



## Agreement, locality, and OVS in Bantu

Brent Henderson

University of Florida, 4107 Turlington Hall, PO Box 115454, Gainesville, FL 32611, USA

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### ABSTRACT

Despite exhibiting a high degree of uniformity, Bantu languages display a surprising amount of variation in extraction contexts, particularly with regard to agreement patterns. This paper examines this variation, focusing first on Bantu OVS relatives and topicalization structures in which the raised operator triggers morphological subject agreement on the verb. After critiquing accounts by Henderson (2006) and others, this paper proposes an analysis of OVS structures in which the establishment of agreement relations is delayed until the end of the derivation. I then take this account of OVS as the basis for discussing variation in the agreement properties of operator constructions across Bantu languages.

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### 1. Introduction

Unmarked word order in Bantu languages is *SVO* with the subject triggering obligatory agreement on the verb. There is also a morphological slot within the verb template for object marking, though this is optional in most constructions, depending on the language.<sup>1</sup>

- (1) Mtoto a-li-(ki)-soma kitabu. Swahili  
 1child 1SA-PST-7OA-read 7book  
 'The child read the book.'

Despite possessing a high degree of similarity with regard to these basic properties, Bantu languages display a surprising amount of variation in structures involving operator extraction, such as relative clauses, focus constructions, and topicalization constructions. One interesting contrast concerns the number of agreement relations present in non-subject extraction contexts. While some languages display agreement (via an agreeing complementizer) with an extracted NP and with the subject of the clause (as in (2)), others display agreement only with the extracted NP (as in (3b,c)). The latter illustrates what is known in the literature as an OVS construction, the focus of this paper. As the Dzamba data in (3) illustrate, OVS constructions can be relative clauses (REL V S) or topic constructions (TOP V S).<sup>2</sup>

E-mail address: [bhendern@ufl.edu](mailto:bhendern@ufl.edu).

<sup>1</sup> List of abbreviations: SA: subject agreement; OA: object agreement; CA: complementizer-related agreement; AGR: agreement; PERF: perfective; PST: past tense; PROG: progressive; NEG: negative morpheme; COMP: sentential complementizer; REL: relative complementizer; FV: final vowel; COMPL: complete; RS: relative suffix; 1SG: first person singular. Noun classes are indicated on nominals and agreement morphemes by numbers.

<sup>2</sup> In the OVS constructions, I gloss the agreement morpheme related to the topic/relativized NP as instances of CA, complementizer-related agreement. The reasons for this will become clear in the analysis below.

- (2) Inja e-mfana wa-yi-thenga in –hle. Zulu  
 9dog 9CA-1boy 1SA-9OA-buy 9SA-good  
 ‘The dog which the boy bought is good.’ (Poulos, 1982)
- (3) a. Omwana a-tom-aki imukanda. S V O Dzamba  
 1child 1SA-send-PERF 5letter  
 ‘The child sent a letter.’
- b. Imukanda mu-tom-aki omwana. TOP V S  
 5letter 5CA-send-PERF 1child  
 ‘The letter, *the child* sent it.’
- c. imukanda mú-tom-aki omwana REL V S  
 5letter 5CA-send-PERF 1child  
 ‘the letter that *the child* sent’ (Bokamba, p.c.)

In seeking a minimalist account for OVS structures as well as for the variation in agreement relations in (2–3), Henderson (2006) posits that while structures like those in (2) have two sets of phi-features (a subject-related set in T and an operator-related set in the CP domain), structures like those in (3b–c) have but a single set of phi-features, situated in C. For Henderson (2006), SpecTP is not active in languages that allow OVS structures and therefore T does not contain a set of valuable phi-features. As I discuss below, these proposals make strong predictions about the possible variation one should find within Bantu languages that allow OVS structures. Unfortunately, these predictions are not born out.

In this paper, I argue that the conclusions in Henderson (2006) about OVS structures cannot be correct on empirical grounds. In particular, languages with OVS structures display variation that is predicted to be ruled out under that analysis. However, I argue that the general approach can be maintained if, rather than a single set of phi-features, OVS structures are assumed to have two sets of phi-features (one in T and one in C) just as the structure in (2) does. The paper thus argues for a greater amount of underlying homogeneity across the languages considered. Differences between structures with two sets of agreement relations and those with one, I argue, fall out from three sources: the computation of locality relations, variation in subject raising from SpecVP to SpecTP, and the generalization that adjacent, identically valued sets of phi-features are spelled out as a single morpheme (what Carstens, 2005 has termed Kinyalolo’s Constraint). This revised analysis has the advantages of accounting for the observed variation within particular Bantu languages and providing a more unified account of extraction constructions across the Bantu languages examined.

This paper proceeds as follows: in section 2 I review previous attempts to capture the agreement facts of Bantu OVS clauses. In section 3, I review the assumptions of Henderson (2006) in that attempt to capture variation across Bantu relatives. I argue that this account of Bantu OVS is too restricted, not allowing for variation within languages that display these patterns. In section 4, I offer an alternative analysis. While accepting Henderson’s modified probe-goal system of feature checking, I argue that all the Bantu languages under discussion possess two sets of phi-features in extraction contexts, even when only one set is displayed phonologically. Section 5 offers a conclusion.

## 2. Previous accounts of OVS structures

OVS constructions, and in particular TOP V S structures, have been discussed by syntacticians of various theoretical backgrounds for over 30 years (Bokamba, 1976, 1979, 1985; Demuth and Harford, 1999; Givón, 1979; Kimenyi, 1980; Kinyalolo, 1991; Morimoto, 2000; Ndayiragije, 1999; Ura, 2000; Whaley, 1996, among others). Early accounts (e.g., Givón, 1979) assumed that TOP V S structures involved a grammatical function change, describing TOP V S as a form of passive. However, Bokamba (1979, 1985) challenged this view, pointing out that TOP V S constructions differ from passives both in their interpretation and grammatical form. For one thing, passive verb forms differ from their active counterparts in containing a passive morpheme. There is no such morphological difference between the verbs in the SVO and TOP V S structures in (3) above. They also differ from passives in that the post-verbal subject in TOP V S constructions is not an oblique argument within a by-phrase. Rather, it remains an agentive argument of the verb. Moreover, TOP V S constructions are not used as alternative constructions for passive constructions. All of the languages under consideration allow passives freely. Bokamba suggested instead that TOP V S constructions be considered a kind of syntactic topicalization. This was also argued by Whaley (1996) and in Morimoto (2000) it is taken as a definitive conclusion.<sup>3</sup>

Given this characterization, the central difficulty in arriving at a generative account of these constructions has been the fact that in OVS clauses the topicalized or relativized noun phrase controls the form of morphological agreement that is associated with the subject in normal SVO clauses. The construction would thus seem to be a challenge for the notion that

<sup>3</sup> A reviewer points out that the overall picture for Bantu is more complicated than the range of structures considered here, in particular pointing to passives with non-oblique post-verbal agents in Luganda (Pak, 2008) as well as impersonal constructions that Givón and Kawasha (2006) refer to as a passive in Lunda. It is not immediately clear what challenges these constructions might pose for the present analysis, if any, and I leave this for future work.



Finally, a conceptual criticism of Carstens (2005), as well as any account that requires extracted arguments to move through SpecTP in order to be further extracted later in the derivation, is that it requires an assumption of lookahead or global comparison. Assuming a standard Merge-style step-by-step construction of syntactic structure, the derivation must ‘know’ that an argument is going to be extracted to SpecCP before the C head is even introduced into the derivation and must guarantee that this argument is the one that checks [ $\square$ ] in T.

### 3. Henderson (2006): analysis and problems

In contrast to previous accounts, Henderson (2006) argues that OVS structures involve A-bar movement alone. One piece of evidence in favor of the idea that TOP V S clauses involve A-bar movement is that, though TOP V S seems clause-bound in most languages (Morimoto, 2000), Dzamba and Kilega at least allow topicalization from an embedded clause (6a). V S inversion may marginally occur in both clauses, yielding a cyclic effect of the kind often associated with A-bar movement (6b)<sup>8</sup>:

- (6) a. Imwenzi mu-wo-oki oZaki kiibo oPoso a-eza-aki ba-ana. *Dzamba*  
 5message 5<sub>CA</sub>-say-PST 1Jack COMP 1Poso 1<sub>SA</sub>-give-PST 2children  
 ‘The message, Jack said that Poso gave the children (it).’
- b. ? imwenzi mu-wo-oki oZaki kiibo mw-eza-aki oPoso babana  
 5message 5<sub>CA</sub>-say-PST 1Jack COMP 5<sub>CA</sub>-give-PST 1Poso 2children  
 ‘The message, Jack said that Poso gave the children (it).’ (Bokamba, 1985:18)

Along with this, Henderson’s crucial assumption is that SpecCP is the only preverbal position available for movement in these languages. SpecTP is completely inactive. It therefore cannot serve as a subject position nor is it associated with subject–verb agreement. The only phi-features in OVS or non-OVS structures are in C and even subject movement in SVO clauses is accomplished by A-bar movement. This assumption is partially based on the fact that in many Bantu languages subjects have topic-like properties, a fact that has led several researchers to suggest that subjects in (at least some) Bantu languages reside in SpecCP or some other left peripheral position by default (see Schneider-Zioga, 2007 for arguments concerning Kinande). Since the subject position and topic positions are the same position in these languages, and movement to this position is achieved through A-bar movement from thematic to surface position, TOP V S structures are derived via movement of a topic rather than the subject to this position. In that case, the subject remains in its thematic position (SpecVP). Similarly in relative clauses, SpecCP is the position associated with relativized NPs. Therefore, there can be no subject or topic movement to this position in relative clauses. Rather, subjects must remain in situ in SpecVP.

Note that in Henderson’s account, the similarities between TOP V S and REL V S structures follow from the fact that there is a single A-bar position (SpecCP) that serves as the only position for preverbal XPs, be they relativized NPs, topics, or subjects. SpecTP cannot be an active position since this would result in two potential preverbal positions, one A-bar and one A-position. As a result, it would not be possible to explain why the subject cannot be preverbal in languages like Dzamba when A-bar movement of a topic or relativized NP has occurred. Two strong predictions thus follow from this account: (i) any language with TOP V S should also employ REL V S, and (ii) REL V S structures should be the only kind of relative allowed in such languages. As I show below, neither prediction is confirmed.

It is worth discussing the details of Henderson’s (2006) account since they will be relevant for the revisions proposed below. To derive the agreement properties of OVS constructions, Henderson assumes a probe-goal system like that of Chomsky (2000, 2001). In this kind of system, feature checking is a two-step procedure. First, compatible features enter a Match relation, ensuring that they have the potential to check one another. Second, if the features involved require valuation, an Agree relation obtains between them. Agree values the set of features in the Match relation that are unvalued. Finally, if the probing features are of a certain type (if they are strong or have an EPP property), they require the goal features to undergo Move to the probe feature’s specifier. Henderson postulates that [ $\square$ ] features in Bantu are always strong, deriving Kinyalolo’s (1991) generalization that agreement in Bantu reflects an underlying Spec-head relation.

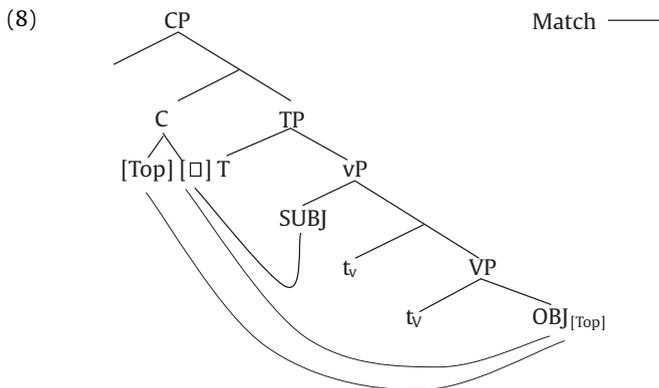
Henderson modifies this basic probe-goal system in a number of important ways that must be spelled out here. These are listed in (7):

- (7) a. *Unrestricted Probing*: probes scan both c-commanded and c-commanding structure for potential goals.  
 b. *Multiple Match*: probing features enter Match relations with every possible goal.  
 c. *Local Agree*: only the most local Match relation becomes an Agree relation.  
 d. *Dynamic Locality*: the locality of syntactic relations is computed at the end of syntactic derivation (before spell-out).

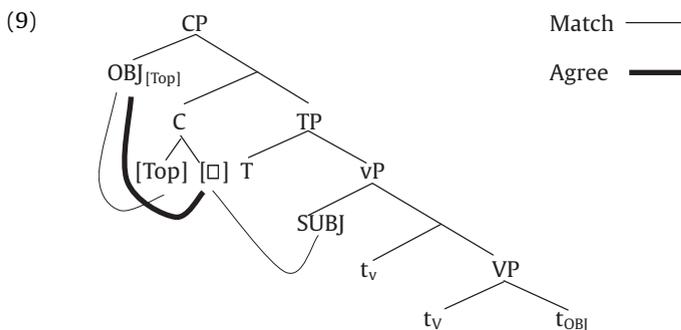
<sup>8</sup> Ndayiragije (1999) offers extensive arguments that TOP V S clauses involve A-movement. However, Henderson (2006) offers a thorough critique of these arguments, concluding that they are unproblematic for an A-bar movement alternative. I will not recap these argument here.

(7a) and (7b) are default assumptions that actually make Chomsky's probe-goal system less stipulative since they do not place unwarranted restrictions on how many goals a probe may enter Match relations with (cf. Hraiwa, 2001), nor their location.<sup>9</sup> (7c) stipulates that though Match is not subject to locality restrictions, Agree relations are (cf. Boeckx, 2003). This is in line with the default notion that a set of features cannot be valued simultaneously by more than one goal. Of all the potential goals, one must be chosen for valuation. (7c) stipulates that this decision is based on locality. (7d) details when this locality is determined and takes this to be the last possible time, namely at the end of the derivation before spell-out. It is at this point that the most local Match relation is computed as an Agree relation. A consequence of this is that probe-goal relations (and the features involved in them) remain active until the end of the derivation as well.<sup>10</sup>

To illustrate this account of TOP V S clauses, consider the derivation in (8). At this level of the derivation, C has just been merged to the structure, together with two strong sets of features: a [Top] feature and a set of unvalued phi-features. Both sets of features probe the c-command domain of C. [□] enters Match relations with the subject and object which both have (inherently) valued sets of phi-features. [Top] enters a Match relation only with the object which comes with a [Top] feature of its own. Note that if locality were computed once and for all here, the Agree relation for the [□] would be with the subject since this is the most local goal for the phi-features in C. However, Dynamic Locality in (7d) requires that this computation be delayed until the end of the derivation.



The structure in (9) shows the next step in the derivation in which Move has taken place under the Match relation between the strong [Top] feature and the object, which has a matching [Top] feature. Note that once this movement has taken place, the most local Match relation for [□] is now with the object and not the subject. Since this is the end of the derivation, it is this Match relation that is computed as the Agree relation.



Note how the system works in order to satisfy the formal properties of both the [Top] and [□] features in C. Both are strong features, and therefore both require a local relationship with their valuer. Potentially, however, they have different goals since [Top] can only target a topic (the object in this case) and [□] features can target the subject or the object.<sup>11</sup> If the subject were to move to SpecCP, however, the formal strong property of [Top] could not be satisfied since its goal (the object)

<sup>9</sup> However, given Merge, the bottom-up, incremental nature of structure building ensures that probes enter Match relations with potential goals in their c-command domains before entering into such relations with goals that c-command them, due to the simple fact that the latter are introduced later than the former.

<sup>10</sup> An independently motivated assumption of Henderson (2006) is that Case features are unvalued features of NPs that are valued independently of phi-features rather than as a side effect of phi-feature valuation as in Chomsky (2000; see also Baker, 2003; Carstens, 2005 for support for this position in Bantu). Nominative case, Henderson assumes, is valued against T while accusative case is valued against little.

<sup>11</sup> Note that this highlights a crucial difference between the analyses of Henderson (2006) and Carstens (2005): while the latter takes [□] to motivate movement to SpecCP, checking operator features as a consequence, the former takes the operator feature to motivate movement to SpecCP, ultimately valuing [□] in C as a consequence.

could not move to its specifier (assuming multiple specifiers are not possible in this derivation). The object moving there, however, can satisfy [Top]'s properties as well as [ $\square$ ]'s since the object is also a potential goal for the latter. Of course, if [Top] were to target the subject, the subject could move to SpecCP as a goal for this feature as well as for [ $\square$ ]. Indeed, Henderson assumes this to be the case in normal SVO clauses. Note that it is the allowance of one-to-many probe-goal relations and the fact that the computation of locality is delayed until the end of the derivation that make this flexibility possible.

The account in (9) derives the fact that a topicalized NP in these Bantu languages triggers subject agreement on the verb as well as the unusual OVS word order. For a REL V S clause, the derivation would be identical except the feature [Top] would be replaced by the feature [Rel]. At the heart of both structures is the fact that there is a single set of [ $\square$ ] features associated with morphological subject-verb agreement, and these features reside in C rather than in (the more canonical) T. Since both structures follow from the same principles, we derive the fact that languages with OVS in main clauses should also have them in relatives.

Note there is also some room for variation here, in particular by postulating that languages without OVS structures differ in the number and structural locations of sets of phi features. For instance, Henderson argues that many other Bantu languages do not display OVS structures due to the fact that these languages have two sets of [ $\square$ ], one in T and one in the CP domain. In some languages, these two sets may be valued by distinct goals, as in the Zulu 'strategy 2' relative in (10). Here a relative complementizer agrees with the relativized NP while the verb agrees with the preverbal subject.

- (10) Inja e-mfana wa-yi-thenga in – hle.                      Zulu  
 9dog 9CA-1boy 1SA-9OA-buy 9SA-good  
 'The dog which the boy bought is good.'                      (Poulos, 1982)

However, within languages that have OVS structures, the system is quite restricted, predicting that all languages with OVS structures should have both TOP V S and REL V S and that the latter should be the only kind of relative clause allowed by the language. As it turns out, this is not the case. Whaley (1996), for instance, claims that Kirundi and Kinyarwanda, which do allow TOP V S structures, do not allow REL V S clauses. Speakers I have consulted find such clauses acceptable, but even granting this, it is true that these languages disprefer REL V S to another strategy, one in which the subject precedes the verb and there is no agreement with the relativized NP. Relativization is simply marked by a grammatical tone on the verb form. (11a) demonstrates the preferred strategy while (11b) shows the REL V S strategy for Kirundi:

- (11) a. ibitabo Yohani a-ta-á-somye                      Kirundi  
 8books 1John 1SA-neg-PST-read:PERF  
 'the books that John didn't read'                      Ndayiragije (1999:419)
- b. igitabo ki-á-somye abana  
 7book 7CA-PST-read:PERF 2children  
 'the book that the children read'                      Ntahirageza (p.c.)<sup>12</sup>

Another case of variation is observed by Bokamba (1981), who shows that Lingala also allows both strategies, as noted above in (5) and repeated here:

- (5) a. mukanda mú – tind - aki baasi awa                      Lingala  
 5letter 5CA-send-PST 2women here  
 'the letter that the women sent here'
- b. mukanda mú-ye baasi ba – tind – aki awa  
 5letter 5CA-REL 2women 2SA-send-PST here  
 'the letter that the women sent here'                      Bokamba (1981:39)

Both Kirundi and Bokamba's dialect of Lingala also allow TOP V S structures. However, there are also languages that seem to allow one or the other of TOP/REL V S structures, but not both. Kinyalolo (1991) claims that TOP V S clauses are non-productive ('lexically restricted') in Kilega while REL V S clauses are fully productive. On the other hand, Baker (2003, p.c.) notes that Kinande allows TOP V S productively, but does not allow REL V S. Clearly these facts are a challenge for Henderson's account, which, to repeat, offered a unified account for the two constructions that captured their similarities, but also predicted that languages with TOP V S always possess REL V S and no other relativization strategy. The question becomes, how do we allow for the variation we have observed here and still capture the similarities between the two constructions? I offer an attempt below.

<sup>12</sup> Ntahirageza informs me that (11b) is only ok in some dialects and that there is 'sometimes free variation between the two forms.'

#### 4. The present account

As discussed above, Henderson's analysis of OVS structures in Bantu is too restrictive to allow for variation within such languages. One possible source of this difficulty is that the account posits that OVS languages have an inactive SpecTP position and only one set of  $[\square]$ , unlike the other Bantu languages. Indeed, this conclusion has serious empirical problems. Kilega, for instance, is a language that allows OVS structures in relatives and questions. Interestingly, Kilega diverges from other OVS languages in allowing agreement with the logical subject of the clause in OVS structures just in case that subject is a null argument. In these constructions, one sees two sets of agreement features displayed, one with the subject and one with the operator NP:

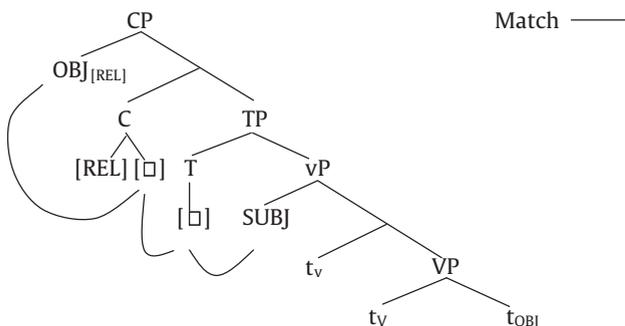
- (12) Gání ga-n-á-bík-íl-é maku m-á Béngábá ? Kilega  
 16where 16CA-1SG-PERF-put-COMPL-FV 6beer 6of Bengaba  
 'Where did I put Bengana's beer?' (Kinyalolo, 1991:19)

To provide a different set of facts, while Dzamba typically displays OVS structures with only one agreement morpheme displayed, in negative OVS structures, two agreement morphemes show up, as shown in (13):

- (13) ma:kenge má-ta-mà-bung-áki o kalasi emba Dzamba  
 6slates 6CA-NEG-6SA-lost-PST at school NEG  
 'the slates which were not lost at school' (Bokamba, 1976:297)

This data strongly suggests that Carstens (2005) is correct in suggesting that two sets of  $[\square]$  features are present in Bantu OVS construction, contra Henderson's account. Adopting this position has the effect of making both OVS and non-OVS Bantu languages look more similar to one another underlyingly than Henderson proposed, a welcome result. However, this only re-highlights the difficulty in deriving all of the variation above from underlying differences that must be quite small. I attempt this below. Building on the ideas of one-to-many Match relations and dynamic locality discussed in section 3, I propose that variation in Bantu operator construction be derived from locality considerations and the idea that  $[\square]$  features are always valued by the most local goal at the end of the derivation. However, I also adopt the view that in some cases more than one goal may be equally local to a set of  $[\square]$ . Such derivations constitute cases of symmetric locality. Since such symmetries cannot be interpreted by the computational system (again, an unvalued feature cannot be valued by more than one goal simultaneously), this symmetry must break one way or the other. We therefore find languages choosing one option or the other.

Adopting the assumption that two sets of  $[\square]$  features are present in Bantu OVS clauses, let us consider again how the system works in such a structure. In (14), the object has moved to SpecCP under its Match relation with the strong feature [REL].  $[\square]$  in C is in a Match relation with the object in its specifier and in a mutual Match relation with  $[\square]$  in T (as well as with SUBJ, omitted here).<sup>13</sup>  $[\square]$  in T is also in a Match relation with the subject (as well as with the object, omitted here).



Note that, regarding  $[\square]$  in C, it is unclear which Match relation is more local (selection vs. Spec-head). I will make the (not uncontroversial) assumption that they are equivalently local, representing a true symmetry of the system that may break one way or the other. Note, however, that  $[\square]$  in T does not have equivalently local Match relations. Rather, its relation with  $[\square]$  in C is the most local (selection vs. c-command). Note that if  $[\square]$  in C chooses its Match relation with  $[\square]$  in T as its Agree relation at the end of the derivation, neither set of  $[\square]$  features will obtain a value – they will rather vacuously value one another. This would allow unvalued features to survive the derivation, leading to a crash at the interfaces. Therefore, taking (14) to be the end of the derivation, the only possible outcome is for both sets of  $[\square]$  to obtain a value from the relativized object,  $[\square]$  in C directly and  $[\square]$  in T indirectly via its AGREE relation with  $[\square]$  in C. The result is a REL V S structure in which the verb agrees with the relativized NP and the subject remains in situ in SpecVP. I follow Kinyalolo (1991)

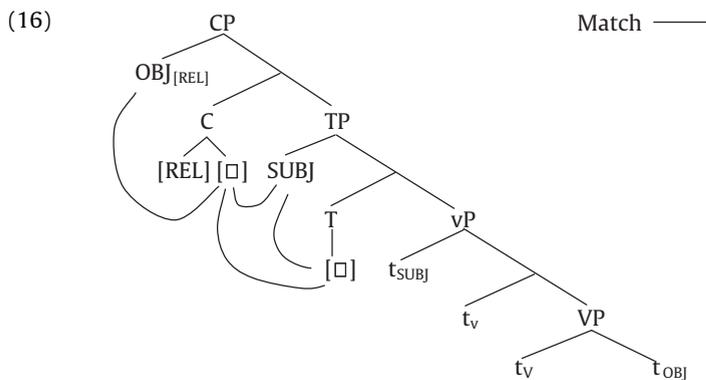
<sup>13</sup> The assumption that phi features in T are a potential goal for  $[\square]$  in C follows from the assumption that sets of  $[\square]$  are not finally valued until the end of the derivation. They therefore remain active (and therefore can be active goals) until the end of the derivation.

and Carstens (2005, 2008) in assuming that both sets of phi-features needn't be spelled out when they receive identical values on adjacent heads, a generalization Carstens refers to as Kinyalolo's Constraint. However, this is only true in the default case. In some languages both are spelled out in particular constructions, such as in negated REL V S structures in Dzamba (replicated here from (13) or Lingala REL V S structures with an optional agreeing complementizer<sup>14</sup>:

- (15) a. ma:kenge má-ta-mà-bung-aki o kalasi emba Dzamba  
 6slates 6CA-NEG-6SA-lose-PST at school NEG  
 'the slates which were not lost at school' (Bokamba, 1976:297)
- b. mukanda (mú-ye) mú - tind - aki Poso Lingala  
 5letter 5CA-REL 5AGR-send-PST Poso  
 'the letter that Poso sent'

Note that unlike previous approaches, this approach does not require the topicalized or relativized NP in an OVS structure to undergo A-movement through SpecTP before undergoing A-bar movement to the left periphery. The [□] features in T receive their value not via a Spec-head relation, but rather a selection relation with C.

Returning to the structure in (14), the other derivational option is for the subject to move to SpecTP under its Match relation with [□] in T at the level of TP. This would result in the structure in (16). Here I assume that [□] in T has no choice. Since the subject is the most local goal for [□] in T, this relation must become the Agree relation.<sup>15</sup>



For [□] in C in (16), however, there remains a choice between equivalently local relations (again, taking the Spec-head and selection relations to be equivalently local). If [□] in C chooses its relationship with the relativized object as its Agree relation, the result is a relative clause with two distinct [□] values, such as the Lingala relative in (5b) above. Alternatively, if [□] in C agrees with [□] in T, both sets are valued by the subject. Again, I assume that in most cases, only one set of [□] is spelled out due to Kinyalolo's Constraint, as in Zulu 'strategy 1' and Swati. These languages are the mirror opposite of OVS language: there is no agreement with the relativized NP, only with the subject. A relative complementizer is present (prefixed to the verb form), but it is invariant.<sup>16</sup>

- (17) a. incwadi isitshudeni a - isi - yi - funda - yo Zulu  
 9letter 7student REL-7SA-9OA-read-RS  
 'the letter that the student is reading'
- b. umfati tintfombi le - ti - m - elekelela - ko Swati  
 1woman 10girl REL-10SA-1OA-help-RS  
 'the woman whom the girls help' (Zeller, 2004:79)

<sup>14</sup> A reviewer asks precisely what determines whether two identically valued sets of phi-features get spelled out as one morpheme or two. This might be stated as a question about the nature of Kinyalolo's Constraint and how one defines the notion of 'adjacent heads.' If adjacency refers to syntactic adjacency, then it must be the case that the negative morpheme in (15a) introduces a syntactic head between CP and TP, making the heads C and T non-adjacent. This assumption introduces non-trivial locality problems for the analysis in (14). However, adjacency might instead refer to linear (phonological) adjacency. In that case, the phonological expression of the negative marker in (15a) is what makes it possible to express both agreement morphemes. This assumption is less problematic for the present approach as well as for the data in (15b) where there is no evidence for a head between C and T. Determining which view is correct requires discussion beyond the scope of this paper, however, and I leave it for future work.

<sup>15</sup> Note that this predicts there should be no language with a topicalized or relativized structure in which the subject is in SpecTP and both sets of phi-features agree with the fronted NP. To my knowledge, this prediction is borne out.

<sup>16</sup> Often complex patterns of vowel coalescence or portmanteau formation occur in these languages, blending the complementizer and subject agreement morpheme. Here I have represented them by their underlying forms for clarity.

We might ask whether there is a language in which both sets of subject-agreeing phi features are spelled out (as Dzamba in (15a) and Lingala in (15b) spell out both sets of REL-agreeing phi-features). I do not know of a case in Bantu, but this is arguably what occurs in West Germanic in which a complementizer and a verb both display agreement with the subject. Indeed, the account of facts like (18) provided by Carstens (2003) is similar to the view developed here.

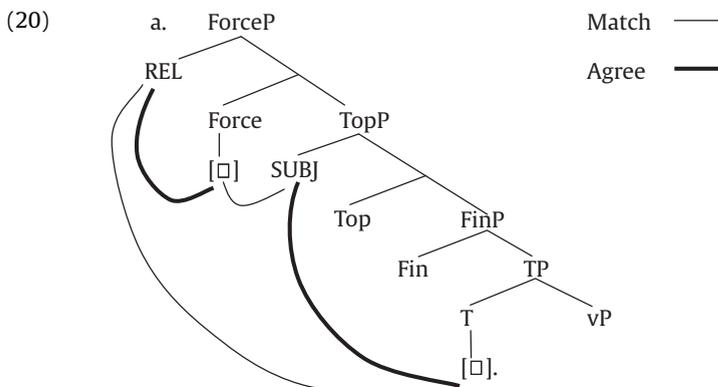
- (18) Kpeinzen dan-k (ik) morgen goan. West Flemish  
 I-think that-1SG (I) tomorrow go.1SG  
 'I think that I'll go tomorrow.' (Haegeman, 1992)

To summarize, the present account has the advantage of positing a uniform underlying structure for Bantu relative clauses, whether they display agreement exclusively with the relativized NP, exclusively with the subject, or with both. All such structures are proposed to possess two sets of  $[\square]$ , one in C and one in T. The differences spill out from whether or not the subject raises to SpecTP and from the final determination of locality at the end of the derivation.

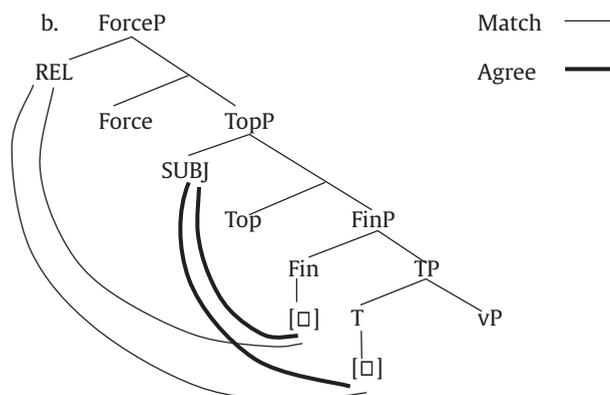
One final issue to be addressed involves variation in Zulu relative clauses. We have already seen that in Zulu 'strategy 2' relatives a relative complementizer agrees with the relativized NP while in 'strategy 1' relatives it is invariant. An additional point of variation, however, is in the location of the relative complementizer, preceding the subject in 'strategy 2' relatives and following it in 'strategy 1.' The data are presented again below for convenience:

- (19) a. Inja e - mfana wa - yi - thenga in - hle Zulu  
 9dog 9CA-1boy 1SA-9OA-buy 9SA-good  
 'The dog which the boy bought is good.'
- b. Inja umfana o-wa - yi - thenga-(yo) in - hle.  
 9dog 1boy REL-1SA-9OA-buy-RS 9SA-good  
 'The dog that the boy bought is good.' (Poulos, 1982)

We might consider treating this variation by assuming that Zulu is a language that displays both of the options allowed by the structure in (16) and discussed above. That is, when the complementizer agrees with the relativized NP, this reflects an Agree relation between  $[\square]$  in C and the operator in SpecCP. When it shows no agreement, this reflects an Agree relation between  $[\square]$  in C and  $[\square]$  in T, itself valued by the subject. Such an analysis, however, would not account for the varying position of the relative complementizer in the data in (19): in (19a) the complementizer precedes the subject while in (19b) it follows the subject. It seems therefore that we must follow Henderson (2006) in assuming that some Bantu languages make use of an articulated CP domain like that proposed by Rizzi (1997). For Zulu, we can postulate that the relative complementizer (and its associated phi features) may occupy more than one syntactic node in the left periphery and that the overt subject occupies a position between these nodes. Rizzi's (1997) structure for the left periphery suffices to capture the generalization, assuming that subjects in Zulu are treated as topics in SpecTopP and that the complementizer may occupy the head of either ForceP or FinP. Note that introducing this extra structure into clause destroys the possibility for the symmetric state of locality discussed with regard to (16) above. In (20) things are more deterministic: when  $[\square]$  is in Force, its most local relation is clearly with the relativized NP; when  $[\square]$  is in Fin, it is with the subject. The structure in (20a) corresponds to the Zulu data in (19a) while (20b) corresponds to (19b).<sup>17</sup>



<sup>17</sup> Henderson (2006) assumes the subject in SpecTopP binds a null *pro* in SpecTP. I omit this here for brevity sake. Nothing hinges on this decision.



Though the adoption of an articulated left-periphery is strongly motivated by the Zulu data, it is not clear that we can avoid the notion of symmetric locality altogether by appealing to a complex CP domain for all cases of Bantu operator constructions displaying two sets of phi-features with distinct values. In Kinande, for instance, there is ample evidence that in normal SVO clauses the subject is a left peripheral topic, much like in Zulu (Schneider-Zioga, 2007). Though I have no space to repeat her arguments here, Schneider-Zioga shows that when a non-subject operator is extracted to the left periphery, there is strong evidence that the subject must *not* occur in the left periphery, instead occupying SpecTP. On the surface at least, this looks like there may only be one position available in the CP domain in Kinande, making it seem implausible that Kinande relatives have the articulated structure in (20a).<sup>18</sup> Rather, the distinct values displayed by subject and complementizer agreement in the Kinande focus construction in (21) may reflect the structure in (16) along with a preference for breaking the symmetric locality in (16) in favor of the Spec-head relation.

- (21) Ekihi **ky-o** Kambale **a** langira? *Kinande*  
 7what 7<sub>CA</sub> REL 1Kambale 1<sub>SA</sub> saw  
 ‘What did Kambale see?’ Schneider-Zioga (2007:10)

The prediction, then, is that languages that allow OVS structures, such as Kinande, should lack strong evidence for an articulated left periphery. Conversely, languages that have strong evidence for a complex left periphery, such as Zulu, should lack OVS structures. As far as I know, this is born out, though clearly a wider array of Bantu languages must be considered for confirmation.

## 5. Conclusions

The present analysis offers a unified account of TOP V S and REL V S constructions while allowing for (internal and cross-linguistic) variation via minimal options built into the general principles assumed. These options are not built around the presence or absence of phi-features in C/T or in the availability of an active SpecTP position as in Henderson (2006). Rather, all Bantu languages examined are assumed to be uniform in having two sets of [□], one in C and one in T. The options are chiefly dependent on whether or not the Match relation between [□] in T and the subject in SpecVP results in the subject moving to SpecTP. Note that this is a property independent of topicalization or relativization structures themselves, but as discussed in section 4, it has the effect of altering the locality relations that phi-feature valuation is ultimately dependent on. Again, when the subject does not raise to SpecTP, Agree relations are deterministic. Locality demands that [□] in C agree with the relativized/topicalized NP while [□] in T agrees with [□] in C. This always yields an OVS structure in which the verb agrees with the preverbal constituent. In case the subject does raise, however, a symmetry still exists in the system since [□] in C may agree with the operator or the subject. This symmetry must be broken one way or the other before spell-out, however. Languages that choose the former option will display two distinct morphological agreement relations while those that choose the latter option will show agreement only with the subject. Additional variation also comes into play when evidence points toward the activation of a complex CP domain in the derivation, as in the case of Zulu, discussed at the end of section 4. Putting this aside, however, Fig. 1 illustrates the derivational operations that underlie the parametric variation discussed here.

Unlike Henderson’s (2006) account, the present view accommodates variation not only across, but also within languages. For example, it is possible that a single language may allow a relative derivation with subject raising to SpecTP under the Match relation with [□] in T as well a derivation without this raising. The prediction of the present system is that this language would allow a REL V S structure as well as a relative structure in which the subject precedes and agrees with the

<sup>18</sup> Schneider-Zioga (2007) does assume a complex CP domain, arguing that the subject must occupy SpecTP in extraction contexts to avoid minimality violations. However, it is not clear that such movement would constitute a minimality violation. Languages such as Zulu, for instance, freely allow a relative operator to move over a left peripheral topic, as the data in (19b) illustrate.

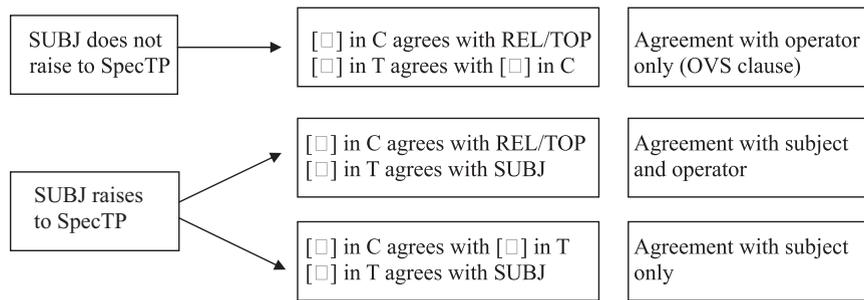


Fig. 1. Parametric options in Bantu operator constructions.

verb. The language might or might not have a relative complementizer that agrees with the relativized NP. Kirundi is such a language. It allows REL V S structures as well as relatives in which the verb and subject agree and the only relative marker is a final high tone on the verb form, as the data in (11) above illustrated.

Lingala provides another example. As illustrated in data above, the dialect of Lingala discussed here appears to be the most versatile of the languages discussed here when it comes to relativization. It allows REL V S structures with one or two sets of phi-features expressed. It also allows REL S V structures with an optional agreeing complementizer. Cases in which the complementizer is absent can be taken to spell-out structures in which both sets of phi-features agree with the subject.

- (22) a. munkanda (mu-ye) mú – tind - áká baasi awa *Lingala*  
 5letter 5<sub>CA</sub>-REL 5<sub>CA</sub>-send-PST women here  
 ‘the letter that the women sent here’
- b. mukanda (mu-ye) baasi ba – tind - áká awa *Lingala*  
 5letter 5<sub>CA</sub>-REL 2women 2<sub>SA</sub>-send-PST here  
 ‘the letter that the women sent here’ (Bokamba, 1981:39, p.c.)

Finally, because whether or not subject raising to SpecTP occurs in a particular construction is in principle unrelated to whether that construction involves topicalization or relativization, we expect these properties to cluster freely in languages. Thus, some Bantu languages may have subject raising with topicalization constructions, but not relative constructions as in Kinande (Baker, 2003) or vice versa, as in Kilega. In this way, the present system is able to address the typological inadequacies of Henderson (2006)’s account. While we might expect that languages with TOP V S structures might have a greater chance than other languages in allowing REL V S structures (and vice versa), this is merely a tendency, presumably resulting from the fact that these structures employ the same principles in similar ways. It therefore might be more efficient from an acquisition perspective for a language to employ one of these structures if it employs the other. However, nothing in principle requires this.

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