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Abstract:

Kirundi Object-Verb-Subject (OVS) inversion structures and transitive expletive constructions (TECs) (Ura 1996, Ndayiragije 1999), are argued to provide novel evidence for the Labeling Algorithm (LA, Chomsky 2013, 2015). Because of a confluence of Kirundi idiosyncrasies, Kirundi is argued to provide direct, observable evidence that when the external argument does not move to Spec, TP, it cannot stay in Spec, vP. I show that this ban on remaining in Spec, vP cannot be accounted for by an EPP approach nor a minimality approach. On the other hand, the LA is argued to account for this ban straightforwardly. It is also shown that a similar movement occurs in Kirundi transitive expletive constructions. While constituting further evidence for the main claim, such constructions are also evidence for the elimination of the MOVE/ MERGE distinction.

Keywords: Inversion, Labeling Algorithm, MOVE, MERGE, Minimal Search, EPP

The Labeling Algorithm and Kirundi Inversion Structures

1 Introduction and aims

The Labeling Algorithm (LA) as outlined in Chomsky (2013, 2015) and Epstein, Kitahara & Seely (2014) (and its predecessors in different guises) propose that the label of a newly formed structure is not added *ad hoc* but rather calculated using a rigid algorithm from the elements being merged in the computational system.[1] It is assumed that all structures that are to be interpreted must have a label by the time they leave narrow syntax (where labeling is determined) and enters the conceptual-intentional interface (where structures are interpreted). If some structure enters the C-I interface without a label, it simply cannot be interpreted and thus will fail. This means that if an instance of MERGE for whatever reason cannot be labeled immediately, the label must be resolved by the time the structure is transferred to the interfaces.

The LA is thus an additional 'filter' (loosely understood) by which one can evaluate derivations. Whenever a new mechanism is proposed as part of the computational system, it is a natural question to ask how much of the existing formal mechanisms of syntactic theory can be derived using this new mechanism. Chomsky (2013, 2015) suggests that there is no reason to formally distinguish between internal merge and external merge and also suggests that the core facts surrounding the EPP can be explained using the LA. Epstein et al go further in showing that the LA may make it

[1] See also Collins (2002) for arguments in favor of rejecting X'-theory labels.

possible to do away with the notion of phases as well.

The LA is a theory which explains movement in a fundamentally distinct way from what has been traditionally proposed. In previous theories such as feature checking, EPP etc, movement is required to solve a problem at the internal merged position of the DP. For example, the EPP feature is something that has to be checked by movement of some DP to a higher position in the structure. However, movement in the LA is motivated by a labeling conflict at the original position of the DP. If movement of a phrase from an unlabel-able structure does not happen, then the structure will fail to be interpreted at the interfaces. Given that the LA motivates movement in quite a different way from traditionally proposed, the question arises as to whether we need both types of movement triggers, or if one can be reduced to the other.

In this paper, my aim is to show that Kirundi OVS inversion structures (Ura 1996, Ndayiragije 1999, Morimoto 2009) involve both types of movement. First, this indicates that the LA certainly cannot supplant all attested movement operations in natural language. But perhaps more interestingly, it also shows that we do need something like the LA, which provides direct support for the LA. This is because one of the movement operations that is required to derive OVS inversion in Kirundi can only be described as a ban on a DP remaining in situ. While this type of movement has been proposed before from symmetrical small clause structures (Moro 2000, 2009, Ott 2011), the data here is novel in that such a movement is shown to be present in a structure that does not involve a small clause, thus showing the general applicability of the LA. Along the way, I also discuss implications this has for notions like the EPP and the MOVE/ MERGE distinction.

The outline of the paper is as follows. In section 2, I provide a detailed overview of the version of the LA that I am adopting and the assumptions that I make as part of this. In section 3, I discuss inversion structures in general and why these may be good linguistic environments in which to test the claims of the LA. Here, the Kirundi inversion construction is introduced and the implications of such constructions for the LA are described. In section 4, adapting Mikkelsen (2004) and Moro (2009), an analysis of Kirundi inversion is proposed where projections within the clause can have discourse features. These discourse features are argued to be critical in enabling labeling. Here, I address an alternate minimality-based account for the data and show that it is is unsatisfactory. In section 4, I motivate the following generalization: when the external argument does not to Spec, TP, it nonetheless cannot remain in Spec, vP. Empirical evidence for this generalization is provided not only from OVS inversion but also from Kirundi transitive expletive constructions (TECs). I then conclude.

2 Background of the Labeling Algorithm

Before we look at Kirundi inversion and how these can be used to test various claims made by the LA, it is necessary to look at the LA and outline the relevant assumptions. While Chomsky proposed an earlier version of the LA (Chomsky 2008) and other variations currently exist like Cecchetto & Donati (2010, 2015), we will follow the version in Chomsky (2013, 2015) and Epstein, Kitahara and Seely (2014). The following outlines the principles of the LA adopted in this paper.

1) **Labeling algorithm**

a. Suppose SO = {X, YP}, then X is the label.

b. Suppose SO = {XP, YP}, labeling is ambiguous and this can be resolved in two ways.

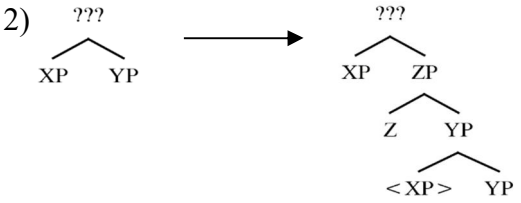
i) Make only one head visible, eg. XP, to remove the ambiguity.

ii) If XP and YP share features, the label becomes the shared features.

I assume following Epstein et al that the difference between a head and a phrase for the labeling algorithm is that a head is an item from the lexicon made up of a bundle of features whereas a phrase is a set of items, constructed by MERGE. An implicit assumption, then, is that the LA must be able distinguish between sets and non-sets in order to recognize the type of element that occurs in any given instance of MERGE. (1a) applies to the simple structure in which one of the elements being merged is a head and the other is a phrase. In this case, the label will become that of the head.

Label identification when a given instance of MERGE is between two non-heads is slightly more complicated. Here, minimal search finds two heads and either could in principle become the label. In such cases, there is more than one way to determine the label. The first way is to make one of the phrases invisible at that point. The way a phrase can be made invisible to the LA at a given point is by merging it in a higher position so that the chain containing the two copies of the phrase is not entirely contained below the node that is to be labeled. Since the node that has to be labeled cannot see the entire chain, it is assumed that the lower copy of the phrase is invisible to the LA and the label of the sister phrase is chosen as the label of this node. This is illustrated in (2). Here,

moving XP higher up in the structure, makes the lower copy of XP invisible to the LA at the node immediately dominating the lower XP and base position of YP. Unpronounced copies are shown with angled brackets (< >) here and throughout the paper.

2) 

Another way to identify the node label when two non-heads are merged is by projecting their shared features, if any. Looking at the second structure in (2), we can see that although the label identification at the first merge site of XP and YP is now possible, we have only temporarily postponed the problem as the merge of XP and ZP leads to a similar labeling problem. One could keep merging XP higher and higher in the structure but eventually it needs to stop somewhere. The position where XP stops is one where the head of the phrase, WP, that XP merges with shares with X some prominent feature.

Chomsky (2013, 2015) observes that this process where a phrase keeps moving up a structure until it finds a suitable position is illustrated by wh-movement.[2]

3) a. [In which city]$_i$ did John say t_i the man was assassinated t_i?

b. John said the man was assassinated [in which city]?

c. *John said [in which city]$_i$ the man was assassinated t_i?[3]

[2] Traces are used in the data throughout the paper without any theoretical commitment to the notion of a trace. They could simply be replaced with unpronounced copies.

[3] (3) is not possible on the relevant interpretation, the one as a matrix question.

(3a) shows the standard position of English wh-phrases at the highest Spec, CP. However, Chomsky (2013) and Epstein et al note that English allows wh-in situ matrix questions such as (3b) in quiz contexts. Such facts have also been discussed in Pires & Taylor (2007) and Vlachos (2012). What is starkly disallowed is the wh-word in the intermediate position as seen in (3c). The LA explains these facts straightforwardly. In (3a), the wh-phrase can be merged in the highest Spec, CP position as this highest C and the wh-phrase share Q features and the highest node label can be identified as the Q features. In (3b), label identification is simply resolved as the wh-phrase merges with a head, V. In (3c), the wh-phrase is in an intermediate position but this is not allowed even though this is also an instance of a merger of two phrases. This is because this intermediate C head does not have a Q feature and as such the intermediate CP cannot be labeled.

Apart from successive cyclic, A'-movement, the LA can also derive the EPP-effect in the simplest context.

4) Merge (DP_{ea} , v') → {DP_{ea} , v'}

Take (4), where an external argument (DP_{ea}, henceforth) is merged in Spec, vP. Here DP_{ea} and v' are both phrases and as such vP cannot be labeled. However, we can move DP_{ea} and merge it with T' as shown in (5).

5) Merge (DP_{ea}, T') → {DP_{ea} , T'}

Here, T' contains the vP node with only a partial chain that DP_{ea} forms and as such the LA does not 'see' DP_{ea}. Thus, the syntactic object in (4) can be labeled v. The structure formed in (5) can also be labeled because Chomsky claims that DP_{ea} and T have shared

phi features. Thus, these phi features will become the label of the syntactic object in (5). Note that the reason why DP_{ea} leaves the vP in (4) is not due to any EPP feature or some such trigger but rather falls out as a natural consequence of the LA as it is outlined. v' and the DP_{ea} are both non-heads which do not have any shared features and as such moving DP_{ea} enables vP to be labeled. One might wonder why it has to be the DP_{ea} and not v' that moves in (4). I do not have a concrete answer to this question either but this may have to do with the fact that v unlike T does not have phi features or any type of feature that could facilitate unification. Note that if it did, then it is possible that DP_{ea} would not need to leave Spec, vP in the first place. Nieuen may reflect an interesting parametric difference from English in this regard (thanks to Mark Baker for pointing this out). Massam (1985, 2001) argues that in this language it is actually the VP that moves to Spec, TP. If it is actually what we know as v' that moves to Spec, TP in Nieuen, then the English situation may not need to be stipulated.

Nonetheless, there are a number of question that arise about some standard cases which have not been adequately addressed in the literature. 1) What does the LA mean for pronouns and names which appear to be lexical items and not phrases, 2) What happens with adjuncts which are clearly phrases in certain cases, and 3 What happens when Spec, TP is filled with an expletive element? I outline my assumptions about these in the following paragraphs.

Although names and pronouns appear to be lexical items, I propose that these are nonetheless phrases and as such subject to the same rule as external arguments that are clearly phrases. The reason for this is that if names and pronouns in Spec, vP are indeed

lexical items, one predicts that these should not need to move for labeling reasons.[4] Similar considerations arise for the Kirundi data to be dealt with in later sections of the paper. However, there is no empirical asymmetry between names, pronouns and phrasal nominals in this regard.

6) {The boy/ John/ He} has *{the boy/ John/ He} seen the girl.

(6) shows that the external argument whether it is clearly phrasal, a name or a pronoun is base-generated in Spec, vP and moved to Spec, TP. This is evidenced by the relative positions of the auxiliary verb and the external argument. I follow Chomsky (2013: 46) in treating names and pronouns as complex structures even though they appear to be lexical items. Thus, pronouns will have a [$_{DP}$ D-pro] structure as evidenced by sentences such as '[$_{DP}$ We linguists] like a good puzzle.' As for names (and other bare nominals), there are two ways in which these can be phrasal. The first way is to posit a phrase like the following: [$_{nP}$ n [$_{r}$ John]]. This is what Chomsky (2013) suggests and here, little *n* takes the category-less root to form a complex nominal phrase. Alternatively, names could be DPs with a null D: [$_{DP}$ John] as suggested by Longobardi (1994) for Italian. Either way, I assume that pronouns and names as phrasal even if they do not appear so on the surface.

Adjuncts (such as adverbials and prepositional adjuncts) on the other hand are clearly phrasal and give rise to the same kind of {XP, YP} structure as an external argument in Spec, vP but it is unlikely that there is any movement of the adjunct from its base-generated position. Thus, adjuncts appear to be instances of merger of two non-

[4] This is, of course, assuming that the LA renders the EPP redundant.

heads which appear to be lable-able without movement or feature sharing. What, then, is needed is a way to set aside adjuncts from arguments and claim that adjuncts are for some reason invisible to the LA. A fruitful way in which this distinction can be made is by utilizing the set-merge and pair-merge distinction of Chomsky (2004) who aims to distinguish adjuncts (in their traditional sense) apart from arguments in bare phrase structure (thanks to Mark Baker for suggesting this possibility). If pair-merge (which forms ordered pairs) occurs on a separate plane which is invisible to the core phrase structure (Chomsky 2004: 117 - 118), this would make the pair-merged phrase invisible to the LA. In so far as this characterization is correct, in this paper, I only deal with instances of set-merge of two phrases which is what the LA is sensitive to.[5]

The final key assumption pertains to structures in which an expletive is in Spec, TP which means that an external argument cannot move to this position to alleviate the labeling problem at Spec, vP. In English, the following exemplify the problem.

7) There is [$_{PredP}$ a man in the room].

In (7), an expletive *there* is merged in Spec, TP. Such constructions are potentially problematic for the LA on the standard analysis shown, where *a man* is base generated within a small clause (i.e. Predicational Phrase). While I am not committed to any particular analysis of such constructions, I outline some possible ways to deal with such

[5] Also, see Oseki (2015) who argues for the elimination of pair-merge to be replaced with the double peak structure of Epstein, Kitahara and Seely (2012). Although different in detail, double peak structures are argued to be why adjuncts need not move (or feature share) in order to satisfy the LA.

constructions. Suppose we assume that the structure in (7) is correct and [*a man in the room*] is a small clause, one way to get around the labeling issue is to adopt Epstein et al's suggestion in their footnote 13, where they propose movement of *a man* to a clause-internal Spec, FocP. However, if we assume following Williams (1984) that the complement of the verb in a *there*-construction is just a DP and not a PredP, then a labeling problem does not exist as the DP would be a complement of the verb. The PP would be analyzed as adjoined to VP in this structure. Either choice is compatible with the version of the LA I adopt and thus I do not take a strong stand on either. An interesting variation of the analysis of *there* constructions comes from Moro (1997), who proposes the following structure for (7).

8) $There_i$ is $[_{PredP}$ a man t_i $]$ $[_{PP}$ in the room]

In (8), *there* is argued to be raised from the complement of PredP to Spec, TP. The PP would be adjoined to PredP. If Moro's analysis turns out to be the right one, then there is no problem for the LA either as PredP in his analysis is a symmetrical structure and moving *there* to Spec, TP suffices to label PredP.[6]

Epstein et al propose that with the LA, one can not only potentially derive the EPP, they also show that Chomsky (2013) is right that it is empirically possible to treat

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[6] However, there are questions about Moro's analysis of *there*-constructions. For one, in Moro's analysis, *there*-constructions are similar to specificational copula clauses which are inverted predications.

a) $There_i$ is likely to be [a man t_i]. b) A man_i is likely to be [t_i there]

Thus, (a) and (b) are supposed to be alternations of the same underlying structure but it does not seem like *there* in these sentences have the same meaning at all.

both MOVE and MERGE as a single operation *simplest merge* which applies without restriction. In other words, the LA allows us to reanalyze well-known data that was used to motivate the distinction between MOVE and MERGE in Chomsky (2000), without appealing to this distinction. If correct, then this is a simplification of the theory. The discussion below of (9) is largely reproduced from Epstein et al: section 2.

9) a. There is likely [$_{TP}$ to be [a man] in the room].

b. *There is likely [$_{TP}$ [a man]$_i$ to be t_i in the room].

As mentioned above, Epstein et al assume that [*a man in the room*] is a small clause with *a man* in the specifier and *in the room* in the complement of the small clause. Under this assumption, the difference between (9a) and (9b) is *prima facie* surprising because there is certainly nothing wrong from an EPP perspective as to why (9b) should be ungrammatical. If the EPP requires Spec, TP to be filled, then in (9a), *there* satisfies the EPP of the lower Spec, TP before moving to satisfy the higher EPP. In (9b), *a man* should satisfy the EPP of the lower EPP. To account for such facts, Chomsky (2000) proposed that MOVE (a composite operation consisting of MERGE and AGREE) is costlier than just MERGE.[7] As a result, the derivation involved in (9b) is costlier than the one in (9a) and is ruled out. Given that *there* and *a man* are both in the numeration, the computational system prefers *there* being merged in the intermediate Spec, TP position.

Epstein et al invoke (1bii) to explain the contrast in (9). They assume that only

[7] It is not unanimously held that MOVE is costlier than MERGE. For example, Shima (2000) actually argues for the opposite based on super-raising.

finite T has phi features and with this assumption, it follows that a phrase can only remain in Spec, TP if T is able to project a shared label with the phrase in its specifier. In (9a), *there* is merged in the intermediate Spec, TP position but cannot stay there as the T here is non-finite and therefore *there* must move up to merge with a finite T. In (9b), *a man* cannot remain here for the same reason. Non-finite T does not have phi features and as a result, the intermediate TP suffers a fatal labeling failure. In the LA, we do not need a MOVE/ MERGE distinction after all.

Now that we have seen the basics of the LA and what it can help us explain, I will now turn to inversion structures and why such structures are particularly interesting from an LA perspective.

3 Inversion Structures and the LA

The possible derivability of the EPP from the LA arises because the position where DP_{ea} is base generated makes labeling of the vP impossible. This is because both DP_{ea} and v' are non-heads that do not share any features. Such a configuration thus requires DP_{ea} to raise out of vP as this resolves the vP labeling conflict. In this view, the EPP-effect arises not because there is some special property about Spec, TP that requires it to be filled but rather because Spec, vP is not a suitable position for DP_{ea} to stay in. At face value, what this predicts is that if there is some element moving to Spec, TP in some construction, it should be DP_{ea} in Spec, vP. But we know that this is empirically not true.

Inversion constructions, of which there are many, potentially demonstrates this. For example, Birner (1994) describes an extensive list of inversion types in English where the fronted element appears to be moved to the clause periphery. Another potential

inversion type is the so-called specificational copular clauses (Higgins 1973) which are argued to be inverted predications by Moro (1997), Mikkelsen (2004) and den Dikken (2006) among others. In this paper, I focus on Kirundi inversion (Ura 1996, Ndayiragije 1999, Morimoto 2009) as this provides directly observable evidence as to where DP_{ea} moves to when it does not move to Spec, TP. Consider the following. The bulk of the data and initial analysis is from Ndayiragije (1999).

10)	a.	Abâna	ba-á-*ra*-nyôye	amatá.	SVO
		children	3P-PST-F-drink:PERF	milk	
		'Children drank milk'			
	b.	Amatá	y-á-(*ra)-nyôye	abâna.	OVS
		milk	3S-PST-F-drink:PERF	children	
		'Children (not parents) drank milk.'			

(10) illustrates the main inversion phenomenon and is from Ndayiragije (1999: 400). (10a) shows a typical transitive clause with SVO order and (10b) shows the inverted OVS order in which the direct object occurs pre-verbally. Ndayiragije (1999) shows that OVS structures are not passives. The passive shows the passive affix *u* and allows the verb affix *ra,* analyzed as an anti-focus marker. In OVS structures like (10b), the *u* and *ra* affixes are obligatorily absent (See Ndayiragije 1999: 412). Discussion of this *ra* suffix is postponed to section 4.2.

Assuming a standard analysis, (10a) is derived by external merging *abana* 'children' in Spec, vP and moving it to Spec, TP. This fact that *abana* is in Spec, TP can be seen from subject agreement. In (10b), however, Ndayiragije, argues that it is the

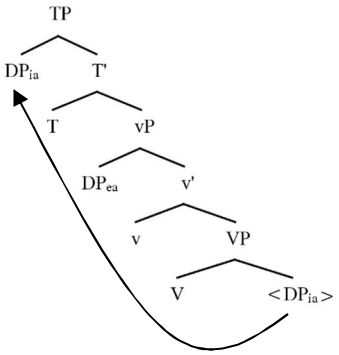
internal argument (DP_{ia}, henceforth), rather than DP_{ea} that is moved to Spec, TP. We will not review all of his arguments for this claim (see Ndayiragije 1999: section 3.3.2), but one good evidence for the claim that the DP_{ia} is in Spec, TP comes from subject agreement, where it is the inverted DP_{ia} that shows agreement.[8] This can be seen in the contrast in (10a/b). Another piece of evidence that reinforces the view that the fronted phrase in OVS reversal does agree with T is the one between (10b) and the following sentence that we will revisit later. Note for now the agreement morphology.

11) Imiduga yi-á-oógeje Yohani
cars 3P-PST-wash:PERF John
'John (not Peter) washed cars well.'

In contrast to (10b), (11) shows an inverted DP_{ia} that is plural. Here, the agreement morphology is plural as well. This also rules out the possibility that the agreement morphology in (11) is default agreement.[9] I will thus assume that the landing site of the inverted object is Spec, TP. The following shows the relevant structure.

[8] There is controversy regarding this as a prominent counter-claim is that the inverted DP_{ia} is actually moved to a periphery Topic position Eg. Morimoto 2006, 2009). In my analysis to be detailed below, I capture the topic properties of the inverted DP_{ia} with its ability to trigger agreement by positing a T that has topic features, an analysis that is adopted from Mikkelsen (2004).

[9] In any case, if Kirundi does have default agreement morphology, it is likely to be a class 16 marker (glossed as LOC in Ndayiragije (1999)) (Van der Wal 2008: ftnt14).

12) 

In (12), it is the internal argument, DP_{ia}, rather than DP_{ea} that is moved to Spec, TP. [10] What does this say about the LA? As it turns out, it says quite a lot.

Putting aside the apparent minimality violation in (12) where the DP_{ia} moves over the DP_{ea} for now, if we are to maintain that the movement of the DP_{ia} to Spec, TP in (12) has the same motivation as movement of a DP_{ea} in the canonical case, then what the LA requires us to say is that movement of the direct object to Spec, TP in (12) somehow ameliorates the labeling issue that occurs in Spec, vP where DP_{ea} is merged with v'. One way that such amelioration can occur is if movement of the direct object changes the v' from being a phrase to a head as far as the LA is concerned. Chomsky (2013: footnote 34) proposes that this may be a possible way of accommodating inversion, in related but

[10] In this structure, we temporarily gloss over details regarding the actual position of the DP_{ea}. There are also additional issues such as V-to-T movement that are ignored for expository purpose. In the LA system, there is no room for trees with syntactic node labels such as TP and v', and as such, it may appear to be a contradiction that such labels are still used in the trees throughout the paper. However, I continue using such non-LA labels for ease of reference following Epstein et al. Thus, node labels such as TP and v' should be taken as shorthand ways of referring to specific nodes in the tree and not the actual label that is computed by the LA for each respective node.

different structures. Recall that labeling can be facilitated by moving phrases in order to make them invisible to the LA at a given point (see 1bi). If movement of the DP_{ia} to Spec, TP also makes DP_{ia} invisible to the LA at Spec, vP, then it is possible that the LA can only see $\{DP_{ea}, v\}$ at this point.[11] Labeling of the vP may thus be achieved.

However, there is evidence from Kirundi that shows that movement of DP_{ia} to Spec, TP could not possibly enable labeling of vP. Consider the following structures where the verb complement is a CP and not a DP (Ndayiragije 1999: 418).

13) a. $Yohani_i$ a-á-ra-emeye $[_{CP}$ PRO_i kugura iyo modoka].
John 3S-PST-F-accept:PERF INF.buy that car
'John agreed to buy that car.'

b. $[iyo\ modoka]_j$ i-á- emeye $[_{CP}$ PRO_i kugura $t_j]$ $Yohani_i$.
that car 3S-PST-accept:PERF INF.buy John
'John agreed to buy that car.'

(13a) shows a control structure where the infinitive clause occurs as a verb complement. Structurally, (13a) will look the same as any other transitive clause with the exception that the complement of the matrix V is CP.[12] Interestingly, the embedded direct object can be moved to matrix Spec, TP as shown in (13b). We should note that this movement

[11] Technically, it should be $\{DP_{ea}, v+V\}$ that is visible, where v+V is a head that is formed by V → v movement.

[12] One could also assume that infinitives lack a CP and are actually TPs as Safir (2014) more recently assumes or that they are even nominalized NP/ DPs. This does not affect the point being made.

could not possibly enable matrix vP labeling. This is because the remnant embedded CP surely will require v' to be treated as a non-head by the LA which means that *Yohani* and this v' would still be two non-heads that are immediately dominated by the matrix vP node. Assuming for now that the LA is correct in its general principles, what (13b) shows is that the movement to Spec, TP in inversion structures is independent of label resolution. What this requires us to conclude is that inversion structures such as these shows that not all movements to Spec, TP can be derived from the LA. In other words, movement cannot be reduced to an operation that takes place only to satisfy labeling. This raises two questions. Suppose it is correct that the core cases of the EPP can be derived from the LA. Then, why does the object in Kirundi inversion structures move to Spec, TP when it clearly is independent of labeling? Second, if the DP_{ea} is not in Spec, TP, then where is it? After all, the LA predicts that it cannot be in Spec, vP as such structures will necessarily fail. I address these questions in turn.

4 Projections with Discourse Features within the Clause

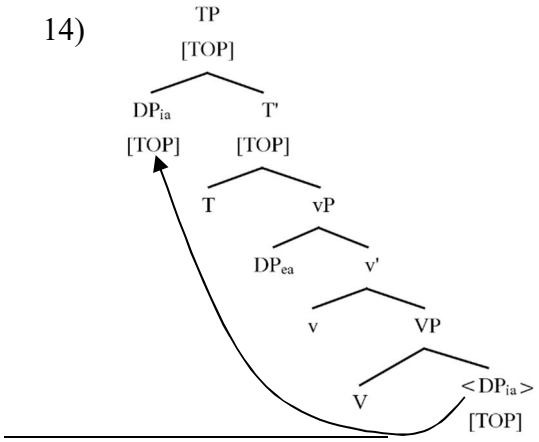
4.1 Inversion motivated by discourse features

Following Mikkelsen (2004), I claim that the fronted element in inverted structures is necessarily a topic and I formalize this, following Mikkelsen (2004) with an optional topic feature on T. Note that there is no inherent contradiction between what is proposed here and cartographic approaches (Rizzi 1997). The key difference is in the fact that Spec, TP seems to be reserved for topics that can also project shared phi features. We can see this in the fact that, in Kirundi, adverbs cannot be moved to Spec, TP to form inversions. (Ndayiragije 1999: 41 (eg 39b)). In contrast, a TopP position in the left

periphery does not have a phi feature restriction. Thus, it is possible to maintain the proposal here alongside cartographic approaches. This is also in line with recent proposals that the A/ A'-distinction is not as clear cut as usually assumed. For example, Erlewine (2017) argues that Toba Batak has a node that is a hybrid C/T node, having properties of a clause periphery head and a clause internal head. Thus, the proposal here for a T head that also has discourse properties is not without precedent.

Following Mikkelsen, I propose that it is this topic feature that facilitates movement of the DP_{ia} past the DP_{ea} without incurring a minimality violation. Thus, minimality is observed in inversion just like in cases of direct object wh-movement past a non-wh DP_{ea} in English. In addition, this analysis also provides a unification of two apparently contradictory properties of the DP_{ia} in OVS constructions; its ability to trigger agreement and yet have the properties of a topic (more of which we will see later). When DP_{ia} merges with T', the shared topic/ phi features thus become the label of the structure.[13] This looks like the following.

14)



[13] Note that in this analysis, we do not need multiple Spec,vPs (eg Ura 1996) or domain extension (Bailyn 2004) to explain why movement of DP_{ia} over DP_{ea} to Spec,TP does not incur a minimality violation.

In (14), the DP_{ia} is able to merge in Spec, TP because it and T have topic features. In Spec, TP, DP_{ia} and T' project their shared features as the label of TP. Crucially, DP_{ea} must not also have topic features as this will give rise to a minimality violation.[14] Note that this movement takes place even though there is no labeling conflict in the base position of the DP_{ia}.

That the fronted phrase in Kirundi OVS constructions is a topic is also supported empirically and in fact this appears to be an uncontroversial assumption in the Bantu literature. In fact, this is one of the reasons why several authors have proposed that DP_{ia} moves to the clause periphery in OVS inversion (eg. Morimoto 2009). Most recently, Marten & van der Wal (2014: 331), in their analysis of inversion structures in Bantu claim that the fronted phrase in reversal constructions 'provides the background of the assertion'. Kimenyi (1980) and Whaley (1996) also argues the same for OVS constructions in Kinyarwanda which is a mutually intelligible language with no significant syntactic differences with Kirundi (Zorc & Nibagwire 2007). The same claim

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[14] Bailyn (2004) argues that inversion in Russian occurs purely to satisfy the EPP.

a.	Oleg	razbil	okno	b.	okno	razbil	Oleg
	Oleg-NOM	broke	window-ACC		window-ACC	broke	Oleg-NOM

'Oleg broke a/the window'

(a) shows the canonical order and (b) shows an inverted order where the accusative marked direct object occurs pre-verbally. However, Erechko (2003) notes that (b) is also associated with a special discourse context where the fronted element is interpreted as the topic. This indicates that Russian inversion can also be reconciled with the claim that inversion is motivated by topic features.

about the fronted object in Kirundi OVS constructions is found in Morimoto (2000, 2006, 2009). One telling piece of evidence that this is indeed the correct characterization of the fronted phrase in OVS structures is its ability to function in only certain types of question-answer pairs, a diagnostic often used to identify topics (Polinsky & Potsdam 2001, Mikkelsen 2004). My Kirundi consultant (Ernest Nshemezimana, p.c.) notes that (10a) (an SVO construction) is a possible answer to a question 'What did the children do?' or 'What happened?'. On the other hand, (10b) (an OVS construction) is a possible answer to only the following questions: 'Who drank the milk?' or 'Is it you who drank the milk?' In other words, (10b) is only a possible answer to a question where the fronted phrase is discourse familiar. Another piece of evidence that indicates that the fronted phrase is a topic comes from definiteness readings. Yukiko Morimoto (p.c) says that her informant (Juvenal Ndayiragije) prefers a definite interpretation for the inverted object in an OVS structure whereas such a preference is absent in the corresponding SVO sentence. This falls in line with what we expect if the fronted phrase is a Topic. [15]

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[15] However, the lack of an absolute requirement that the fronted phrase in an OVS be definite cannot be taken as evidence against the claim that the fronted phrase in a OVS is a topic as indefinites can be topics. This is seen in the *as-for* topic construction in English (Reinhart 1981) shown in (a).

a) As for milk, my children can guzzle tons at a time.

Here, note that the generic meaning of *milk* can be a topic. Thus, the Kirundi data in (10) should not be taken as indicating that the fronted phrase, which may be indefinite, is a non-topic. Another diagnostic for topichood found in Polinsky & Potsdam (2001), that a topic in Tsez cannot be a reflexive, is not applicable to Kirundi as Kirundi uses a verbal prefix to express reflexivity (Zorc & Nibagwire 2007: 278).

Given these considerations, it is safe to assume that the fronted phrase in Kirundi OVS must have topic features.

If this is right, then the movement of DP_{ia} to Spec, TP is motivated by the fact that Spec, TP has some special property, namely topic features that allows the DP_{ia} to occur in that position. This is distinct from the way that the LA derives the EPP effect. In those cases, it is the fact that Spec, vP is not a possible place for DP_{ea} to be stranded that triggers movement to Spec, TP. Thus, these two instances of movement to Spec, TP have very different motivations and should not be treated the same. This means that we need to separate instances of movement to Spec, TP associated with distinct discourse purposes from those that are not associated with any such meaning. Once we do that, we find that there are fewer cases of pure EPP phenomenon that has to be accounted for by the LA.[16]

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[16] There, of course, remains unexplained aspects of what are analyzed as EPP effects such as expletive insertion. However, expletive insertion may not be that intractable for the derivation of the EPP from the LA, if expletives are not inserted directly in Spec, TP as argued in Chomsky (2000) but rather moved there from Spec, vP as argued by Richards & Biberauer 2005, Deal 2009, Alexiadou & Shafer 2011. If this is the case, then *there*-insertion does not have to be motivated by an independent EPP. Evidence that *it*-insertion may have less to do with a EPP property of Spec, TP, comes from the fact that these are commonly found in non-subject positions, such as the complement of a verb and prepositional head. Postal & Pullum (1988) offer the following examples as cases of non-subject expletives.

a. I dislike **it** that he is so cruel. (P&P: 642) b. John will see to **it** that you have a reservation. (P&P: 648)

In (a/b), the expletives are complements of V and P respectively. If there is a uniform explanation for expletive insertion, it may not have anything to do with the EPP after all. Nonetheless, we remain agnostic to the possibility of deriving all EPP effects from the LA.

This conclusion leads us to a number of implications that I will now briefly discuss. This discussion of the movement of DP_{ia} to Spec, TP shows that not all instances of internal merge can be reduced to a labeling conflict. There remain several cases of internal merge that have to be allowed independent of any such conflict. In this paper, we have seen two such cases, wh-movement in English (in section 2) and movement of the DP_{ia} to Spec, TP in Kirundi inversion contexts. In fact, one suspects that any *Rizzi*-an left-periphery movement will also belong in this category. So far what we have discussed for Kirundi does not provide support for the LA one way or the other. In fact, a traditional feature checking analysis would suffice to account for the facts so far. However, as we will shortly see, a feature checking analysis cannot explain the core empirical fact being discussed in this paper: namely, the position of the DP_{ea} in such contexts. I turn to this for the remainder of the paper.

4.2 Labeling the vP in inversion structures

If the DP_{ea} in Kirundi OVS inversion structures does not move to Spec, TP, then how does vP get labeled? We can adopt the solution that Moro (2009) proposes for a different context. In his analysis of Italian copular clauses, which he analyzes with a symmetrical small clause, insertion of a null expletive in Spec, TP, requires one of the constituents of the small clause to move to a clause-internal Spec, FocP. This is what enables small clause labeling. The general schema is shown below.

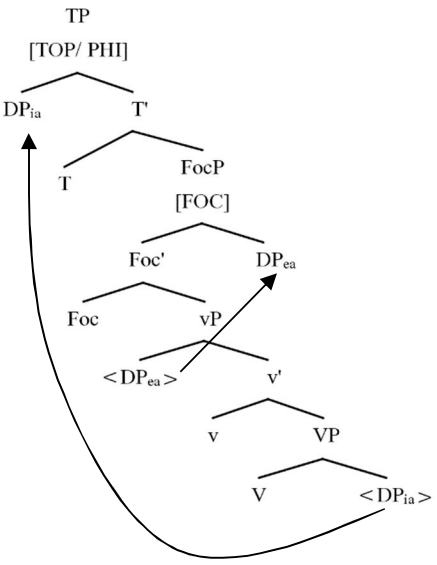
15) a. *EXPL [$_{SC}$ XP YP]

b. EXPL [$_{FOCP}$ XP_i [$_{SC}$ t_i YP]]

In (15a), the symmetrical structure (i.e. the small clause) cannot be labeled because neither the XP nor YP can move to Spec, TP as there is an expletive there. However, Moro (2009) notes that placing focus emphasis on one of the constituents makes the sentence grammatical. He interprets this as moving the XP to a low Spec, FocP as shown in (15b). This is what allows the SC to be labeled. Following a similar line of argument, I propose that DP_{ea} in Kirundi inversion is similarly moved to a low Spec, FocP. This is done to ameliorate the labeling issue at vP. As the vP label cannot be resolved by moving the DP_{ea} to Spec, TP which is occupied by DP_{ia}, DP_{ea} is instead moved to this low Spec, FocP.[17] This will make DP_{ea} invisible at vP thus allowing vP labeling. The shared focus features of the DP_{ea} and the focus head become the FocP label. Unfortunately, Moro (2009) is unable to provide direct evidence for the movement to a low FocP in (15b) in Italian because this movement in Italian is string vacuous. What makes Kirundi particularly interesting from this perspective is that among other factors, Kirundi has a peculiarity about its low FocP which makes direct observation of this movement of the DP_{ea} to a low Spec, FocP possible. First, observe the proposed derivation of Kirundi OVS inversion, more or less, adopted from Ndayiragije (1999).

[17] The postulation of a low FocP is not unique to the labeling literature and has been proposed several times before for independent reasons (Jayaseelan 1999, Belletti (2001, 2004) a.o) Nonetheless, we will see some independent evidence in Kirundi for such a projection shortly.

16)



16) shows the derivation of an OVS sentence like (10b).[18] As mentioned earlier, in such sentences, the DP_{ia} moves to Spec, TP and projects shared topic/ phi features as the label. However, the DP_{ea} also has to move to a clause internal Spec, FocP. This enables vP labeling as DP_{ea} is invisible to the LA at this point. In addition, labeling of FocP is also possible through shared focus feature projection. The peculiarity about the Kirundi low FocP is that, as argued by Ndayiragije (1999), there is good evidence that we will see shortly that indicates that the specifier of FocP is a rightward one. I do not have an explanation for why this specifier is rightward, but it is exactly this peculiarity which makes observation of the movement of the DP_{ea} to this low Spec, FocP possible as it makes this movement string non-vacuous in certain contexts. Before looking at the empirical evidence indicating that DP_{ea} cannot remain in Spec, vP in inversion structures, I will first describe the evidence supporting the view that a clause-internal FocP (with a

[18] V→ T movement which is assumed for Kirundi is not shown.

rightward specifier) exists in Kirundi.

One of the morphological differences between a canonical transitive and inverted structure is the obligatory absence of a -ra- affix in inverted structures. Ndayiragije goes on to show that this affix is actually not possible whenever there is a phrase that is focused or wh-moved. Even in canonical SVO order, the absence/ presence of the -ra- affix has interpretational consequences.

17) Abâna ba-á-(**ra**)-nyôye amatá SVO
children 3P-PST-F-drink:PERF milk
'Children drank milk.'
'Children drank milk (not water).' (Only possible without -ra-)

Ndayiraije (1999: 410) shows that the occurrence of the -ra- affix forces a neutral interpretation for the sentence whereas the absence of -ra- allows a focused reading for the object.[19] Based on such data, Ndayiragije analyzes this affix as an anti-focus head that occurs in a position lower than the T head but higher than v. When this -ra- affix is missing, it is assumed that there is a null focus head in the same position. The evidence for overt movement to a rightward Spec, FocP comes from the following.

[19] It is odd that it is the neutral discourse context that is marked. Ndayiragije (1999: 409) suggests that -ra- might be similar to a declarative C that Chomsky (1995) proposes for English declaratives. van der Wal (2013) proposes that the -ra- affix is the default spell out form of the low Foc head when it does not find a focused phrase. Either interpretation is compatible with the proposed analysis.

18) a. Yohani a-á-***ra***-oó-geje (*néezá) imiduga (néezá).
John 3S-PST-F-wash:PERF well cars well
'John washed cars well.'

b. Yohani a-á-oó-geje (néezá) imiduga (néezá).
John 3S-PST-wash:PERF well cars well
i) 'John washed cars well (not badly).' (DP_{ia}-ADV order)
ii) 'John washed cars well (not trucks).' (ADV-DP_{ia} order)

(18a) shows a sentence with a discourse-neutral meaning. Here, *ra* is required and there is a strict order between the post-verbal elements. The adverb must follow the direct object which indicates that the adverb right-adjoins to vP. In (18b), there is no -ra- affix which indicates that one of the post-verbal elements can be focused. Here, either order between the DP_{ia} and adverb is possible but the rightmost phrase must have focus interpretation. Following Ndayiragije, such data is taken as evidence for a rightward FocP specifier.

Ndayiragije (1999) discusses a number of evidence for a *low* FocP. I will not discuss them all here. I will just mention one which has to do with the ordering of affixes on the verb. Given the Mirror Principle (Baker 1985), I assume that V → T movement results in V collecting prefixes as it moves to T. Note that in this case, the -ra- affix occurs lower than T in (18a) which means that the -ra- projection must be lower than T. From this, assuming that the null focus head is in the same position as the -ra- affix in focused contexts, means that the Foc head must be in a low position as well. Thus, I will

assume for the rest of the paper that Kirundi not only has a FocP, but that it is TP-internal and that it has a rightward specifier.[20]

5 The Position of the DP_{ea} in Inversion and TECs

It is one thing to illustrate that Kirundi has a clause-internal FocP and quite another to say that the DP_{ea} cannot remain in Spec, vP in inversion structures. In the following sub-sections, we will see evidence that in constructions where the DP_{ea} has not moved to Spec, TP, it must move to this Spec, FocP position. This is argued to follow from the LA.

5.1 The DP_{ea} in OVS structures cannot stay in Spec, vP

One of the first pieces of evidence that indicate that the DP_{ea} cannot remain in Spec, vP in inversion structures can be seen in the comparison of (10a/ b) repeated below as (19).

19)	a.	Abâna	ba-á-*ra*-nyôye	amatá.	SVO
		children	3P-PST-F-drink:PERF	milk	
		'Children drank milk'			
	b.	Amatá	y-á-(**ra*)-nyôye	abâna.	OVS
		milk	3S-PST-F-drink:PERF	children	
		'Children (not parents) drank milk.'			

[20] Other evidence for a low FocP comes from scope possibilities from the interaction of negation and numerals (Ndayiragije 1999: 409) and wh-extraction asymmetries (Ndayiragije 1999: 428).

In (19), the construction in the OVS order cannot have the -ra- affix. What this indicates is that the post-verbal DP_{ea} in OVS order is obligatorily focused, i.e., moved to this low Spec, FocP. This is what we expect. Recall that -ra- is an indicator of a neutral context. One could imagine an OVS construction in which the fronted DP_{ia} is topicalized but the low DP_{ea} remains in situ in Spec, vP. Apparently, this is not an option in Kirundi.

Further evidence that shows that DP_{ea} cannot remain in Spec, vP in inversion contexts comes from a number of subject-object asymmetries which are observable in Kirundi because of its rightward Spec, FocP. Consider the following data reproduced below as (20a/b) with the additional sentence in (20c).

20) a. Yohani$_i$ a-á-ra-emeye [$_{CP}$ PRO$_i$ kugura iyo modoka].
John 3S-PST-F-accept:PERF INF.buy that car
'John agreed to buy that car.'

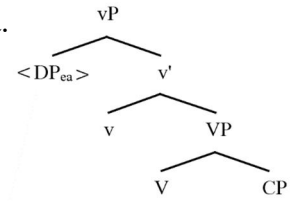
b. [iyo modoka]$_j$ i-á-emeye [$_{CP}$ PRO$_i$ kugura t$_j$] Yohani$_i$.
that car 3S-PST-accept:PERF INF.buy John
'John (not Peter) agreed to buy that car.'

c. *[iyo modoka]$_j$ i-á-emeye Yohani$_i$ [$_{CP}$ PRO$_i$ kugura t$_j$]
that car 3S-PST-accept:PERF John INF.buy
'John agreed to buy that car.'

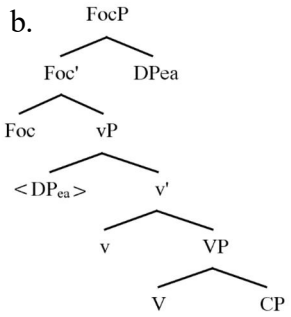
(20a) shows the canonical SVO order where the verb complement is a CP. (20b/c) show that when an object within the embedded CP is moved to the matrix Spec, TP, the order between the embedded remnant CP and the DP_{ea} must be CP-DP_{ea} as in (20b) but not DP_{ea}-CP as in (20c). This is surprising because given no prior assumptions, one might

expect that the DP_{ea} could at the very least stay in the canonical order with respect to the CP. The ungrammaticality of (20c) shows that the DP_{ea} does not stay in situ in Spec, vP but must move to Spec, FocP. The relevant structures of the respective sentences are shown below.[21]

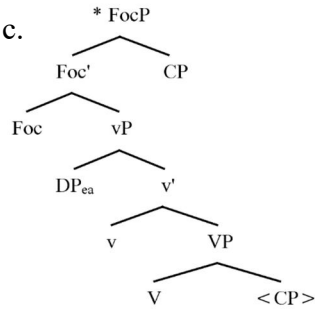
21) a.



b.



c.



In (21a), Spec, vP only has an unpronounced copy of DP_{ea} as it has moved to Spec, TP and vP can be labeled. In (21b), the same holds except the DP_{ea} has moved to Spec, FocP. The problem in (21c) is that DP_{ea} has remained in Spec, vP. Compare this to an un-inverted structure where DP_{ea} occurs in Spec, TP.

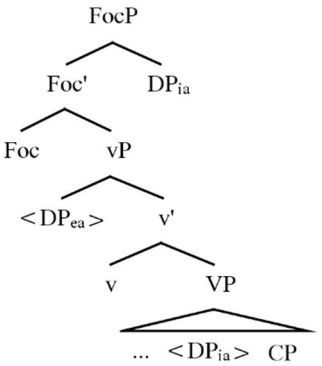
22) a. pro tu-á-rungitse [$_{CP}$ PRO_i kuryâma] abâna$_i$.
1P-PST-send:PERF INF.sleep children
'We sent to sleep children (not adults).'

[21] In the rest of the structures we see in this paper, I only produce the relevant structure which is up to the low FocP.

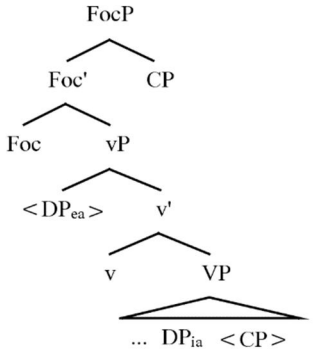
b. pro tu-á-rungitse abâna$_i$ [$_{CP}$ PRO$_i$ kuryâma].
1P-PST-send:PERF children INF.sleep
'We sent children to sleep (not to play).' (Ndayiragije 1999: 411)

(22a) shows a non-inverted structure with a post-verbal CP and DP$_{ia}$. These structures have focus (due to the absence of -ra-), and here, either the CP or the DP$_{ia}$ can be focused corresponding to either order between CP and DP$_{ia}$. Crucially, the phrase that is outermost is the one that is focused. The relevant structures of these sentences are below.

23) a.



b.



(23) corresponds to the sentences in (22). The difference between the two is that in (a), DP$_{ia}$ has moved to Spec, FocP and in (b), the CP has moved to Spec, FocP. Crucially, in both these sentences, DP$_{ea}$ has moved to Spec, TP which means that vP can be labeled. Note that (22) also shows that there does not need to be surface c-command between a controller and the PRO in the CP. In (22b), the infinitival CP is in the Spec, FocP which is higher than the DP$_{ia}$ which remains within the VP and the control relation remains possible. This indicates that (20c) cannot be ruled out as due to a lack of c-command between DP$_{ea}$ and the PRO it controls as the CP is in Spec, FocP. The comparison between (20) and (22) thus strongly suggests that the problem with (20c) is that the DP$_{ea}$ is in Spec, vP.

One may wonder if the problem with (20c) is that the DP_{ia} is extracted from a CP that itself has moved to Spec, FocP, an instance of criterial freezing (Rizzi 2006). But the following data we discuss now shows that even when the CP does not contain a trace, the same general pattern obtains.

24) Yohani a-á-ra-zanye inka$_i$ [$_{CP}$ PRO$_i$ kurisha].
John 1S-PST-F-bring:PERF cows INF-graze
'John brought cows to graze.'

(24) shows a sentence with DP_{ea} in Spec, TP and a DP_{ia} and a CP infinitive (Ndayiragije 1999: 426). In this sentence, the PRO in controlled by DP_{ia}, thus distinguishing it from (21a). This sentence has the same schema as (22), except here, we have an overt DP_{ea}. Using (24) as the base, we can now see that focusing either the DP_{ia} or the CP is possible.

25) a. Yohani a-á-zanye [$_{CP}$ PRO$_i$ kurisha] inka$_i$.
John 3P-PST-bring:PERF INF-graze cows
'John brought cows (not goats) to graze.'

b. Yohani a-á-zanye inka$_i$ [$_{CP}$ PRO$_i$ kurisha]
John 3P-PST-bring:PERF cows INF-graze
'John brought cows to graze (not to sleep).'

In (25a), the DP_{ia} has been moved to Spec, FocP and in (25b), the CP has been moved to Spec, FocP. The absence of -ra- makes focus on either constituent possible. The relevant structures for these two sentences is identical to what is shown in (23), so I will not repeat them. The important thing to note is that the DP_{ea} has moved to Spec, TP thus allowing vP to be labeled.

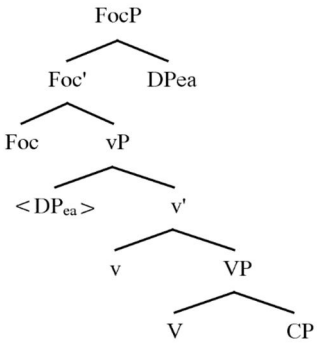
It is also possible to form a corresponding OVS from (24) but there is an asymmetry.

26) a. Inka$_i$ zi-á-zanye [$_{CP}$ PRO$_i$ kurisha] Yohani.
cows 3P-PST-bring:PERF INF-graze John
'John (not Peter) brought cows to graze.'

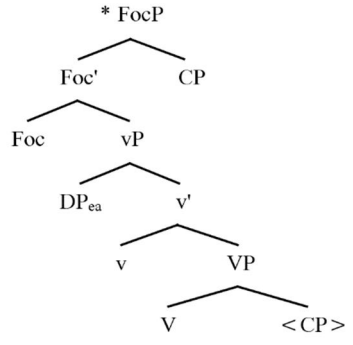
b. *Inka$_i$ zi-á-zanye Yohani [$_{CP}$ PRO$_i$ kurisha]
cows 3P-PST-bring:PERF John INF-graze
'John (not Peter) brought cows to graze.'

(26a) shows that when the DP$_{ia}$ is moved to Spec, TP, the DP$_{ea}$ can be focused. (26b) shows that with DP$_{ia}$ in Spec, TP, the CP cannot be focused. First note that this is the same type of asymmetry we saw in (20c). However, this asymmetry cannot be ruled as a due to criterial freezing because the fronted DP$_{ia}$ is not extracted from within the CP. However, the apparent problem with (26b) is that in this structure, the DP$_{ea}$ is stranded in Spec, vP. In the LA analysis proposed here, this is not possible as this leads to a labeling failure for the vP. The relevant structures for (26) are produced below.

27) a.



b.



In (27a), which corresponds to (26a), the DP$_{ea}$ has moved to Spec, FocP allowing labeling of the vP. However in (27b), which corresponds to (26b), the CP has moved to

Spec, FocP, thus forcing DP_{ea} to remain in Spec, vP.[22]

Further evidence that indicates that DP_{ea} must move to the internal Spec, FocP position in OVS reversion comes from adverb placement (Ndayiragije 1999: 416).

28) a. Yohani a-á-***ra***-oógeje (*néezá) imiduga (néezá).
John 3S-PST-F-wash:PERF well cars well
'John washed cars well.'

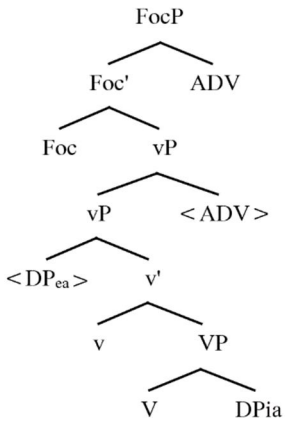
b. Yohani a-á-oógeje (néezá) imiduga (néezá).
John 3S-PST-wash:PERF well cars well
i) 'John washed cars well (not badly).' (DP_{ia}-Adv order)
ii) 'John washed cars well (not trucks).' (Adv-DP_{ia} order)

(28a) shows a non-inverted SVO clause. Here, the verb has the -ra- affix, and thus there can be no post-verbal focused elements. In this case, the adverb must follow the DP_{ia}. I assume that the adverb is right-adjoined to vP. However, without the -ra- affix, (28b) shows that either order is possible but with an interpretational difference. Again the outermost phrase is the one that has the focus interpretation. When the adverb is outermost, the adverb must have focus interpretation. But when the DP_{ia} is outermost, the

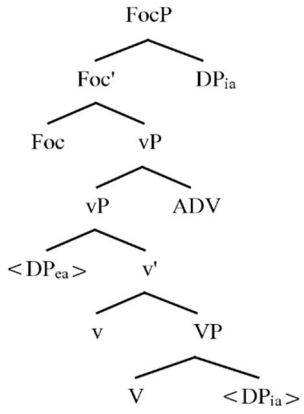
[22] The ungrammaticality of (20) and (26) also gives us another language particular property of Kirundi. It appears that Kirundi has no other Focus (or Topic) position at the periphery of vP that could possibly host DP_{ea}. There is only one Spec, FocP position TP-internally and once this position is occupied with some phrase, there is no other such projection for DP_{ea} to move to and project a shared label. This is in contrast to, perhaps Italian, for which Belletti (2001) argues that there is a clause internal Topic phrase as well as a clause internal FocP.

DP_{ia} has the focus interpretation. This is expected under the analysis that there is a clause-internal FocP with a rightward specifier as argued by Ndayiragije. The two structures for (28b) are below.

29) a. **DP_{ia} – ADV order**



b. **ADV-DP_{ia} order**

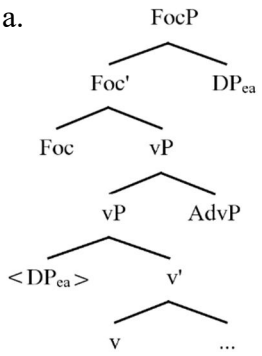


(29a) shows the DP_{ia}-ADV order of (28bi) and (29b) shows the ADV-DP_{ia} order of (28bii). The difference between the two is that in the first structure the ADV has moved to Spec, FocP and in the second structure, it is the DP_{ia} that has moved to Spec, FocP. In both these structures, the DP_{ea} has moved to Spec, TP and as such there is no issue of labeling the vP. With this background, now consider the following asymmetry in OVS structures. Unlike in (28b), the DP_{ea} must follow the adverb in OVS structures.

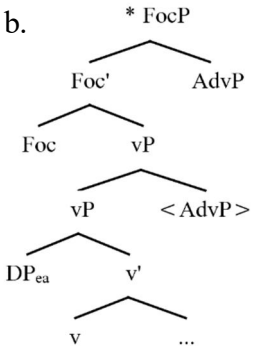
30) Imiduga yi-á-oó-geje (néezá) Yohani (*néezá)
cars 3P-PST-wash:PERF well John well
'John (not Peter) washed cars well.'

The contrast between (28) and (30) follows from the fact that the DP_{ea} which is not in Spec, TP must be in Spec, FocP. If it is not in either place, the only remaining choice is Spec, vP and this means that vP cannot be labeled. This is shown below.

31) a.



b.



In (31a), the AdvP-DP_{ea} word order obtains and here vP can be labeled as DP_{ea} is in Spec, FocP. In (31b), the word order is DP_{ea}-AdvP which means that DP_{ea} is stranded in Spec, vP. This leads to ungrammaticality.

So far, we have seen that in inversion contexts, the Kirundi DP_{ea} cannot remain in Spec, vP. I have proposed that this is directly observable evidence of one of the predictions of the LA. If the DP_{ea} remains in Spec, vP, vP cannot be labeled. Thus, it has to be moved to Spec, FocP. One might wonder if all of this data is just a reflex of the minimality condition. Perhaps it is the case that in order to raise the DP_{ia} to Spec, TP, the intervening DP_{ea} in Spec, vP has to move to an intermediate A'-position, the low Spec, FocP. This would be along the lines of what Ndayiragije (1999) assumes. However, this would only be true if the DP_{ia} in Spec, TP was no different interpretively from a DP_{ea} in a regular SVO clause. However, we know that this is not true. The DP_{ia} in OVS inversion has a distinct obligatory interpretation, that of a topic (see section 4.1). In Ndayiragije's analysis, this interpretive aspect of the fronted DP_{ia} is not addressed at all. In the proposal advanced here, this topic interpretation is a result of T having topic features which can

only probe a DP with topic features as well.[23] Thus, a DP_{ea} which does not have topic features cannot be an intervener even if it remains in Spec, vP. As mentioned above, this is similar to how a non-wh DP_{ea} does not act as an intervener for a C that probes for a [+wh] adjunct or [+wh] DP_{ia} further down the structure. Thus, I reiterate that minimality *cannot* be invoked to account for the position of the DP_{ea} in OVS inversion.

Another alternative analysis one may entertain is that there is a type of reciprocity effect. Perhaps, it is the case that if the DP_{ia} is topicalized as in OVS inversion, then there must be a corresponding focusing of some other phrase. While this may work for (19), this analysis does not explain why it must be the DP_{ea} that is correspondingly focused. (20c), (26b), and (30) show constructions in which an element (either a CP or ADV) other than the DP_{ea} could have been focused. These are elements that can otherwise be focused in constructions in which the DP_{ea} moves to Spec, TP. But in inversion contexts, these elements cannot be focused. I thus conclude that the obligatory focusing of the DP_{ea} in OVS inversion provides direct, observable evidence for a movement type that cannot be accounted for by a feature checking analysis or an EPP feature on the FOC head. This is a movement that takes place because DP_{ea} cannot remain in situ in Spec, vP. The LA provides a simple explanation for why; this leads to a labeling failure of the vP.

5.2 The DP_{ea} in Kirundi TECs

Now I turn to another Kirundi construction distinct from OVS inversion, the

[23] See Morimoto (2006, 2009) for other topic properties of the fronted DP_{ia} in OVS inversion.

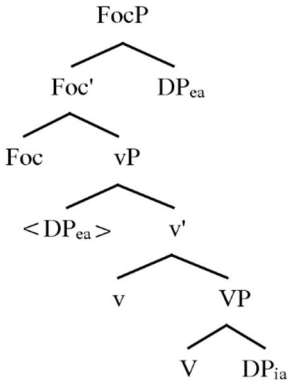
transitive expletive construction (TEC). I argue that the Kirundi TEC also illustrates the empirical generalization made above; a DP_{ea} that does not move to Spec, TP cannot remain in Spec, vP. Thus, the TEC facts also support the LA. The facts seen in this section should also remove any niggling doubts that the movement of the DP_{ea} to Spec, FocP can somehow be explained with a minimality account. This is because the DP_{ea} has to move to this Spec, FocP in TECs, a construction in which there is no movement of a DP_{ia} to Spec, TP.

Consider the following from Ndayiragije (1999: 435).

32) pro_{exp} ha-á-nyoye amatá abâna. Exp-VOS
LOC-PST-drink:PERF milk children
'Children (not parents) drank milk.'

(32) shows a TEC where there is no overt element in Spec, TP but where the DP_{ea} and DP_{ia} both occur post-verbally. In addition, the agreement morphology on the verb is a locative marker and not associated with either argument of the verb. We can thus safely assume that there is no copy of either argument in Spec, TP. Following Ndayiragije (1999), I adopt the following structure for (32).

33)

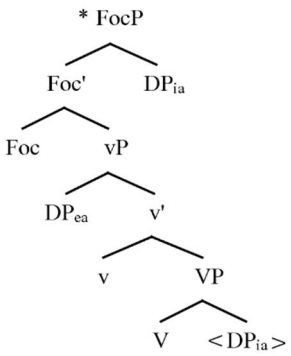


In (32), I assume a null pro in Spec, TP (not shown). The relevant FocP internal structure is shown in (33). Here, the DP_{ea} has moved to Spec, FocP and DP_{ia} remains in situ. The availability of such constructions allows us to further test the LA. If the DP_{ea} cannot remain in Spec, vP, as the LA dictates, what does this predict for the Kirundi TEC? If the characterization of the facts here is correct, then this means that the DP_{ea} must be in Spec, FocP. This will have two empirical consequences. First, Kirundi TECs cannot allow the -ra- suffix (as otherwise such constructions will allow a neutral reading which cannot be possible if DP_{ea} is necessarily focused) and second, this means that the Exp-VSO order should not be possible (as this means that it is the DP_{ia} that is in Spec, FocP and the DP_{ea} is stuck in Spec, vP causing a vP labeling failure). Both predictions are borne out as seen in (34).

34) a. *pro_{exp} ha-á-**ra**-nyoye amatá abâna. Exp-VOS
LOC-PST-F-drink:PERF milk children
'Children (not parents) drank milk.'

b. *pro_{exp} ha-á-nyoye abâna amatá. Exp-VSO
LOC-PST-drink:PERF children milk

(34a) shows that TECs do not allow the -ra- marking on the verb just like OVS structures and has the same focused interpretation for the DP_{ea}. In addition, the Exp-VSO order in (34b) is ungrammatical. The illicit structure in (34b) is shown below.

35) 

In (35), the DP_{ia} moves to Spec, FocP, leaving DP_{ea} in Spec, vP. This leads to a labeling failure. Thus, the LA allows us to provide a uniform explanation for the ungrammaticality of all the constructions in which the DP_{ea} is stranded in Spec, vP. This includes not just the TEC which we have just seen but also all the OVS inversion contexts that we saw above. The commonality in all of them is that vP cannot be labeled due to the DP_{ea} in Spec, vP.[24]

In contrast to the LA account here, Ndayiragije (1999) proposes a minimality account to explain the ungrammaticality of the OVS constructions we saw earlier that were ungrammatical. This means that he needs to provide a different account for the ungrammaticality of (34b) which does not involve any possible minimality violation. His account for (34b) rests on a distinction between MERGE and MOVE. Unlike Chomsky's original formulation, however, Ndayiragije proposes that it is actually MERGE that is costlier than (a version of) MOVE (similar to Shima 2000). Ndayiragije argues that if there is any phrase in Spec, vP, it must be moved to Spec, TP. In this case, expletive-insertion

[24] A uniform account for OVS structures and TECs is preferable also because of the number of similarities between them. See Ndayiragije (1999: 435) for a discussion of their similarities.

is disallowed. This is because Spec, vP is the closest A-position to Spec, TP and movement from here to Spec, TP is an instance of SHORTEST MOVE which is less costly than MERGE. According to him, this is what rules out (34b). Since the DP_{ea} is in Spec, vP in this structure, SHORTEST MOVE requires movement of the DP_{ea} to Spec, TP rather than insertion of an (null) expletive in Spec, TP. On the other hand, in (32), an expletive can be optionally merged because the alternative is moving the DP_{ia} (which is not in Spec, vP) to Spec, TP.[25] Since this is not an instance of SHORTEST MOVE, neither movement of the direct object to Spec, TP nor insertion of an expletive in Spec, TP is costlier than the other and both are allowed.

Note that in the proposal here in terms of the LA, the distinction between (32) and (34b) is predicted based on what we know from OVS structures and the LA. Crucially, we did not have to assume any distinction between MERGE and MOVE like Ndayiragije (1999). What we find here is that Kirundi TECs provides novel evidence for the claims made in Chomsky (2013, 2015) and Epstein et al, namely that the MERGE/ MOVE distinction is unnecessary in syntactic theory. The Kirundi data from inversion as well as TECs with respect to the possible positions of DP_{ia} and DP_{ea} receives a straightforward, uniform explanation from the LA.

[25] In this case, DP_{ea} is already in Spec, FocP, an A'-position and cannot be moved to Spec, TP, an A-position. This would be an example of improper movement, disallowed under most assumptions.

5.3 Summary

In the two previous sub-sections, I have showed that Kirundi OVS inversion and TECs exhibits a type of movement that is best characterized as a ban on DP_{ea} staying in Spec, vP. This is seen from the following schemas.

36) **DP_{ia} in Spec, TP (OVS)**

a. $[_{TP}\ DP_{ia}\ [_{FocP}\ DP_{ea}\ [_{vP}\ <DP_{ea}>\ \ldots\ <DP_{ia}>\ ]]$

b. $*[_{TP}\ DP_{ia}\ [_{FocP}\ (XP)\ [_{vP}\ DP_{ea}\ \ldots\ <DP_{ia}>\ ]]$

37) **$EXPL_{pro}$ in Spec, TP (TEC)**

a. $[_{TP}\ EXPL_{pro}\ [_{FocP}\ DP_{ea}\ [_{vP}\ <DP_{ea}>\ \ldots\ DP_{ia}\ ]]$

b. $*[_{TP}\ EXPL_{pro}\ [_{FocP}\ DP_{ia}\ [_{vP}\ DP_{ea}\ \ldots <DP_{ia}>\ ]]$

In (36), the OVS inversion construction, DP_{ia} moves to Spec, TP. In this case, the DP_{ea} must move to Spec, FocP. Thus, (36a) is grammatical but (36b) is not. In (37), the TEC, an expletive pro is in Spec, TP. Likewise, the DP_{ea} must move to Spec, FocP as well. Thus, (37a) is grammatical but (37b) is not. When we characterize the facts this way, the ban on DP_{ea} staying in situ becomes apparent and the LA provides a straightforward, uniform account for these facts. Ndayiragije (1999) (and most others) characterize the facts in a different way.

38) **DP_{ea} in Spec, FocP**

a. $[_{TP}\ DP_{ia}\ [_{FocP}\ DP_{ea}\ [_{vP}\ <DP_{ea}>\ \ldots\ <DP_{ia}>\ ]]$

b. $[_{TP}\ EXPL_{pro}\ [_{FocP}\ DP_{ea}\ [_{vP}\ <DP_{ea}>\ \ldots\ DP_{ia}\ ]]$

39) **DP_{ia} in Spec, FocP**

a. $[_{TP}\ DP_{ea}\quad [_{FocP}\ DP_{ia}\quad [_{vP}\ <DP_{ea}>\ \ldots\ <DP_{ia}>\quad]]$

b. $*[_{TP}\ EXPL_{pro}\ [_{FocP}\ DP_{ia}\quad [_{vP}\ DP_{ea}\ \ldots\ <DP_{ia}>\quad]]$

In (38), DP_{ea} has moved to Spec, FocP. Two options accompany this move. Either the DP_{ia} can be moved to Spec, TP to form OVS inversion as shown in (38a), or the DP_{ia} can stay in situ to form a TEC as shown in (38b). In (39), it is the DP_{ia} that has moved to a low FocP. In this case, DP_{ea} must move to Spec, TP as shown in (39a). DP_{ea} cannot stay in situ as shown in (39b). Characterizing the facts this way has two problems. The first problem is that this does not explain why a DP_{ea} must move to Spec, FocP in order to allow DP_{ia} to move to Spec, TP. Recall that there is no minimality violation caused by the movement of DP_{ia} over the DP_{ea} since T is looking for a DP with topic features. In addition, this minimality explanation certainly does not extend to (38b). The other problem with characterizing the facts this way is that the ungrammaticality of (39b) is mysterious. Why is DP_{ea} forced to move to Spec, FocP when there is a pro expletive in Spec, TP? In the way I characterize the facts, which are shown in (36) and (37), (39b) is not mysterious at all. It is ungrammatical for the same reason (38b) is, the DP_{ea} is in Spec, vP and vP cannot be labeled.

I conclude that the LA provides a straightforward explanation for the Kirundi data. Alternatives such as proposing an EPP feature on the FOC head and appealing to minimality cannot account for why DP_{ea} must move to Spec, FocP when it does not move to Spec, TP. In addition, the LA account is also able to account for an asymmetry in

Kirundi TECs without requiring ad hoc moves like positing a difference between the MERGE/ MOVE/ SHORTEST MOVE.

6 Implications and Conclusion

In this paper, I have provided a novel argument for the Labeling algorithm as outlined in Chomsky (2013, 2015) and Epstein, Kitahara and Seely (2014) using inversion structures, specifically, those in Kirundi. The novel empirical generalization that is explained in this paper is the following: why is it that when the DP_{ea} is not moved to Spec, TP, it cannot remain in Spec, vP but must move to Spec, FocP? We saw two constructions in which this generalization is exemplified: in OVS inversion, and TECs. I propose a uniform explanation for both these constructions by arguing that this follows from the main principles of the LA. Leaving the DP_{ea} in situ leads to a labeling failure at the level of the vP. Neither a minimality based account nor an EPP account based on feature checking can explain this generalization.

It is important to note that the facts in Kirundi inversion should not be expected to be observed in every language that has inversion. The ability to observe the short movement of the DP_{ea} in Kirundi inversion is a result of a number of Kirundi idiosyncrasies that conspire to exhibit such movement. The first is the availability of an inversion operation whereby it can be demonstrated that the low DP_{ea} does not move to Spec, TP at any point in the derivation. In Kirundi, this is established through agreement on T in inversion contexts. The second idiosyncrasy has to do with the fact that Kirundi has a low FocP with a rightward specifier. Why this specifier should be rightward remains a mystery. But this fact allows us to observe string non-vacuous short movement

of the DP_{ea} in OVS inversion and TECs. This movement, thus, provides direct, observable evidence that the DP_{ea} cannot remain in Spec, vP when it does not move to Spec, TP. Another idiosyncrasy has to do with the fact that Kirundi has only a single low FocP position. This means that once the Spec, FocP is occupied with a phrase, no other phrase can also be in a similar position. This is why we can observe the fact that having a low DP_{ea} and a focused ADV is not possible in Kirundi. If there were multiple low FocP positions, this would not be expected. Finally, it is not possible for v in Kirundi to host focus features itself, instead Kirundi requires focused phrases to move to a Spec, FocP. If v could host focus features, we would expect to see a focused DP_{ea} to be able to remain in Spec, vP. This last property of Kirundi leaves open the possibility that there could be languages with OVS inversion with v that can be specified for focus features. In such languages, we would not expect to see DP_{ea} move even when it does not move to Spec, TP. But we would expect the DP_{ea} in such contexts to be obligatorily associated with a focused reading.

The reason why I mention these is to make clear the properties of Kirundi which makes it a suitable language to investigate the LA. But part of it is also to serve as a pre-emption of possible criticisms of the analysis here on the basis of cross-linguistic evidence. Failed attempts to replicate the generalization in Kirundi regarding the DP_{ea} in other languages with inversion should not be taken as an immediate counter against the analysis here. A proper analysis of the language has to be carried out to see why DP_{ea} is able to stay in vP if indeed this can be definitively shown.

One of the promising implications of the arguments here is that while not shown

conclusively to be fully generalizable, the LA may be a positive step towards the elimination of concepts such as the EPP and the MERGE/ MOVE distinction. However, many questions remain. One very important question pertains to sources of triggers of movement. If the LA triggers internal merge due to a labeling conflict, how do we reconcile this with cases of internal merge where a labeling conflict does not exist but yet movement is still required, such as discourse related movement, wh-movement, and movement due to case assignment (as in passives) among others? In addition, questions remain about how the standard theory of feature valuation and deletion fit in with the LA. While Kirundi OVS inversion and TECs have been argued to support it, for the LA to find a place as a mainstay of syntactic theory, these issues have to be addressed in a much more significant way than has been possible here. But the hope here is that an initial positive attempt has been made towards answering these questions.

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