1a.who AUG-7-Xhosa
 'Who is taught Xhosa?'
- b. Ku-fund-is-w-a a-ba-ntwana **i-ni**? [Zulu]
 17.SM-learn-CAUS-PASS-FV AUG-2-children AUG-9.what
 'What are the children taught?'

The subject of an intransitive expletive construction also may but need not have a focus interpretation (these data are from Xhosa, but Zulu patterns alike; Zeller 2008).

- (32) a. Kw-enzek-e ntoni? [Xhosa]
 17.SM-happen-PST 9.what
 'What happened?' [Lit: (There) happened what?]
- b. Ku-lil-e u-Sindiswa. [Xhosa]
 17.SM-cry-PST AUG-1a.Sindiswa
 i. 'Sindiswa cried.'
 ii. #'It's Sindiswa who cried.' (available but infelicitous in context)

Some speakers of both languages permit preverbal subjects in subjunctives or relative clauses to contain focused material.¹²

¹² This possibility came to our attention through Pietraszko (2017), who shows that subjunctive and relative clause subject positions are focus-tolerant in Zimbabwean Ndebele (another Nguni language, very close to Zulu). Pietraszko attributes this pattern to their having a smaller clause size than that of indicatives; we discuss this in §5.3.1 (see also Schneider-Zioga 2002, 2007 on Kinande). Thanks also to Karlos Arregi for making us aware of Pietraszko's work. Nine out of thirteen Xhosa speakers approved focused material in the subject position of subjunctives, as did five out of seven Zulu speakers. Most of the tests we did for relative clauses were conducted with Zulu speakers, five out of seven of whom accepted focused material in the subject

(33) a. Si-funa ukuba **u-Thandeka** *kuphela* a-cul-e. [Xhosa]
 1P.SM-want-FV that AUG-1a.Thandeka only 1.SM-sing-SJ
 'We want only Thandeka to sing.'

b. Le y-i-n-tombi **u-John** *kuphela* a-yi-thand-a-yo. [Xhosa]
 9.DEM COP-AUG-9-girl AUG-1a.John only 1.SM-9.OM-like-FV-REL
 'This is the girl that only John likes.'

4.4 Anti-focus positions

4.4.1 Preverbal subject position of indicatives

Example (34a) illustrates that a preverbal subject of an indicative clause cannot be modified by *kuphela*. The intended meaning can instead be expressed with a cleft (see (24b) and (34b)) or a VS construction as in (24a). (35a-c) shows that wh-phrases share this distributional pattern.

Sabel & Zeller (2006) and Zeller (2008) accordingly propose that the preverbal subject position is anti-focus in Zulu. Carstens & Mletshe (2016) report that the facts are the same in Xhosa and adopt the anti-focus account.

(34) a. ***U-Sipho** *kuphela* u-phek-e a-ma-qanda. [Zulu & Xhosa]
 AUG-1a.Sipho only 1.SM-cook-PST AUG-6-eggs
 [Intended: Only **Sipho** cooked eggs.] *subject focus*

b. (**Ng-u-Sipho** *kuphela* o-phek-e a-ma-qanda.
 COP-AUG-1a.Sipho only REL.1.SM-cook-PST AUG-6-eggs
 'It was only **Sipho** who cooked vegetables.'

(35) a. ***U-bani** u-phek-ile? [Zulu & Xhosa]
 AUG-1a.who 1.SM-cook-PST.DJ
 [Intended: Who cooked?]

b. **Ng-u-bani** o-phek-ile? or c. Ku-phek-e (**u-)**bani?
 COP-AUG-1a.who REL.1.SM-cook-PST.DJ 17.SM-cook-PST (AUG-)1a.who
 'Who cooked?' 'Who cooked?'

As noted in §4.3, some Zulu and Xhosa speakers permit focused material in the preverbal subject position of a subjunctive or relative, but this is not universal (see note 12). For other speakers the

position of object relative clauses (four of these speakers were the same ones who accepted focused material in the subject position of subjunctives). One out of four Xhosa speakers tested accepted focused material in the subject position of relative clauses.

prohibition illustrated in (34) and (35) holds across clause types, and thus (36a,b) are unacceptable.

- (36) a. (*)Si-fun-a ukuba **u-Thandeka** *kuphela* a-cul-e. [Xhosa]
 1P.SM-want-FV that AUG-1a.Thandeka only 1.SM-sing-SJ
 'We want only Thandeka to sing.'
- b. (*)Le y-i-n-tombi **u-John** *kuphela* a-yi-thand-a-yo. [Xhosa]
 9.DEM COP-AUG-9-girl AUG-1a.John only 1.SM-9.OM-like-FV-REL
 'This is the girl that only John likes.'

4.4.2 Dislocated expressions are anti-focus

Kuphela and *qha* cannot be associated with a dislocated expression; nor can *wh*-phrases be clitic doubled, indicating that they cannot be dislocated either. Following Buell (2008) and Cheng & Downing (2009), Zeller (2015) proposes that dislocated material in Nguni is anti-focus (as in other languages -- on information-structure effects of clitic doubling in Greek and Spanish see Anagnostopoulou 1994, Schneider-Zioga 1994, and Ordóñez 1997).

- (37) U-Sipho u-yi-phek-ile i-mi-fino *kuphela*. [Zulu]
 AUG-1a.Sipho 1.SM-4.OM-cook-PST.DJ AUG-4-vegetables only
 a. *'Sipho cooked only **the vegetables**'
 b. ?'Sipho only **cooked** the vegetables.'
- (38) *U-Sipho u-yi-phek-ile **i-ni?** [Zulu]
 AUG-1a.Sipho 1.SM-4.OM-cook-PST.DJ AUG-9.what
 [Intended: What did Sipho cook?]
- (39) *U-Sipho *kuphela* ngi-ya-m-thand-a. [Zulu]
 AUG-1a.Sipho only 1S.SM-DJ-1.OM-like-FV
 [Intended: I like only Sipho.]

4.4.3 X in [VSX] is anti-focus

Carstens & Mletshe (2015, 2016) show that in active expletive constructions with VSX(Y) word order, X is generally resistant to focus in Zulu and Xhosa:¹³

¹³ As for why this might be so, Carstens & Mletshe (2015) propose that a low Focus head marks the higher argument [+focus] and the lower [-focus] (the latter might be better understood as covert focus-background marking; see Grubic 2015, Zimmermann 2016 on this). Carstens & Mletshe (2016) report a suggestion of Julie

- (40) *Ku-fund-is-a u-Sipho **a-ma-ntombazana** *kuphela* i-si-Xhosa. [Xhosa]
 17.SM-learn-CAUS-FV AUG-1a.Sipho AUG-6-girl only AUG-7-Xhosa
 [Intended: Sipho teaches only **the girls** Xhosa.]
- (41) *Ku-thum-el-e u-mama **i-zin-gane** *kuphela* i-mali. [Zulu]
 17.SM-send-APPL-PST AUG-1a.mother AUG-10-child only AUG-9.money
 [Intended: Mother sent only **the children** money.]
- (42) *Ku-thum-el-e u-mama (u-)bani i-mali? [Xhosa & Zulu]
 17.SM-send-APPL-PST AUG-1a.mother (AUG-)1a.who AUG-9.money
 [Intended: Who did mother send money to?]

(40)-(42) illustrate that an element X cannot be focused when it directly follows the postverbal subject in an expletive construction with VSXY order.¹⁴ This contrasts sharply with the licit focus of X in [SVXY] constructions (compare with (28a) and (29a)).

4.4.4 Summary and discussion

Table 1 summarizes the way [+focus] material is distributed in Xhosa and Zulu clauses.

Table 1: **Topography of focus in Zulu and Xhosa**

<i>[+focus]: kuphela or qha acceptable</i>	
i.	Clefted material
ii.	<u>S</u> in [V <u>S</u> O] constructions
<i>Focus-tolerant: kuphela or qha may associate</i>	
i.	VP internal material of active SV construction: S[_{VP} V(X)(Y)...]
ii.	VP internal material of (impersonal) passive: [_{VP} V _{PASS} (X)(Y)...]
iii.	S of an intransitive expletive construction: [V <u>S</u> ...]

Ann Legate that an expression following a [+focus] constituent might be destressed and this yields the [-focus] interpretation. We leave this interesting question aside. The effect is strongest and most consistent when there is overt material Y following X of VSXY, as in the ditransitive expletive constructions of (40)-(42). Carstens & Mletshe (2016) report that in a monotransitive VSO construction, many speakers accept a wh-phrase as O. Other focused material – negative concord items, strict NPIs and associates of *kuphela* – is generally judged degraded there, however.

¹⁴ Carstens & Mletshe (2016) report that Y of [VSXY] is focus-tolerant. Since we have other sentence-final focus-tolerant positions represented in discussion, in the interests of brevity we ignore this case here.

iv. S of [SV...] in a subjunctive or relative clause, for some speakers

Anti-focus: kuphela or qha not possible; associations banned

- i. Preverbal subject position is anti-focus -- either of indicatives only or, for some speakers, across the board:
 - a. S of [SV], all clause types, for some speakers, *or*
 - b. S of [_{Indic} SV] for others
- ii. Dislocated expressions are anti-focus: [[S (cl+)V]...DP] and [DP [S (cl+)V...]]
- iii. X in active expletive construction [VSXY] is anti-focus (especially if there is an overt Y)

One logical possibility is that this focus topography in Nguni plays the roles that *both* focal stress and c-command play in a language like English: thus Nguni focus-sensitive particles are freely associated with any expression in a [+focus] or focus-tolerant position, though perhaps subject to the independent locality constraints of phase-based syntax. Another possibility is that both the focus topography and a version of the PLA are involved. Our task is to determine the facts and their implications.

Since the preverbal subject position of indicatives is anti-focus (as discussed in §4.3.1), the simple test of c-command in (13) (repeated below) is inapplicable in Xhosa and Zulu. Because wh-question words are typically in situ, a translation of (14a) also does not provide a useful test.

(13) [_{TP} John only [_{VP} <John> likes Mary]].
✓The only person John likes is Mary.
✓John likes but doesn't love Mary.
≠ only *John* likes Mary, nobody else does.

(14) a. Who do you only like <who>?
≠Who is the only person you like?
✓Who do you like but not love?

Recall also from §4.2 that association of *kuphela* or *qha* with non-adjacent, focusable material is considerably less accessible to most speakers than association with an immediate neighbor, giving rise to variations in judgment patterns like (43). All long-distance associations are rejected by some speakers (see note 2), complicating the investigation of c-command effects (see also the judgments reported on (4), discussed in the introduction and in §4.2).

- (43) U-Sipho u-phek-e i-qanda *kuphela*. [Zulu]
 AUG-1a.Sipho 1.SM-cook-PST AUG-5.egg only
 a. 'Sipho cooked only **an egg** (he didn't cook anything else).' *All speakers*
 b. 'Sipho only **cooked an egg** (he didn't do anything else).' *All speakers*
 c. 'Sipho only **cooked** an egg (he didn't eat it).' *Some speakers*

Nonetheless, those speakers who accept long associations provide several kinds of evidence that associations of *kuphela* and *qha* to material in focus-tolerant positions are subject to the strong PLA in Xhosa and Zulu.

5. Evidence on the PLA in Zulu and Xhosa

5.1 Introduction

In this section we present evidence that association of *kuphela* or *qha* to material in a focus-tolerant position is sensitive only to the intended associate's highest copy. We first point out a strong implication in this direction from the failure of associations when the subject lands in the anti-focus preverbal subject position, [SVO]_{indic}. We then add evidence from associations to subjects of subjunctives and relative clauses.

5.2 Evidence from the preverbal subject restriction

Recall that the preverbal subject of an indicative cannot contain *kuphela* or *qha*, nor can adverbial *kuphela* or *qha* associate with a preverbal subject (see (34a) and (3f), repeated below).

- (34) a. *U-Sipho *kuphela* u-phek-e i-mi-fino.
 AUG-1a.Sipho only 1.SM-cook-PST AUG-4-vegetables
 [Intended: Only **Sipho** cooked vegetables.]
- (3) U-Sipho u-nikez-e i-zin-kawu a-ma-kinati *kuphela*. [Zulu]
 AUG-1a.Sipho 1.SM-give-PST AUG-10-monkey AUG-6-peanuts only
 a. 'Sipho gave the monkeys only **peanuts**.' *Most speakers*
 b. 'Sipho gave only **the monkeys** peanuts' *Some speakers*
 c. 'Sipho only **gave** the monkeys peanuts' *Some speakers*
 d. 'All Sipho did was **give the monkeys peanuts**' *All Speakers*
 e. 'All that happened was **Sipho gave the monkeys peanuts**' *Most speakers*
 f. *Only **Sipho** gave the monkeys peanuts' *No speakers*

It is important to acknowledge that so far, we have presented no real evidence that associations are based upon *kuphela* c-commanding the associate and not vice versa. Thus it might conceivably be the case that (3f) is illicit because in the intended reading, *kuphela* is c-commanded by an associate in an anti-focus position. The following sections, on subjects of subjunctives and relative clauses, make it clear that associations with material in focus-tolerant positions are dependent upon *kuphela* c-commanding the associate and not vice-versa.

5.3 Long associations with focus-tolerant preverbal subject positions

5.3.1 Focus in the subject position of subjunctives

Recall that some speakers allow focused material in the preverbal subject position of a subjunctive.¹⁵ Inclusion of the complementizer *ukuthi* in the Zulu example (46) shows that this is not a Raising-to-Object construction; the subject surfaces within the embedded clause.

- (46) Si-fun-a ukuthi [[u-Thandeka *kuphela*] a-cul-e].
 1P.SM-want-FV that AUG-1a.Thandeka only 1.SM-sing-SJ
 'We want only Thandeka to sing.'

Pietraszko (2017) reports comparable facts for Ndebele, and proposes that subjunctives lack some structure that is present in indicatives. Indicative subjects may not be focused because they surface in Spec of a TopP projection which is absent in subjunctives. Subjunctive subjects surface in Spec, TP as shown in (47a) versus (47b). Arguing for this difference in size are tell-tale contrasts in negation and agreement. Pietraszko argues that part of the structure present in indicatives is a Σ P, the locus of a negation marker *a-* that precedes subject agreement in indicatives. In subjunctives, where this structural layer is lacking, negation is expressed by a morpheme *nga-* that follows subject agreement. Pietraszko proposes that *nga-* heads a NegP located between TP and vP.

¹⁵ See note 12 for speaker numbers.

The possibility of this association at a distance makes possible a revealing test: if a vP-level modifier follows *kuphela*, restricting *kuphela* to a lower adjunction site, what readings will be available? We take non-selected locatives to be vP-level modifiers in Nguni. Example (52) from Xhosa shows that association to the subject is impossible when a locative follows *kuphela*.¹⁷

- (52) Si-fun-a ukuba u-Sipho a-phek-e *kuphela* e-kitshi-ni.
 1P.SM-want-FV that AUG-1a.Sipho 1.SM-cook-SJ only LOC-5.kitchen-LOC
 a. 'We want Sipho to only **cook** in the kitchen'
 b. *'We want only **Sipho** to cook in the kitchen'
 c. ...[CP that [TP Sipho cook+T [vP <Sipho> <cook> only [PP in the kitchen]]]]

Thus speakers who otherwise accept long associations to subjunctive subjects in Spec, TP rule them out when *kuphela* is unambiguously located in the vP, since vP excludes the highest copy of the associate. The relevance of the PLA to *kuphela* is given support comparable to the evidence of (13) (repeated below) for English.

- (13) [TP John only [vP <John> likes Mary]].
 ✓The only person John likes is Mary.
 ✓John likes but doesn't love Mary.
 ≠ only *John* likes Mary, nobody else does.

5.3.3 Preverbal subjects in relative clauses

Recall that the preverbal subject position of object relative clauses is also focus-tolerant, for some speakers of Nguni languages (see the Xhosa (33)b, repeated below). Pietraszko (2017)

¹⁷ An anonymous reviewer suggests that *ekitshini* – 'in the kitchen' might be TP-adjoined, as locatives are versatile in their attachment. The results we report argue that this is not the case, since it blocks *kuphela* from associating with the subject in Spec, TP. It might alternatively be argued that the modifiers we have tested are not vP level but VP-level, adjoining lower than the subject's base position and hence that these results are uninformative about high versus low copies. But when *kuphela* immediately follows a verb, that verb must appear in the so-called disjoint form, which is a standard diagnostic of the Nguni syntax literature that a post-verbal modifier is outside VP (see Buell 2005, Zeller 2012, among others). Also worth noting is that, anticipating our ultimate conclusion that right-adjunction is possible and in the interests of brevity, this discussion does not engage with the antisymmetric idea that such a right-hand locative modifier has been raised across by the clause that it follows.

attributes this property of Ndebele to movement-facilitating structure-deletion (Pesetsky's 2017 *exfoliation*), eliminating the obstacles of phasal Σ P and TopP to object extraction.

- (33) b. Le y-i-n-tombi u-John *kuphela* a-yi-thand-a-yo.
 9.DEM COP-AUG-9-girl AUG-1a.John only 1.SM-9.OM-like-FV-REL
 'This is the girl that only John likes.'

- (53) a. Ordinary: [CP C [Σ P Σ [TopP SU Top [TP T [NegP Neg [vP ...]]]]]]
 b. Reduced: [CP Ob_{wh} C [TP SU T $_{\phi}$ [NegP Neg [vP ... <OB>...]]]]

As was true of subjunctives, long association is acceptable to some speakers, if *kuphela* is final (see (54), from Zulu), suggesting that it may TP-adjoin as in (51). For these speakers, association fails when a vP-level modifier follows *kuphela*, arguably forcing it to adjoin lower (see (55)).¹⁸

- (54) U-Mthuli u-phek-e u-ku-dla **u-Nomusa** a-ku-dl-ile *kuphela*.
 AUG-1a.Mthuli 1.SM-cook-SJ AUG-15-food AUG-1a.Nomusa 1.SM-15.OM-eat-PST.DJ only
 'Mthuli cooked food that only Nomusa ate.'

- (55) *U-Mthuli u-phek-e u-ku-dla **u-Nomusa** a-ku-dl-ile *kuphela*
 AUG-1a.Mthuli 1.SM-cook-SJ AUG-15-food AUG-1a.Nomusa 1.SM-15.OM-eat-PST.DJ only
 kwakusihlwa.
 LOC-in.the.evening
 [Intended: Mthuli cooked food that only Nomusa ate in the evening.]

Summing up, speakers who accept long associations to relative clause subjects in Spec, TP rule them out when *kuphela* is unambiguously vP-internal. Like the subjunctive facts, these data support the relevance of the PLA to *kuphela*.

5.4 Interim conclusions

While §4 demonstrates that the distribution of *kuphela* and *qha* is constrained by the [+/-focus] values of particular clausal positions, this section has shown that there is more to the picture. The

¹⁸ Of the five Zulu speakers in our study who accept focused material in the subject position of relative clauses, three accept associations to it at a distance -- providing there is surface c-command. The sole Xhosa speaker (of four tested) who accepted focused material in the subject position of a relative clause also accepted association at a distance to the relative clause subject, with the same requirement of surface c-command.

ban on long associations to subjects of indicatives provides important confirmation that the Strong version of the PLA holds in Xhosa and Zulu (see (45), repeated below).

(45) *Association of adverbial kuphela with a lower copy would avoid the anti-focus restriction on preverbal subjects of indicatives. That this association is impossible supports the Strong PLA.*

[_{Indic} Subj V+T [[_{FP} <Subj> ...] kuphela]]				
<table style="border: none; margin: 0 auto;"> <tr> <td style="text-align: center; padding-right: 40px;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">anti-focus</td> <td style="text-align: center;">✓focus possible</td> </tr> </table>			anti-focus	✓focus possible
anti-focus	✓focus possible			

Further, evidence from clause-final adjuncts has shown that *kuphela* and *qha* must c-command their associates in the focus-tolerant subject positions of subjunctives and relative clauses. We accordingly rule out the following two options of (22):

- Option 1: *kuphela/qha* need not c-command the associate. ✗
- Option 2: *kuphela/qha* can associate with a lower copy of a moved expression in Xhosa and Zulu; thus the Weak PLA is correct for these languages. ✗

Since *kuphela* and *qha* appear to the right of their associates, their syntax therefore conflicts with the antisymmetric view that X precedes Y if and only if X or a category that contains it asymmetrically c-commands Y.

6. The antisymmetry question

How should the conflict between the linear order facts of *kuphela* and *qha* be reconciled with the LCA? One possibility is that the LCA is simply wrong -- our Option 3 from (22).

- Option 3: The strong PLA is correct for Zulu and Xhosa, and therefore the LCA is wrong. Syntax is not antisymmetric.

But there is much compelling cross-linguistic evidence supporting universal Spec-head-complement order.

As Kayne (1994) points out, the absence of successive cyclic *wh*-movement to the right is one indicator. Despite the diversity of *wh*-question strategies in the languages of the world, nothing along the lines of (56) is attested:

- (56) *_{CP} [_{TP} Mary [_{VP} [_{CP} [_{TP} Calvin ~~what~~ bought] that ~~what~~] thinks] C_{WH} **what**]?
 [Intended: What does Mary think that Calvin bought?]

Kayne also points out that while there are numerous verb-second languages, there are no verb-penultimate languages. If V2 German, exemplified in (57), had a mirror image counterpart in the languages of the world, it would exhibit word order patterns like (58). But nothing of the kind has been identified, to our knowledge.

- (57) Jochen lässt das Auto heute in der Garage [V2 German]
 Jochen leaves the car today in the garage
 S V O Time Place

- a. Das Auto lässt Jochen heute in der Garage OK: O V S Time Place
 b. Heute lässt Jochen das Auto in der Garage OK: Time V S O Place
 c. In der Garage lässt Jochen das Auto heute OK: Place V S O Time

*non-V-second orders

- (58) Hypothetical V-penultimate language, non-occurring:

OK: S O Time V Place
 OK: S Time Place V O
 OK: S O Place V Time

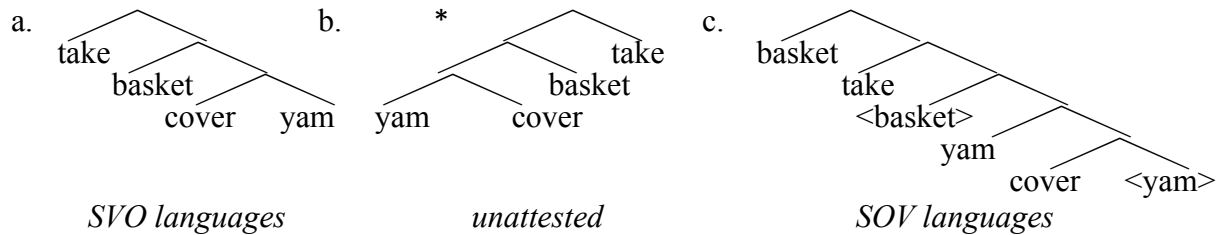
*non-V-penultimate orders

The West African language Ijò also provides persuasive evidence for underlying Spec, head, complement order. Muysken (1988) observes that though there are head-final languages with serial verb constructions (SVCs), they do not have the mirror image order [O₂ V₂ O₁ V₁] of head-initial SVCs. Instead, only the local ordering of verbs and objects is reversed, from [V₁ O₁ V₂ O₂] to [O₁ V₁ O₂ V₂]. Based on a comparison of SVCs in head-final Ijò to head-initial languages (see (59)), Carstens (2002) proposes that this typological gap is due to antisymmetry: head-finality in SVCs results from V-movement or object shift around the verb as shown in (60)c.

(59) a. no teki baskita tyari watra. [Sranan; Muysken 1988]
 no take basket carry water
 'Don't carry water in a basket.'

b. áràṽ zu ye ákǐ buru tèri-mí. [Ijò; Carstens 2002]
 s/he basket take yam cover-PST
 'S/he covered the yam with a basket.'

(60) Word order patterns in serial verb constructions:

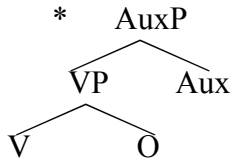


Final-Over-Final Condition effects provide some additional arguments for underlying left-headedness. Holmberg (2000), Biberauer et al. (2014), Sheehan et al. (2017), among others, point out that the patterns [Aux VO], [OV Aux], and [Aux OV] are common, the latter a case of mixed-headedness. But the logically possible mixed-headedness pattern [VO Aux] is very rare. Biberauer et al. (2014) propose that this is because head-initial syntax is underlying. An EPP-type feature \wedge must be passed up the tree from head to head to induce surface head-finality in any category. If V has the feature and raises its object, it can also pass the feature to Aux, which will raise VP. If V does not, then Aux has no source of this feature (see (61) versus (62)).

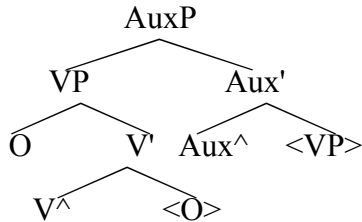
Consequently, Aux can follow VP only if VP is also head-final:¹⁹

(61) Given languages with mixed-headedness, the absence of [V-O-Aux] order suggests that head-finality cannot be base-generated.

¹⁹ As noted in the introduction, Biberauer et al. (2014) suggest that particles can introduce their own \wedge features because they are acategorial and hence not part of the domains to which the FOFC applies. See §7 for an attempt to apply this approach to *kuphela/qha* and reconcile it with the Strong PLA effects we have described (and see Erlewine 2017 for arguments against acategoricity as a generalization about final particles).



(62) The proposal: Aux may have the feature $\hat{\cdot}$ to raise VP only if acquired from V. In this case, O necessarily also raises.



We conclude that antisymmetry captures important cross-linguistic generalizations, and that this greatly outweighs its incompatibility with Zulu and Xhosa 'only'. The question that remains is how to reconcile them.

7. An antisymmetric approach to *kuphela* and why it fails

7.1 Introduction

This section explores a potential means of explaining apparent Strong PLA effects in Xhosa and Zulu without reliance on surface c-command, thus addressing Option 4 of (22):

- Option 4: An antisymmetric analysis can capture apparent Strong PLA effects differently.

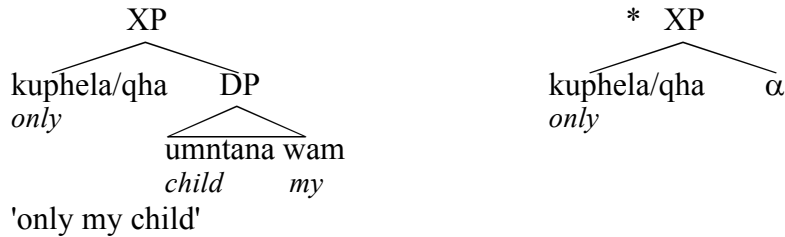
The starting point is a proposal presented in Hsieh & Sybesma (2011) and Erlewine (2017): sentence-final particles are underlyingly initial phase-heads whose complements raise after transfer. We will show that this approach to *kuphela* and *qha* is untenable, leaving us with Option 5.

7.2 Final particles as underlyingly initial phase-heads

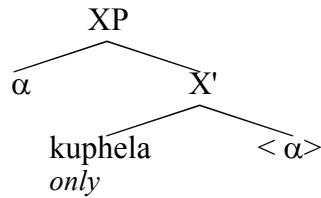
As noted in the introduction, Hsieh & Sybesma (2011) and Erlewine (2017) propose that clause-final particles in Mandarin are actually phase heads which precede their complements. As phase heads, they trigger Transfer of their complements (also known as phase interiors). Transferred

material is a syntactic atom, so the result is a symmetric and hence unlinearizable representation $\langle H, \alpha \rangle$ (Kayne 1994, Moro 2000, Richards 2010, among others). The complement α must raise to break symmetry (see Moro 2000).²⁰ We illustrate in (63) how this would work for a Xhosa DP selected by a hypothetical adnominal phase head *kuphela* or *qha*.

- (63) a. *Merge order* b. *Transfer yields non-linearizable symmetry*



- c. *Raising the complement of phase-head kuphela/qha solves the problem*



Such an analysis takes as underlying the alternate order $\langle \textit{kuphela/qha}$ associate \rangle that is accepted in Xhosa and by some Zulu speakers as well (see (7), repeated below).

- (7) a. U-Zinhle u-zo-cul-a *kuphela/qha* kusasa. [Xhosa]
 AUG-1a.Zinhle 1.SM-FUT-sing-FV only in.the.morning
 'Zinhle will sing only **in the morning**.'

The approach maintains the attractive assumption that the LCA applies uniformly in syntax. But it is not obvious how to reconcile it with the evidence of the Strong PLA for Xhosa and Zulu *kuphela/qha* because the configuration it yields is one in which the focus particle no longer c-commands the highest copy of the focus. The same question comes up with respect to the Mandarin final particle *eryi* – ‘only’ that Erlewine (2017) discusses, since he claims it must find an associate within its scope, which we take to be its c-command domain.

²⁰ Erlewine (2017) suggests that many phase heads are silent, obscuring this general pattern.

A possible answer to this objection might be provided by the following hypothesis about the way grammar operates. It could be the case that the PLA ceases to apply to a focus associate once it undergoes Transfer, within a unit which excludes ‘only’. Perhaps, once the constituent containing the associate becomes a syntactic atom, the PLA ceases to be relevant because the height of the associate relative to the focus particle (in the case at hand = *kuphela* or *qha*) is no longer visible.

This hypothesis can be tested in English where the Strong PLA is well-established. The prediction is that sensitivity to surface c-command ends when an associate is contained within a phase interior. However, (64) shows that this prediction is not borne out. The shaded material is the TP complement to the embedded phase-head complementizer *that*. This TP is by assumption transferred to Spell Out prior to construction of the higher clause that dominates it, and forms a syntactic atom after Transfer. According to the hypothesis that the Strong PLA no longer holds in this case, *only* should be able to associate with a focused constituent inside the raised TP because it c-commands this constituent prior to atomization and cannot “see” its location afterwards. But in reality, if the embedded CP is raised into that higher clause by passivization, its contents are unavailable for association with the adverbial *only*, as the unacceptable continuation *not books* in (64b) illustrates.

(64) a. It is *only* believed [_{CP} that Julie likes movies]

...✓not proven/✓not Sue/✓not books/

b. [_{CP} That Julie likes movies] is *only* believed [_{CP} that Julie likes movies]

...✓not proven/✗not Sue/✗not books.

See also Chomsky et al (2017) on the continued availability of transferred material in syntactic relations, and a proposal that the Phase Impenetrability Condition permits this so long as the transferred material is not altered.

We are unable to replicate this test in Zulu or Xhosa, where CP subjects are unacceptable (see Halpert 2015) and the content of the preverbal subject position is anti-focus. This applies not only to the whole of a simple subject, as in our foregoing examples, but to the subparts of more complex subjects (compare (65a,b) and (66a,b)). Therefore, no such test based on raising a constituent to subject position can succeed.²²

- (65) a. Ngi-thand-a [[**o-buthi** ba-ka-Mary] *kuphela*]
 1S.SM-like-FV AUG-2a.brothers 2-POSS-1a.Mary only
- hhayi o-sisi ba-khe.
 not AUG-2a.sisters 2.POSS-1.PRO
 'I like only Mary's **brothers**, but not her sisters.'
- b. *[[**O-bhuthi** ba-ka-Mary] *kuphela*] ba-ya-ngi-thand-a
 AUG-2a.brothers 2-POSS-1a.Mary only 2.SM-DJ-1S.OM-like-FV
- hhayi o-sisi ba-khe.
 not AUG-2a.sisters 2. POSS -1.PRO
 [Intended: Only Mary's **brothers** like me, but not her sisters.]
- (66) a. Ngi-thand-a [[o-buthi ba-ka-**Mary**] *kuphela*]
 1S.SM-like-FV AUG-2a.brothers 2-POSS-1a.Mary only

²² Another potential obstacle to successful testing on this point is uncertainty regarding the acceptability of *kuphela* associating to a subpart of a non-adjacent constituent. This is an area that we have not explored, and given the delicacy of judgments on all long associations, we anticipate complexity. Otherwise, a test might conceivably be constructed by asking speakers who (i) find the preverbal subject positions of subjunctives and relatives to be focus tolerant and (ii) allow associations at a distance to their contents whether (iii) a post-verbal *kuphela* can associate with contents of a transferred subpart of a passivized DP in subjunctive subject position, such as [I asked that [the rumor [that **Mary's brothers like me**]] be disproved <DP> *kuphela*...], while (iv) positioning an adjunct after *kuphela* to ensure that what is tested is the persistence of associations to transferred material after it moves (given evidence of §5.3.2 and §5.3.3 that clause-final *kuphela* scopes over the preverbal subject). This is a sizeable collection of conditions to be addressed in exploration of the question. We leave it to future research to determine whether associations to subparts of non-adjacent expressions are acceptable to the relevant speakers and if so, the status of examples like these.

hhayi a-ba-ka-Langa.
 not REL-2-POSS-1a.Langa
 'I like only **Mary's** brothers, but not Langa's. '

b. *[[[O-bhuthi ba-ka-**Mary**] *kuphela*] ba-ya-ngi-thand-a
 AUG-2a.brothers 2-POSS-1a.Mary only 2.SM-DJ-1S.OM-like-FV

hhayi a-ba-ka-Langa.
 not REL-2-POSS-1a.Langa
 [Intended: Only **Mary's** brothers like me, but not Langa's.]

The implication of the English evidence is clear, however: associations to transferred material are not “frozen”; movement alters them. This is unlikely to be a language-particular fact.

We conclude that the conflict between leftward associations and antisymmetry cannot be resolved by an analysis of final focus-sensitive particles as phrase-initial phase heads that obligatorily trigger Spell Out and raising to their Specs, contra Erlewine (2017).

7.3 Summary

At this point we have explored and rejected four of the five possibilities presented in (22) (repeated below) for explaining the phrase final position of *kuphela* and *qha*. There are no remaining options consistent with a strict version of the LCA of Kayne (1994).

(22) Analytical possibilities for *kuphela/qha* vis-à-vis the LCA:

- Option 1: *kuphela/qha* need not c-command the associate. ✗
- Option 2: *kuphela/qha* can associate with a lower copy of a moved expression in Xhosa and Zulu; thus the Weak PLA is correct for these languages. ✗
- Option 3: The Strong PLA is correct for Zulu and Xhosa, and therefore the LCA is wrong. Syntax is not antisymmetric. ✗
- Option 4: An antisymmetric analysis can capture apparent strong PLA effects differently. ✗

This leaves only option 5.

- Option 5: The Strong PLA is correct for Zulu and Xhosa. Syntax is only weakly antisymmetric in that it allows rightward adjunction. *Kuphela/qha* are right-adjuncts, and hence c-command an associate on their left to which they are adjoined.

That adjuncts are LCA-exempt was proposed independently by Takano (2003) to account for the ability of material inside adjuncts to license NPIs on their left, such as (67). Takano notes that while the judgments are delicate, these examples are at least much better than **Anyone saw nothing*.

- (67) a. John paints pictures at all well only rarely.
 b. Jay tells jokes with any gusto only occasionally.

Relatedly, Carstens (2008) and (2017) presents arguments that post-nominal numerals, AP modifiers, and demonstratives in the Shona language (also Bantu) are base-generated in high, right-adjoined positions -- an additional source of evidence that adjuncts are not universally attached to the left of constituents that they c-command.

We consider briefly some recent arguments against immunity of adjuncts to the LCA in §9.

8. Associations to [+focus] positions

We turn now to some intriguing deviations from the patterns we have described. As noted in the introduction, judgments vary on associations to (i) clefted expressions, and (ii) the post-verbal subjects of transitive expletive constructions. Material in these two positions has systematically [+focus] interpretations, as we have demonstrated earlier (see the Xhosa (24a,b), repeated below).

- (24) a. Ku-theth-a **i-n-doda en-de** i-si-Xhosa.
 17.SM-speak-FV AUG-9-man9-tall AUG-7-Xhosa
 'It's **the tall man** who speaks Xhosa.'
- b. **Ng-u-m-fazi** o-w-a-bon-a i-n-taka.
 COP-AUG-1-woman REL-1.SM-PST-see-FV AUG-9-bird
 'It was **the woman** who saw the bird.'

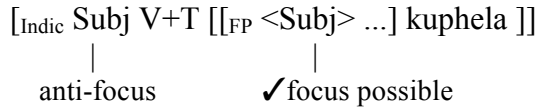
The argument begins with hyper-raising out of tensed clauses, which is quite productive in Zulu and Xhosa (see Zulu examples (68a,b) from Halpert 2015: 35; glosses adapted). (69) shows that it preserves idiomatic readings, a standard diagnostics for true raising constructions ((69a) from Halpert 2015: 36; (69b) from Carstens & Mletshe 2015: 230).

- (68) a. Ku-bonakal-a [ukuthi u-Zinhle u-zo-xov-a u-jeqe]. [Zulu]
 17.SM-seem-FV that AUG-1a.Zinhle 1.SM-FUT-make-FV AUG-1.steamed.bread
 'It seems that Zinhle will make steamed bread.'
- b. u-Zinhle u-bonakal-a [ukuthi u-zo-xov-a u-jeqe].
 AUG-1a.Zinhle 1.SM-seem-FV that 1.SM-FUT-make-FV AUG-1.steamed.bread
 'It seems that Zinhle will make steamed bread.'
- (69) a. Iqhina li-bonakal-a [ukuthi li-phum-ile e-mbize-ni]. [Zulu]
 AUG-5.steinbok 5.SM-seem-FV that 5.SM-exit-PST.DJ LOC-9.pot-LOC
 'The secret seems to have come out.'
 [Lit: the steenbok seems that exited the cooking pot]
- b. U-Hili u-bonakal-a [okokuba u-phum-ile e-ngcongolwe-ni]. [Xhosa]
 AUG-1a.Hili 1.SM-seem-FV that 1.SM-exit-PST.DJ LOC-10.weeds-LOC
 'The secret seems to have come out.'
 [Lit: Hili (= name of a troll) seems that exited the weeds]

Recall that the preverbal subject position of an indicative cannot host focused material, so we did not utilize subject-to-subject hyper-raising as a test of *kuphela/qha*'s sensitivity to low copies. The results are ill-formed in both languages (see (70) from Zulu), but shed no new light since they are consistent with those of raising subjects to preverbal position in a single clause and therefore support the generalization in (45) (repeated below) -- that the preverbal subject restriction for adverbial *kuphela/qha* supports the Strong PLA.

- (70) a. *U-Sindiswa *kuphela/qha* u-bonakal-a ukuthi u-zo-cul-a.
 AUG-1a.Sindiswa only 1.SM-seem-FV that 1.SM-FUT-sing-FV
- b. U-Sindiswa u-bonakal-a ukuthi u-zo-cul-a *kuphela/qha*.
 AUG-1a.Sindiswa 1.SM-seem-FV that 1.SM-FUT-sing-FV only
- *'It seems that only **Sindiswa** will sing.'
 OK:'It seems that Sindiswa will only **sing**.'

- (45) *Association of adverbial kuphela with a lower copy would avoid the anti-focus restriction on preverbal subjects of indicatives. That this association is impossible supports the Strong PLA.*



But hyper-raising can feed clefting, so in principle, this combination of operations provides a further test of the Strong PLA.

A few speakers we consulted disallow any association in which the word order is inconsistent with *kuphela* or *qha* c-commanding the highest copy of the [+focus] associate such as in the two Xhosa examples below, where *qha* is sandwiched into the lower clause by an embedded locative (71) or time adjunct (72).²³

- (71) Ng-u-Sipho o-xhel-el-w-e okokuba a-phek-e *qha* e-khishi-ni.
 COP-AUG-1a.Sipho REL.1.SM-say-APPL-PASS-PST that 1.SM-cook-SJ only LOC-5.kitchen-LOC
 a. 'Sipho was told to only **cook** in the kitchen.'
 b. *'It's only **Sipho** who was told to cook in the kitchen.'

- (72) Ng-u-Zinhle o-bonakal-a ingathi u-zo-cul-a e-gadi-ni *qha*
 COP-AUG-1a.Zinhle REL.1.SM-seem-FV like 1.SM-FUT-sing-FV LOC-9.garden-LOC only
 kusasa.
 in.the.morning
 a. 'It's Zinhle who it seems will sing only **in the garden** in the morning.'
 b. 'It's Zinhle who it seems will only **sing** in the garden in the morning.'
 c. *'It's only **Zinhle** who it seems will sing in the garden in the morning.'

But other speakers were more liberal in their judgments on these cases, permitting at least some associations where *kuphela* or *qha* c-commands a low copy of the associate surfacing in a [+focus] position, at least some of the time, such as (71b) and (72c). Variations of this kind occurred somewhat unpredictably across individuals, across structurally comparable examples,

²³ As noted in §1.1, some speakers also permit association with a following expression; an option more widely available in Xhosa than in Zulu, so we have abstracted away from it. It does not correlate in any way with strictness or permissiveness regarding construals with a raised expression.

and across sessions with the same individual. Given a 1-5 scale, speakers tended to give examples that violate the strong PLA a middling rating of 3 -- thus they are not fully acceptable but not entirely excluded either. However, judgements were quite variable and occasionally more positive than 3.²⁴

Last but not least, in a few instances, some Xhosa and Zulu speakers accepted associations in which *kuphela* and *qha* c-command no copy of an associate in a [+focus] position; see (73) and (74).

(73) Ng-u-Bill o-xel-el-w-e ng-u-Mary ukuba [Xhosa]
 COP-AUG-1a.Bill REL.1.SM-say-APPL-PASS-PST by-AUG-1a.Mary that

u-y-a ku-sebenza *kuphela* de kube malanga.
 1.SM-go-FV 15-work only until morning

- a. 'It's only **Bill** who was told by Mary that she would work all night'
 b. 'It's Bill who was told by Mary that she would only **work** all night'

(74) Ku-tsho u-John ukuba a-ba-ntwana ba-zo-cul-a [Xhosa]
 17.SM-say.PST AUG-1a.John that AUG-2-children 2.SM-FUT-sing-FV

kuphela kusasa.
 only in.the.morning

- a. 'It's only **John** who said that the children would sing in the morning.'
 b. 'It's John who said that the children would only **sing** in the morning.'

Curiously, if *kuphela* or *qha* is located in an island, judgments remain about the same:

(75) NguSifiso o-buz-e ukuthi ngubani o-theng-el-e [Zulu]
 COP.AUG-1a.Sifiso REL.1.SM-ask-PST that COP.AUG.1who REL.1.SM-buy-APPL-PST

²⁴ Only three out of eleven Xhosa speakers who accepted some associations at a distance consistently rejected associations to a clefted constituent unless *kuphela* surface-c-commands it. Three more did so in all but one or two cases which appeared to be random inconsistencies. One speaker was quite unpredictable, and two accepted the majority of associations of *kuphela* to clefted expressions whether there was any c-command or not. Out of eight Zulu speakers, five accepted long associations to clefted material. Only two of the eight gave consistent judgments indicative of a surface c-command requirement. The eighth speaker was uncertain.

a-ba-ntwana *kuphela* i-zi-pho.
AUG-2-children only AUG-10-gifts.

- a. 'It's Sifiso who asked who bought gifts only **for the children.**'
b. ?? 'It's only **Sifiso** who asked who bought gifts for the children.'

(76) Ku-hamb-e u-Mthuli ukuze a-yo-theng-a i-mi-fino [Zulu]
17.SM-go-PST AUG-1a.Mthuli so.that 1.SM-FUT-buy-FV AUG-4-vegetables

kuphela e-si-tolo.
only LOC-7-store

- a. 'Mthuli left in order to buy only **vegetables** at the shop.'
b. ?? 'Only **Mthuli** left in order to buy vegetables at the shop.'

It seems clear to us that occupancy of a [+focus] position has a strong effect in these cases. We are not sure whether to attribute this phenomenon entirely to difficulty in isolating two foci in a single clause, or whether a second strategy exists for association at a distance with a [+focus] position. Recall from §4.4.4 our conjecture that as a logical possibility, the clausal topography of focus in Nguni might play the roles that *both* focal stress and c-command play in a language like English. The pattern of judgements on association to material in focus-tolerant positions did not bear this out as a general conclusion, but for speakers who accept associations without c-command to material in [+focus] positions like (73)-(76), the possibility seems worth considering. On the other hand, the fact that acceptance is only middling needs to be explained if such an alternative strategy exists. We leave further exploration to future research.

9. Conclusion

Association of the particles *kuphela* and *qha* is constrained by the topography of Nguni focus, by a preference for string-adjacency consistent with a strategy of constituent-marking, and by a need to c-command an associate in surface syntax, modulo some anomalies associated with clefted material and [+focus] post-verbal subjects of TECs.

The fact that *kuphela* and *qha* are generally to the right of their associates raises subtle analytical challenges. On close examination the facts are not compatible with a strict version of the LCA.

We propose that *kuphela* and *qha* are adjunct particles, and that at least some adjuncts fall outside the purview of the LCA (see Takano 2003, Carstens 2008, 2017).

The claim that adjuncts may be exempt from antisymmetry is a controversial one. Sheehan (2017) considers this possibility in relation to the order [V-O-Adverb], putting it aside in favor of a derivation consistent with the LCA and the FOFC: she argues for independent movements of the verb and its object across the adverb, from a position to its right. As she points out, Cinque (1999) analyzes adverbs as Specs of functional categories, and hence they always merge to the left of heads in his view.

The association requirements of adverbial and adnominal *kuphela* are important tests of the generality of these claims. The results we have described argue against their adoption as universals.

These results also argue against a proposal of Bruening (2014) that effects which are standardly analysed in terms of c-command are in fact due to precedence plus a domain restriction *phase command*, under which a bindee must be included in the same phase as its binder. In (76)a, the pronoun *she* illicitly binds the R-expression *Bernice* because it precedes it and no phasal node separates them ((77) and (78) are from Bruening 2014:344).

- (77) a. *She_i likes Bernice_i's friends
b. Her_i mother likes Bernice_i's friends

- (78) a. Binding Principle C: an R-expression may not be bound.
b. A binds B iff A and B are coindexed and A precedes and phase-commands B (Bruening 2014)
c. Phase-command: X phase-commands Y iff there is no ZP, ZP a phasal node, such that ZP dominates X but does not dominate Y.

Clearly, the association facts of *kuphela* and *qha* are at odds with Bruening's proposal to recast c-command in terms of precedence.

We leave a number of questions to future research, among them an explanation for the apparent exemption of adjuncts/adjunct particles like *kuphela* and *qha* from the LCA, and the important and intriguing task of clarifying how associations work when the associate is in a [+focus] position and surface c-command is lacking, for speakers who allow this.

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