# Predicate doubling and parallel chains

**Abstract**
This paper discusses predicate fronting with doubling in Russian and Gungbe and argues that it is an instance of parallel chains in the sense of Chomsky (2005). Under this analysis, what superficially looks like a spell out of multiple copies of a single chain turns out to be the instantiation of two simultaneous chains anchored to the same foot. The latter is successfully deleted at PF and only the heads are spelled out, as is normally the case under chain reduction.[1]

## 1. Introduction

In the copy theory of movement, traces are reanalyzed as full copies of the displaced category (Chomsky 1993, 1995). Given that movement proceeds cyclically by copying, two immediate questions arise:

(i) Is there empirical evidence for simultaneous overt realization of multiple copies in a single movement chain?

(ii) What principle (or property) of the computational system determines the pronunciation of chains such that only the highest copy generally spells out?

Issues under (ii) have been dealt with in the literature in great detail by several authors (e.g., Pesetsky 1998, Bošković 2001, Nunes 2004, Landau 2006, Harbour 2007) and will not interest us here. With regard to (i), on the other hand, the set of data often used to illustrate this point includes, among other phenomena, wh-doubling, clitic doubling, adverb doubling, and predicate fronting with doubling, generally known as 'predicate cleft', and referred to here as predicate fronting with doubling.[2] The latter represents the empirical coverage of this paper.

While predicate fronting with doubling is generally considered an instance of phonetic realization of multiple copies of a single movement chain (e.g., Nunes 2004, Kandybowicz 2007), this paper argues for an alternative approach on the basis of data from Gungbe (Kwa), and Russian. It is shown that these languages display two independent verb movements: V-to-Asp movement due to aspect licensing, and V(P) raising to the C-domain for the sake of focusing (Gungbe) or topicalization (Russian). Accordingly, V(P) movement in Gungbe and Russian is sensitive to two probes: Asp within the middle field and Foc/Top within the left periphery. It appears from this description that doubling arises only when these two probes target the same goal, that is, V. On the other hand, doubling never occurs when the two probes find different goals, or whenever any of the observed V(P)-movements is blocked (e.g., by an intervening auxiliary). Adapting Chomsky's (2005) view on A- versus A'-chains to head movement, we conclude that predicate fronting with doubling is an instance of parallel chains where the spelled out copies are heads of two distinct chains anchored to the same foot. From our perspective therefore, predicate fronting with doubling

[1] Previous versions of this paper were presented at the TIN-dag 2006, Utrecht; the Workshop on the Syntax of heads and phrases in Leiden; the LingLunch, M.I.T.; the Syntax Brown Bag, NYU, and during E. O. Aboh and deGraff's 2008 spring course at MIT. We thank the audiences of these events for their valuable criticisms and comments. We are also grateful to Asaf Bachrach, Mark Baltin, Robert Cirillo, Chris Collins, Michel DeGraff, Richard Kayne, Victor Manfredi, Andrew Nevins, Cilene Rodrigues, and three anonymous reviewers of *Lingua* for their comments and suggestions on previous versions of this paper.

[2] In this paper we use the term predicate fronting (as opposed to predicate cleft) because it better describes the facts at hand and covers cases where the fronted part may be an adjectival predicate (e.g., in Haitian and Saramaccan). See Aboh (2006a) for arguments against the term 'predicate cleft'.

displays no extravagant property when it comes to PF: the unique foot of the two chains is eliminated and only the heads are preserved, as is normally the case. The crucial point though is that this kind of doubling is created by syntax. The paper is structured as follows. Section 2 starts with an overview of the data on verb movement and predicate fronting in Russian and Gungbe. Section 3 briefly presents Nunes' (2004) analysis of predicate fronting with doubling as a way of illustrating theories that account for this phenomenon in terms of phonetic realization of multiple copies conditioned by some morpho-phonological properties. It is shown there that such an analysis fails to explain why doubling occurs only in some well-defined syntactic environments but not in others. For instance, the phenomenon appears to be sensitive to aspectual licensing both in Gungbe and Russian. This is a serious challenge to a PF approach to predicate fronting with doubling (or else, a morphological approach à la Harbour 2008). In section 4, we elaborate our analysis of predicate fronting with doubling, which does not rely on a PF algorithm that determines which copy to pronounce. Instead, we argue that predicate fronting with doubling instantiates parallel chains (Chomsky 2005) where what superficially looks like copies of the same chain are actually heads of two chains rooted in the same foot. Section 5 discusses possible extensions to seemingly unrelated phenomena such as do-support in English and subject intrusion in Dutch. Section 6 draws a conclusion.

## 2. Verb movement and predicate fronting with doubling in Russian and Gungbe

Studies in Russian and Gungbe have shown that these languages involve some degree of verb movement to the inflectional domain (i.e., V-to-Asp, Aboh 2004a, Svenonius 2004, Ramchand 2004, 2007, Romanova 2004) as sketched in (1a), and doubling constructions where the predicate (here the verb) is simultaneously realized sentence-initially (i.e., within CP) and IP-internally, as schematized in (1b).

(1) a. $[_{CP}\ [_{IP}$ V+Asp $[_{VP}$ … ~~V~~…..]]]
b. $[_{CP}$ V+Focus/Topic $[_{IP}$ … V…..]]

In the relevant literature, (1b) is commonly referred to as "predicate cleft" and there is a long-standing debate as to whether such structures involve movement or base-generation of the V(P) in the sentence-initial position. We will not discuss these competing alternatives and the reader is referred to Koopman (1984, 2000), Manfredi (1993), Abels (2001), Aboh (2004a chapter 7), Nunes (2004) and references therein for discussion. For the purpose of this paper, however, we assume a movement analysis for the Gungbe and Russian data under discussion. Under such a movement approach, a question that will concern us here is whether the two tokens (or copies) of the verb are members of the same chain (and therefore instantiate phonetic realization of multiple copies). In trying to answer this question, this section first presents motivations for assuming the existence of two independent verb movement strategies in Russian and Gungbe (1).

### 2.1 Verb Movement and Predicate Fronting with doubling in Russian

#### 2.1.1 V-to-Asp movement in Russian

Russian is often argued to pattern with English in that the verb is assumed not to leave vP in a canonical SVO sentence (Bailyn 1995, Kallestinova 2007, Slioussar 2007). This conclusion is mainly drawn on the basis of the placement of manner adverbs. These adverbs are commonly assumed to be low in the structural hierarchy (e.g., Cinque 1999). As a result, they are considered potential landmarks for measuring verb movement out of the vP. As example (2) shows, a manner adverb in Russian generally precedes the verb.

(2) a. Oni gromko peli pesnyu.
they.NOM loudly sing.PST.PL song.ACC
'They loudly sang the song.'

b. Oni peli pesnyu gromko
they.NOM sing.PST.PL song.ACC loudly
'They sang the song LOUDLY.'

c. ?/??/*Oni peli gromko pesnyu.
they.NOM sing.PST.PL loudly song.ACC
'They loudly sang the song.'

Sentence (2a) represents the relative order between a manner adverb and a verb in neutral contexts. In sentence (2b), however, the adverb may follow the verb if it is under focus. Finally, sentence (2c) illustrates the most 'unnatural' order for which judgments appear to vary from moderately marginal to ungrammatical. Because a manner adverb tends to precede the verb in a neutral context, some researchers (e.g., Bailyn 1995) were led to conclude that Russian lacks verb movement to the INFL domain (e.g., V-to-T movement). However, this conclusion is not uncontroversial. Indeed, there is remarkable speaker variation on the grammatical status of (2c), compared to its ungrammatical English equivalent (**he sang loudly/well a song*). This suggests that what is at stake in Russian might not be directly related to the issue of verb movement. What clearly emerges from these examples is that a VO string resists being split up by an intervening adverb, but this adverb may precede or follow the VO sequence depending on its informational status.[3] Given this description, the position of the adverb does not seem to tell us much as to whether the Russian verb moves out of the VP. Accordingly, data like those in (2) are not conclusive.

In the context of Pollock (1989) and much related work, V-movement is motivated by the necessity to check features associated with verbal morphology, such as [T(ense)], and [Asp(ect)]. Russian exhibits overt tense, aspect, and agreement morphology. Therefore it is, in principle, plausible to entertain the idea that the verb should be able to raise to check these features. In fact, recent analyses of the Russian aspectual system have adopted the idea that V must move out of the vP due to aspect licensing. This would mean that though Russian might not have V-to-T movement it does have V-to-Asp movement. Aspect in Russian is marked mostly by prefixation. The aspectual prefixes come in two classes: lexical prefixes (LP) and superlexical prefixes (SLP) (Babko-Malaya 2003, Romanova 2004, 2007, Ramchand 2004, 2007, Svenonius 2004, Gehrke 2007).[4] LPs remind us of Germanic particles in that (i) they may affect the argument structure of a verb (3), and (ii) they trigger an idiosyncratic meaning with certain predicates (4).

(3) bit' (*gvozd') versus **v**-bit' *(gvozd')
beat.IMPF nail.ACC LP-beat.PRF nail.ACC
'beat (*nail)' 'tap in a nail'

(4) a. dumat' versus **za**-dumat'
think LP-think
'to think' 'to plan'

[3] Also notice that English cannot realise the counterpart of sentence (2a).
[4] There exist also the so-called purely perfectivizing prefixes (PPPs) (Babko-Malaya 2003). These differ from the two groups discussed here in that they neither add idiosyncratic meaning to the verb, like LPs, nor do they contribute specific adverbial meaning, like SLPs. They simply make the verb perfective. Due to some similar behavior between PPPs and SLPs, Ramchand (2004) treats the former as a subclass of the latter.

b. krutit' versus **za**-krutit'
turn LP-turn
'to turn' 'to screw in'

The examples in (3) show that the bare verb *bit'* cannot take an internal argument, unlike its prefixed equivalent *v-bit*'. In (4), we further observe that such prefixed verbs acquire a new meaning that appears highly idiomatic and unpredictable.

SLPs differ significantly from LPs because they appear to contribute a specific meaning somehow similarly to modifying expressions (e.g., aspectual adverbials) (5).

(5) *pere-* distributive (to do something one by one)
*po-* delimitative (to do something for a while)
*za-* inceptive (to start doing something)
*na-* cumulative (to do something a lot)

In addition, these prefixes never affect the argument structure of the verb.

(6) a. pet' (pesnyu)
sing.IMPF song.ACC
'sing (song)'
b. **po**-pet' (pesnyu)
sing.IMPF song.ACC
'sing (song) for a while'
c. **za**-pet' (pesnyu)
INC-sing.PRF song.ACC
'start singing (song)'

Various authors have tried to capture the differences between LPs and SPLs by proposing that the two types of prefixes are generated in different syntactic positions (Ramchand 2004, 2007, Svenonius 2004, Romanova 2007). Assuming that vP is the relevant domain for argument structure and idiomaticity, it has been proposed that LPs originate inside vP. On the other hand, SLPs being sensitive to Event quantification are argued to be located outside vP, that is, within the extended functional domain. More precisely, SLPs are argued to merge within recursive aspectual phrases (AspPs) dominating the vP. Given this hierarchy, and assuming that the verb must be licensed for aspect, we may conclude that the Russian verb undergoes V-to-Asp movement in order to enter into the corresponding relations with the aspectual head, thus forming the observed string with SLPs.

An apparent drawback of this view is that even a prefixed verb tends to follow manner adverbs irrespective of whether the prefix is of the type LP or SLP (7).

(7) a. On bysro vy-dumal (??/*bystro) otgovorku.
he.NOM quickly LP-think.PST.MASC.SG excuse.ACC
'He quickly invented an excuse.'
b. On veselo za-pel (??/* veselo) pesnyu.
he.NOM cheerfully INC-sing. PST.MASC.S song.ACC
'He starting singing a song cheerfully.'

At first blush, this may look like an additional counter-argument for the V-to-Asp approach (see also the data in 2). Notice, however, that speaker variation persists in all these cases. In addition, considering Cinque's (1999) analysis of the functional domain whereby adverbs are taken to be specifiers of distinct aspect phrases, what the examples in (2) and (7) suggest is that while the verb may move in Russian, it does not move beyond the aspect node where the

relevant manner adverbs are attached. Put differently, we assume that the point of merge of SLPs, which are the trigger of verb movement, is lower than that of manner adverbs.

To sum up, this section argues for the existence of V-to-Asp movement in Russian. It has been proposed that the verb minimally moves to an aspect position that is lower than the attachment site of manner adverbs. Whether Russian involves subsequent verb movement to an even higher position is under debate and we leave the matter for future research. What is important for our purposes is the conclusion that the verb does not remain vP-internal, but must move out due to aspectual licensing.

### 2.1.2. Predicate fronting with doubling in Russian

Another type of movement that involves the verb in Russian is predicate fronting with doubling. The phenomenon occurs in sentences where there is no modal or auxiliary element but may target any lexical verb. This lexical verb is fronted to the sentence-initial position and doubled IP-internally. Generally, the fronted verb is an infinitive that is optionally marked by the particle *–to*. The IP-internal doublet, however, bears finite morphology (8).

(8) Videt'(-to) ja ee davno ne videla,...
see.INF(-PTCL) I.NOM her.ACC long NEG see. PST. FEM. S
'As for seeing her, it's been a long time since I saw her,…'

In terms of Abels' (2001) analysis of Russian predicate fronting with doubling, the construction satisfies a morphological requirement that excludes stranded affixes in this language. Put another way, the doublet supports the tense morpheme under T. This analysis appears compatible with the fact that the fronted copy is non-finite, while the IP-internal one is finite. Landau (2006: 56) adopts a similar view for predicate doubling in Hebrew, which appears to be conditioned by the Stray Affix Filter (SAF): "the need to spell out tense and agreement features" (see also Harbour 2007).

While the morphological distinction between the non-finite fronted form and the IP-internal finite doublet seems to support an analysis in terms of the SAF in Russian and Hebrew, Paillard and Plungjan (1993) discuss Russian examples such as (9), which exhibit finite copies only. In such contexts, the particle *–to* is obligatory.

(9) Slomalas *(-to) ona slomalas,…
break.PST.FEM.S(-PTCL) she.NOM break.PST.FEM.S
'As for breaking, it did break,…'
[= (18) in Paillard and Plungjan 1993: 272]

Data like those in (9) undermine the SAF and further indicate that the morphological requirement on T is not the major factor at work in Russian predicate doubling. Instead, the phenomenon seems to be syntactic in nature. Indeed, while the two verb copies may show different tense (or finiteness) specifications in Russian, the language displays an aspect restriction such that the two verb tokens must share the same aspect features (i.e., perfective versus imperfective).

(10) a. Pisat'-(to) ona ego pišet,…
write.INF.IMPF-(PTCL) she.NOM him.ACC write.PRS.IMPF
'As for writing, she does write it (e.g. the report),…'

b. *Pisat'-(to) ona ego napisala,…
write.INF.IMPF-(PTCL) she.NOM him.ACC PPP-write.PST.PRF
'As for writing, she has written it (e.g. the report),…'

In addition, the two verbs must also share the same aspectual prefix (i.e., LP, or SLP). In example (11a), both verbs carry the same delimitative SLP and the sentence is grammatical. In (11b), however, a mismatch in the type of prefixes leads to ungrammaticality.

(11) a. **Po**-čitat'-(to) ona ee **po**-čitala,…
DEL.read.INF.PRF(-PTCL) she.NOM her.ACC DEL.read.PST.PRF.
'As for reading (for a while), she has read it (for a while),…'

b. ***Pro**-čitat'-(to) ona ee po-čitala,…
PPP-read.INF.PRF-(PTCL) she.NOM her.ACC DEL-read.PST.PRF.
'As for having read, she has read it (for a while),…'

With regard to discourse function, we take the (optional) use of the discourse particle *–to* on the fronted predicate to be indicative of the function of the construction in Russian. Following McCoy (2002) we regard the element *–to* as a discourse particle marking contrastive topics. Thus predicate fronting in Russian is used to express that:

> "The speaker aims at re-directing the hearer's attention from a rather irrelevant question that the hearer is concerned with to another question, which the speaker perceives as more relevant. These two questions are related by being sub-questions answering the same question under discussion (McCoy 2002: 24)."

In fact, predicate fronting with doubling is usually associated with a double function, namely contrastive topicalization of the event plus polarity focus. The latter is marked by accenting the finite IP-internal doublet.[5] In other words, the fronted copy in these constructions functions as a topic. Due to its contrastive nature, predicate fronting in Russian can never be used in isolation or as the last statement in the discourse. It always requires some continuation, which we indicate here with a comma at the end of the examples.

With regard to the fronting operation proper, we assume, building on Abels (2001), that it involves movement of a phrase including the VP to the left periphery. This conclusion is based on the data given in (12) showing that a verb that is aspectually marked with an SLP prefix can be fronted together with its internal argument.

(12) Napisat'[-to] stat'ju[-to] ja (stat'ju) napisala,…
write.INF(-PTCL) article.ACC(-PTCL) I.NOM article.ACC write.PST.FEM.S
'As for writing the article, I did write it.'

The sentence under (13) further supports the phrasal movement hypothesis because the verb is fronted with a PP adjunct.[6]

(13) Hodit'[-to] k nam v gosti[-to] on
come.INF(-PTCL) PREP us.DAT PREP guests.ACC(-PTCL) he.NOM
hodit,…
come.PRS.3S
'As for coming to our place, he does come,…'

[5] It should be mentioned that the possibilities of focusing something other than polarity in Russian predicate fronting are quite restricted and there is a lot of speaker variation. The most acceptable candidates for focusing within predicate fronting seem to be adverbial adjuncts. The least acceptable are the examples with focus on the direct object.

[6] Abels (2001) presented different examples where only PP complements and some low adverbs can be pied-piped with the fronted verb.

These examples also show that the particle *–to* optionally attaches either to the entire VP, including the verb and any of its arguments and adjuncts, or just to the verb, which is always the first constituent in the fronted phrase. Irrespective of the surface position of *–to* here, the entire VP is always interpreted as a contrastive topic. Thus, the variable distribution of this particle suggests that it marks a fronted constituent that includes the verb rather than just V itself. In this paper, we do not address the syntax of this particle and remain agnostic as to whether it projects a topic phrase, or attaches to an element within the fronted constituent (see also Abels 2001).

Another piece of evidence that points to the phrasal nature of the fronted element in Russian is that nothing can follow the finite doublet in the IP-internal position. If predicate fronting were derived by V-movement to the periphery, nothing in principle should preclude structures like (14), where the object follows the doublet.[7] Yet, the contrast between (14) and its grammatical counterpart in (12) clearly indicates that material internal to the VP must pied-pipe with the fronted verb or scramble over the finite copy. We take these facts to be an indication that what fronts in Russian is minimally a (remnant) VP.

(14) *Napisat'(-to) ja napisala stat'ju.
write.INF(-PTCL) I.NOM write.PST.FEM.S article.ACC
'As for writing the article, I did write it.'

Now that we have established that what fronts in Russian is a phrase, one could expect this constituent to undergo long-distance extraction. For instance, Aboh (2004a, chapter 7) reports on such cases of long extraction in Kwa (see section 2.2.3). However, this strategy is not available in Russian, as shown by the ungrammatical example (15).

(15) *Videt'(-to) mama skazala čto ona Sergeja
see.INF(-PTCL) mother.NOM say.PST.FEM.S that she.NOM Sergey.ACC
ne videla,…
NEG see.PST.FEM.S
'As for seeing Sergey, mother said that she did not see him,…'

Furthermore, Russian predicate fronting appears to be a root phenomenon.

(16) *Mama skazala čto videt'-to ona
mother.NOM say.PST.FEM.S that see.INF(-PTCL) she.NOM
Sergeya ne videla,…
Sergey.ACC NEG see.PST.FEM.S
'Mother said that as for seeing Sergey she did not see him.'

Why predicate fronting in Russian is a root phenomenon could be linked to the topical nature of the construction and to the fact that contrastive topicalization is also impossible in embedded contexts in Russian. In this respect, a point already raised by Abels (2001) is that the restrictions on long extraction in predicate fronting with doubling are reminiscent of the restrictions on long-distance *wh*-movement in Russian: Long wh-extraction is allowed out of infinitives and subjunctives, but not out of embedded finite clauses. Given this general fact about Russian, the relevant point for the present discussion is that the impossibility of long extraction in (16) is presumably linked to another principle of the grammar of Russian still to be explained. In the current stage of our knowledge therefore, such a constraint on long extraction is not a strong counterargument to a phrasal movement analysis of the phenomenon.

[7] This is the situation we describe for Gungbe in section 2.2.3.

### 2.2. Verb movement and predicate fronting with doubling in Gungbe

Gungbe, a Kwa language of the Gbe group, is SVO though it displays SOV patterns in certain contexts. The two patterns are illustrated in (17a-b).

(17) a. Sɛ́ná **nɔ̀** xíá wémà lɔ́ ná Kòfí. [VO]
Sena HAB read book DET PREP Kofi
'Sena habitually reads the book to Kofi.'

b. Sɛ́ná **tò** wémà lɔ́ xíá ná Kòfî. [OV]
Sena PROG book DET read PREP Kofi-PTCL
'Sena is reading the book to Kofi.'

As was the case in Russian, whether the Gbe languages involve verb movement is not immediately obvious. In the next section, we use indirect evidence to show that the phenomenon does apply to these languages as well.

#### 2.2.1. VO and verb movement to the INFL domain

In accounting for the VO order within the Gbe languages, Aboh (2004a, chapters 5, 6) proposes that it derives from short verb movement to Asp due to aspect licensing. The analysis builds on the following contrast observed between Gungbe and Gengbe.

(18) a. Elom ɖù-**na** mɔ́nlú. [Gengbe]
Elom eat-HAB rice
'Elom habitually eats rice.'

b. Dòsà **nɔ̀** ɖù tèví. [Gungbe]
Dosa HAB eat yam
'Dosa habitually eats yam.'

The contrast in (18) recalls that observed by Pollock (1989) between French and English. Indeed, if we make the hypothesis that the expression of habitual aspect is the property of the same functional projection in these closely related languages, then it appears that example (18a), in Gengbe, involves verb movement past the habitual affix. Accordingly, Gengbe has overt V-to-Asp movement. In Gungbe, however, no such movement seems to have happened and the verb remains to the right of the habitual marker. In terms of Aboh (2004a, chapter 5), it is argued that V-to-Asp movement is blocked here by the free morpheme that expresses habitual aspect. This amounts to saying that the habitual marker is an auxiliary-like element in Gungbe, while it is an affix in Gengbe. Partial evidence that the Gungbe marker is still acting as a free morpheme comes from the fact that it derives from the form *nɔ̀* 'to stay' which is still used in this language as a lexical verb (19a). Example (19b) shows that the lexical cognate can co-occur with the habitual maker.

(19) a. Dòsà **nɔ̀** Bɔ̀stɔ́nù.
Dosa stay Boston
'Dosa stayed/lived in Boston.'

b. Dòsà **nɔ̀** **nɔ̀** Bɔ̀stɔ́nù.
Dosa HAB stay Boston
'Dosa habitually stays/lives in Boston.'

The Gengbe affixal *na*, on the contrary, has no lexical cognate hence the ungrammatical example. Instead, the lexical verb meaning *stay* in Gengbe is *nɔ* as in Gungbe (20).

(20) Elom *na/*nɔ* Yovode. [Gengbe]
Elom stay Europe
'Elom stayed in Europe.'

Based on this description, we can conclude that Gbe languages have V-to-Asp movement, but the movement is conditioned by the affixal nature of the intervening tense and aspect markers. With regard to the height of the movement, it appears that the moving verb does not move past middle field adverbs (21).

(21) a. Elom te va-n**a** fie. [Gengbe]
Elom ADV come-HAB here
'Elom at least comes to visit habitually.'
b. *Elom va-n**a** te fie.
Elom come-HAB ADV here

In Gungbe, where we also observe such middle field adverbs, the latter must follow the tense marker *ná,* but precede the aspect markers, as illustrated in (22). Also notice from the combination of habitual, progressive and prospective in this example that Gungbe allows aspect stacking, a fact that suggests that these languages involve recursive aspect nodes.

(22) Dòsà ná **sɔ́** nɔ̀ tò tèví ná ɖù. [Gungbe]
Dosa FUT again HAB PROG yam PROSP eat.PTCL
'Dosa will again habitually be about to eating yam.'

Under Aboh (2004a, chapters 5, 6, 2005), these facts are analysed as sketched in (23), where (23a) represents Gengbe-type languages and (23b) Gungbe-type languages, respectively. In Gengbe (23a), the verb moves to the highest Asp, contrary to Gungbe, where it can only remain in the low Asp (15b), normally encoded by the progressive marker (22).

(23) a. [$_{TP}$ [$_{FP}$ tè [$_{AspP}$ [$_{Asp[habitual]}$ V-na [$_{AspP}$ [$_{Asp[progressive]}$ ~~V~~ [$_{VP}$…~~V~~….]]]]]]]
b. [$_{TP}$ [$_{FP}$ **sɔ́** [$_{AspP}$ [$_{Asp[habitual]}$ nɔ̀ [$_{AspP}$ [$_{Asp[progressive]}$ V [$_{VP}$…~~V~~….]]]]]]]

Besides the previous examples where the sentences contain an aspect marker, the Gbe languages also allow for sentences that can be described as aspectually bare in that they contain no overt marking of aspect. Such examples are interpreted as perfective with eventive verbs and in present state for state verbs (24). This generalisation applies to all the Gbe, including Gengbe-type languages.

(24) a. Dòsà sɔ́ ɖù tèví. [Gungbe]
Dosa again eat yam
'Dosa has eaten yam again.'
b. Sìn lɔ́ sɔ́ fá.
water DET again cold
'The water is cold again.'

In order to derive sentences like those in (24) with their corresponding interpretations, Aboh (2004a, chapter 5) argues that they represent contexts where $Asp_{[habitual]}$ and $Asp_{[progressive]}$, which normally host the habitual marker and the progressive marker in these languages (e.g., 22) are negatively specified and have no morphological encoding. As a result, the verb raises successively to $Asp_{[progressive]}$ and $Asp_{[habitual]}$ to encode an otherwise empty aspect node. This is represented in (25).

(25) $[_{TP}\ [_{FP}$ sɔ́ $[_{AspP}\ [_{Asp[-habitual]}$ V-∅ $[_{AspP}\ [_{Asp[-progressive]}$ ~~V~~ $[_{VP}\ldots$~~V~~$\ldots]]]]]]]$

We conclude on the basis of representation (25) that V-to-Asp movement is obligatory in VO structures within all the Gbe languages, and the verb must move to the highest Asp, whenever possible. With this conclusion in mind, let us consider OV constructions.

### 2.2.2. OV order and the absence of V-movement to INFL

OV constructions, such as the progressive example in (22), can be generally described as constructions where an aspectual verb (cf. Jaeggli and Hyams 1993) combines with a lexical verb to encode some specific aspect meaning (e.g., progressive, inceptive, ingressive).[8] Additional evidence is given below.

(26) a. Sénά **jɛ̀** wémà lɔ́ xíá ná Kòfí jí.
Sena start book DET read PREP Kofi PTCL
'Sena started reading the book to Kofi.'

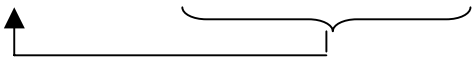
b. Sénά **yì** wémà lɔ́ xíá ná Kòfí gbé.
Sena go book DET read PREP Kofi PTCL
'Sena went to read the book to Kofi.'

In addition to object placement, OV sequences differ from VO in that they generally involve a sentence-final particle. In accounting for the OV order, Aboh (2004a, chapter 6, 2005, forthcoming) proposes that it derives from a structure like (27a), in which the auxiliary or aspectual verb selects a small clause embedded within FP, whose head F encodes the sentence-final particle (e.g., *jí*, *gbé* in 26). FP dominates another AspP, whose head Asp selects VP as its complement and may sometimes host the prospective marker. Furthermore [spec AspP] is sanctioned by the EPP, which must be satisfied before spell out.

(27) a. $\ldots[_{AspP}$ tò/yì $[_{FP}$ gbé $[_{AspP}\ [_{Asp}$ ná $[_{VP}\ldots.]]]]]$

Abstracting away from the canonical subject, which moves to [spec TP] for EPP/case reasons, it is argued that in OV sequences the object raises to [spec AspP] due to the EPP, and the verb raises to Asp due to aspect licensing. Finally, the whole AspP raises to [spec FP], as a requirement of F being realized by the sentence-final particle. The combination of verb and object movements creates the OV-PARTICLE sequence typical of such constructions, (27b).

(27) b. ...tò/yì $[_{FP}\ [_{F}$ gbé $[_{AspP}$ O $[_{Asp}$ V $[_{VP}$ $t_V\ldots t_O]]]]]$



We will not dwell too much on the details of this analysis and the interested reader is referred to Aboh (2004a, 2005, forthcoming) for very extensive discussion on the issue of verb movement in Gbe and its relation to VO versus OV sequences. What matters for this paper is that OV constructions involve movement of the OV part to [spec FP]. Consequently, V-movement to a higher Asp is banned in these contexts because the verb cannot further extract from the specifier position. This formally distinguishes OV from VO constructions (25) where no aspectual verb is involved and the lexical verb is able to move past the object.

[8] See Aboh (2004a chapters 2, 5, 6) for discussion.

### 2.2.3. Verb movement to the left periphery

With this description in mind, let us now consider predicate fronting with doubling in Gbe. A first crucial point to mention here is that the construction occurs in VO contexts only in the Gbe languages (see section 3). In such Gungbe constructions, the fronted verb encodes predicate focus, as indicated by the right adjacent focus marker in (28a).[9] The fronted verb necessarily co-occurs with an IP-internal doublet. Failure to realise the IP-internal doublet leads to ungrammaticality (28b). Example (28c) further indicates that Gungbe excludes VP-fronting.

(28) a. Ðù (%wɛ̀) Sɛ́ná ɖù blɛ́ɖì lɔ́.
eat FOC Sena eat bread DET
'Sena **ATE** the bread.'

b. *Ðù Sɛ́ná blɛ́ɖì lɔ́.
eat Sena bread DET
'Sena **ATE** the bread.'

c. *[Ðù blɛ́ɖì lɔ́] wɛ̀ Sɛ́ná.
eat bread DET FOC Sena
'Sena **ATE THE BREAD**.'

The focused verb competes with (contrastively) focused expressions as well as *wh*-phrases, which also take the focus marker *wɛ̀* in Gungbe (29a-b). This is taken as evidence that the fronted verb targets the focus position.

(29) a. *Étɛ́ wɛ̀ ɖù Sɛ́ná ɖù?
What FOC eat Sena eat
'What did Sena **EAT**?'

b. *Blɛ́ɖì lɔ́ wɛ̀ ɖù Sɛ́ná ɖù.
bread DET FOC eat Sena eat
'Sena **ATE THE BREAD**.'

Gungbe also involves a topic marker *yà*, which typically marks topic DPs (30a). Such marked topics freely co-occur with predicate fronting (30b), though the focused verb cannot be marked by the topic marker (30c).

(30) a. Blɛ́ɖì lɔ́ yà Sɛ́ná wɛ̀ ɖù-ì.
brea DET TOP Sena FOC eat-3S
'As for the bread, S**ENA** ate it.'

b. Blɛ́ɖì lɔ́ yà ɖù %(wɛ̀) Sɛ́ná ɖù-ì.
brea DET TOP eat FOC Sena eat-3S
'As for the bread, Sena **ATE** it.'

c. *Ðù yà Sɛ́ná ɖù blɛ́ɖì lɔ́.
eat FOC Sena eat bread DET
'As for **EATING**, Sena ate the bread.'

We conclude from these facts that predicate fronting with doubling encodes predicate focus in Gungbe. The focused verb occurs in a pre-subject position, but to the right of topicalized DPs. The next question to ask concerns the size of the fronted category, that is, whether it is a (remnant) VP (as in Russian), or a V head.

[9] The percentage here is meant to show that not all speakers accept these constructions with the focus marker, see Aboh (2004a, chapter 7) for discussion.

With regard to this question, there is a morphological difference between Russian and Gungbe which points to the head nature of the fronted category in Gungbe. Unlike in Russian, the fronted verb in Gungbe is morphologically strictly identical to the doublet in the IP-internal position. We conclude from this that what fronts in Gungbe is a bare root also corresponding to the finite form. Several facts underscore this proposal.

For instance, example (30c) indicates that the fronted verb is incompatible with a topic marker (unlike in Russian). We interpret this contrast as indication that the fronted element in Gungbe is not an infinitive form, a deverbal expression, or a nominalized verb of some sort. Within Gbe, the Gungbe facts are indeed remarkable. In Ewegbe, for instance, the focused verb must be a gerund, a verb form that is derived by morphological reduplication across Gbe and Kwa. In a sense, Ewegbe behaves like Russian, but not like Gungbe, in that the fronted verb exhibits non-finite morphology as opposed to the IP-internal doublet, which is finite (31a).[10] The Gungbe equivalent of this sentence is ungrammatical, as example (31b) shows. As indicated by the examples in (31c-d), Gungbe does form gerunds through reduplication of the predicate. These forms can easily front to the left of the focus marker (31c) or the topic marker (31d) (Kinyalolo 1997, Aboh 2005, 2006a).

(31) a. ɸo-ɸo é wó ɸo é. [Ewegbe (Kwa), Ameka 1992:12]
RED-beat FOC 3S beat 3S
'**BEATING** s/he beat him/her.'

b. *xì-xò wɛ̀ é xò é. [Gungbe]
eat FOC 3S beat 3S

c. [tí-tɔ́n] wɛ̀ má jró mì dìn.
go.out-go.out FOC NEG please 1S now
'I don't want GOING OUT now.'

d. [tí-tɔ́n] yà túklá mɔ́nkɔ̀tɔ̀ má jró mì dìn.
go.out-go.out TOP trouble of.that.sort NEG please 1S now
'As for GOING OUT, I would not want to engage in such a trouble now.'

As the examples (31c-d) show, the Gungbe gerunds behave like nominals when it comes to focusing or topicalization (Aboh 2004a). Accordingly, it is not the case that Gungbe lacks a device to create a non-finite verb form that can front to the focus position. Instead, these facts show that such a non-finite form (or gerund) is excluded in the focus position, when it comes to predicate focus of the sort discussed here.

Data from Yoruba further indicate that, unlike Ewegbe and other Kwa, Gungbe does not make a non-finite versus finite distinction between the fronted verb and the IP-internal doublet. Yoruba is like Ewegbe because the focused verb is a reduplicated gerund unlike the IP-internal finite doublet (32a). This language provides further evidence that such fronted gerunds are phrasal in Kwa because the reduplicated verb can be followed by its internal argument (32b). See also Manfredi (1993) for discussion.

(32) a. Rírà ni Ajé ra ìwé. [Yoruba]
buying FOC Ajé buy book
'Aje BOUGHT a book.'

[10] See Aboh (2004a, chapter 6, 2005) for verb reduplication, which should not be confused with verb focusing as discussed here.

b. [*Rírà-wé*]$_i$ *ni* *Ajé* [*ra* *ìwé*]$_i$
buying book FOC Ajé buy book
'Ajé BOUGHT a book'

We have already shown in (28c) that fronting the verb together with its internal argument is disallowed in Gungbe. The following example shows that adding an IP-internal doublet does not save such a derivation from crashing.

(33) *[Ðù blɛ́ɖì lɔ́] wɛ̀ Sɛ́ná ɖù.
eat bread DET FOC Sena eat
'Sena will habitually **EAT** the bread.'

All these facts lead to the conclusion that the fronted element in Gungbe is of the same categorial status as the IP-internal finite doublet, which appears to be a bare root. In his account for the variation in Kwa, Aboh (2003a, 2004a, chapter 7, 2006a) proposes that Yoruba and Ewegbe are to some extent like Russian because what fronts is minimally a VP. In Gungbe, however, it is the verb itself that raises to the focus position. Put another way, Yoruba and Ewegbe involve VP-focus, while Gungbe displays V-focus. Further evidence that this is the right characterization comes from the fact that, in Yoruba (34a) and in Ewegbe (34b), the fronted gerund may long extract. In Gungbe, however, long extraction of the fronted verb is disallowed (34c).

(34) a. Rírà ni mo wí kpé Ajé ra ìwé. [Yoruba]
buying FOC 1S say that Ajé buy book
'I said that Ajé BOUGHT a book.'

b. ɸo-ɸo é me se be wó ɸo devi-a. [Ewegbe]
RED-beat FOC 1S hear that 3S beat child-DET
'I heard that beating the child he did'

c. *Xɔ ùn sè ɖɔ̀ Súrù xɔ wémá. [Gungbe]
buy 1S hear that Suru buy book
'I heard that Suru BOUGHT a book.'

Adopting a movement approach to these constructions, Aboh (2003a, 2004a, chapter 7) concludes that, while VP-focus may proceed cyclically from spec-to-spec, V-focus is an instance of long verb movement that appears to evade the Head Movement Constraint (HMC) thanks to the IP-internal doublet. The latter represents a resumptive verbal element that saves a derivation that would otherwise crash (see Koopman 1984). However, long extraction of the verb cannot proceed across an embedded active C, or a head involved in a quantificational relation (e.g., negation). This conclusion was reached on the basis of the following facts:
(i) The verb cannot successively attach to intervening IP-related markers (e.g., tense, aspect) on its way to the focus site (e.g., Koopman 1984, Aboh 2003a, 2004a, chapter 7).

(35) *xɔ-nɔ-ná Sɛ́ná xɔ wémà ná Kòfí.
buy-HAB-FUT Sena buy book PREP Kofi

(ii) The focused verb moves across intervening tense and aspect markers.

(36) Ðù Sɛ́ná ná nɔ ɖù blɛ́ɖì lɔ́.
eat Sena FUT HAB eat bread DET
'Sena will habitually **EAT** the bread.'

(iii) V-focus cannot cross the complementizer layer, though it is allowed in embedded contexts. Contrast the ungrammatical example (34c) and the grammatical sentence (37).

(37) Ùn sè ɖɔ̀ xɔ̀ Súrù xɔ̀ wémá.
1S hear that buy Suru buy book
'I heard that Suru BOUGHT a book.'

(iv) Finally, V-focus does not tolerate negation. Compare (38b) with the negation marker to (38c) without it.[11]

(38) a. Ojé Sɛ́ná fĩ́ɔ́ blɛ́ɖì lɔ́!
Oh Sena burn bread DET
'Oh Sena burned the bread!'

b. *Lálò, fĩ́ɔ́ é má fĩ́ɔ́-ɛ̀.
False burn 3S NEG burn-3S
'False, he did not BURN it.'

c. Lálò, ɖù é ɖù-ì kpó.
False eat 3S eat-3S all
'False, he ATE it all.'

It appears from these data that while the displaced V may move across certain intervening tense and aspect markers as in (36), it cannot cross a filled Comp (34c) or a negation marker that projects within the INFL domain (38b). We return to the proper analysis of these intervention effects in section 4. For the present discussion, however, these facts suffice to show that V-focus is sensitive to an intervening Comp or negative head. Put together, all the facts just described indicate that what fronts in Gungbe is the verb itself, but not a constituent including that verb or a remnant VP as it seems to be the case in other Kwa languages.

### 2.3. Summary

To summarize, this section has shown that Russian and Gungbe display two types of movement operations that target the verb: V-to-Asp movement, and predicate fronting. The following table recapitulates the discussion.

**Table 1**

| | **Russian** | **Gungbe** |
|---|---|---|
| V-to-Asp movement | yes | yes |
| V(P)-to-C movement with doubling | yes | yes |
| Interpretation | contrastive topic | focus |
| Main clauses | yes | yes |
| Embedded clauses | no | yes |
| Fronted category | VP | V (bare root) |
| Form of the fronted verb | non-finite/finite | finite |
| Long extraction | no | no |
| Sensitivity to negation | no | yes |

[11] An anonymous reviewer suggests that sentence (38b) could be ruled out because it represents given or non-contrasted information. In this regard, it is important to note that focusing in Gungbe is not sensitive to new versus old information, which is why these constructions are used in a wide variety of contexts (see Aboh 2006a).

This table shows that, with regard to predicate fronting with doubling, Russian and Gungbe differ on four aspects: (i) the interpretation of the fronted verbal element (topic versus focus), (ii) its size (VP-movement versus V-movement), (iii) its form (non-finite versus finite), and (iv) the environment in which it can occur (root versus root/embedded). With this description in mind, we now tackle the question of how and why doubling arises in these constructions.

## 3. Predicate doubling: Morphology, PF, or Syntax?

In recent years, several proposals have been made to account for predicate fronting with doubling. Some authors (e.g., Nunes 2004, Landau 2006, Kandybowicz 2007) regard the construction as a morpho-phonological phenomenon resulting in the phonetic realization of multiple copies of a (single) chain, as illustrated in (39).[12] In this case, two copies of a single chain fail to delete.

(39) $[_{CP}\ [_{FocP}\ [_{Foc}\ \mathbf{V}\ [_{TP}\ ...\mathbf{V}\ldots\ [_{VP}\ .....\ \sout{V}\ldots\ ]]]]]]$

Others, (e.g., Harbour 2008) propose that doubling results from a morphological operation that first produces doublets (40a), one of which is subsequently clefted (40b). Morphological reduplication is responsible for encoding emphasis, often associated with predicate fronting with doubling.

(40) a. $[_{CP}\ [_{FocP}\ [_{Foc}\ \ [_{TP}\ \ldots..\ [_{VP}\ \ldots<V>\text{-}V...]]]]]$

b. $[_{CP}\ [_{FocP}\ [_{Foc}\ \mathbf{V}\ [_{TP}\ \ldots..\ [_{VP}\ \ldots<\sout{V}>\text{-}\mathbf{V}...]]]]]$

While these analyses significantly differ with regard to the details of their implementation and their theoretical implications, they all share the common assumption that predicate fronting with doubling is ultimately not a syntactic phenomenon, but stems from a PF algorithm (sometimes conditioned by Morphological and LF considerations) that determines which copy to pronounce or to delete.

### 3.1. Predicate doubling as a morpho-phonological phenomenon

One such approach is explicitly developed in Nunes (2004, chapter 1). Adopting Chomsky's (1995) copy theory of movement, Nunes (2004) proposes that all the copies in a chain are visible for the purposes of linearization, which is subject to Kayne's (1994) Linear Correspondence Axiom (LCA). Under the LCA, precedence relations reflect structural asymmetric c-command relations in the sense that if α asymmetrically c-commands β then α linearly precedes β. Applied to chains, the LCA provides a straightforward explanation for why copies are normally unpronounced. As Nunes (2004) argues, copies are non-distinct. Therefore under asymmetric c-command, a well-formed chain consists of a sequence of the same element which precedes and follows itself. Put differently, the copy theory of movement creates a situation where an element c-commands and is c-commanded by itself and fails to be linearized under the LCA. Nunes (2004) argues that such a derivation is bound to crash unless the offending copies are eliminated. This is ensured by *chain reduction*, a PF operation that deletes all non-distinct copies but one.

(41) Chain Reduction:

[12] This description holds for Landau's (2006) analysis of bare infinitive fronting in Hebrew which is described below (see Landau's 58).

(i) $[_{TopP}\ V_i\ Top^o\ [_{TP}\ Subj\ V^o + T^o\ [_{VP}\ \sout{Subj}\ \sout{V_i}\ Arg]]]]$

> Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA. [Nunes 2004:26]

Nunes proposes that chain reduction mainly targets lower copies for economy reasons. In terms of a derivational approach, the highest copy appears to be the one for which most uninterpretable features have been checked and deleted. This makes such a copy the most eligible candidate for a convergent derivation. Accordingly, preserving the highest copy of a chain ensures fewer applications of FF-elimination, an independent but costly operation that eliminates unchecked, i.e. undeleted, uninterpretable features of lower copies. FF-elimination is formalized as in (42).

(42) Given the sequence of pairs σ = <(F,$P_1$), (F,$P_2$)….> such that σ is the output of Linearize, F is a set of formal features, and P is a set of phonological features, delete the minimal number of features of each set of formal features in order for σ to satisfy Full Interpretation [Nunes 2004: 31].

Under the economy of derivation, therefore, any copy in a given chain is potentially available for spell-out. However, because the highest copy has checked all its uninterpretable features, which are deleted before spell-out, it implies fewer instances of FF-elimination and therefore is the optimal candidate under economy considerations. Given this characterisation, phonetic realization of multiple copies is unexpected, though possible.

Nunes (2004) argues that phonetic realization of multiple copies may arise when certain copies evade the LCA as a result of being distinct. This may happen under Morphological Reanalysis (MR), a post-syntactic morphological operation that "takes two terminal heads which are sisters under a single category node and fuses them into a single terminal node" (Nunes 2004: 40). Nunes exemplifies such doubling cases with the Vata (Kru) example in (43), originally discussed in Koopman (1984).

(43) a. li Ó dā sáká li.
eat she/he PERF-AUX rice eat
'She/He has EATEN rice.'

b. li à li-dā zué sáká. [Vata(Kru), Nunes 2004: 47]
eat we eat-PST yesterday rice
'We ATE rice yesterday.'

The argumentation goes as follows. The verb optionally moves to T in Vata. In (43a), the focused verb moves directly to Foc where it undergoes MR and becomes distinct for linearization purposes. Consequently, only one copy (the lower one) is visible to the LCA, and Chain Reduction does not apply. As a result, the copies in Foc and V are spelled out.

(44) [$_{CP}$ [$_{FocP}$ [$_{Foc}$ **li**$_{[Focus+MR]}$ [$_{TP}$ Ó [$_{AspP}$ dā [$_{VP}$ sáká **li**]]]]]]]

(43b) represents a different situation. The verb first adjoins to T and then to Foc, where it undergoes MR and becomes distinct. Therefore, the highest copy is invisible to chain reduction, which now targets the lower two non-distinct copies and deletes the lowest one. Deletion of the lowest copy appears to meet minimal application of FF-elimination and therefore respects the principle of economy. The two higher copies, in Foc and T, are thus spelled out (45).

(45) [$_{CP}$ [$_{FocP}$ [$_{Foc}$ **li**$_{[Focus+MR]}$ [$_{TP}$ à [$_{T}$ **li**-dā [$_{VP}$ zué sáká ~~**li**~~]]]]]]

Under Nunes' analysis, the fronted verb and the IP-internal copy belong to the same chain, but differ only with regard to Morphology. As a consequence, these non-distinct copies are spelled out simultaneously. Doubling as understood in this framework is therefore a PF phenomenon conditioned by MR.[13]

Word order aside, the Vata facts recall the Russian and Gungbe examples discussed in section 2. As a consequence, one should expect Nunes' analysis or alternative accounts in terms of morpho-phonology to handle these cases as well. Yet, we show in the remainder of this paper that such morpho-phonological approaches to doubling fail to account for all the properties of predicate fronting with doubling in these languages. We demonstrate that the cases of doubling at hand rather derive from syntax as a consequence of parallel chains rooted in the same foot. The heads of these chains are spelled out and the foot is deleted as is generally dictated by chain reduction. This means that on the PF side, predicate fronting with doubling is not an exception: the head of a chain is spelled out and all other copies are deleted. In order to get to this, we first show that syntax controls doubling in these languages.

### 3.2. Syntax controls predicate doubling

If indeed predicate fronting with doubling came about as the result of a PF decision regarding which copy to spell out and which to delete, one would predict that the phenomenon should not be sensitive to specific syntactic contexts. The following data from Russian and Gungbe indicate that this prediction is not borne out. Instead, it appears from these languages that very similar syntactic environments disallow doubling, though allowing fronting of the predicate. In section 2, we observed that predicate fronting with doubling in Russian occurs in sentences where there is no auxiliary or modal element. In Gungbe, on the other hand, we show that doubling arises in VO contexts only. This section shows that when the sentence involves an auxiliary, a restructuring verb or an aspectual verb, doubling is blocked in both languages.

#### 3.2.1Russian

The discussion in section 2 led to the description in (46). A non-finite verb occurs in the sentence-initial position. The verb may be linearly followed by the object, which in some other cases is stranded within IP where it precedes the finite doublet.

(46) $[_{CP} \ldots V_{(Non\text{-})finite} \ldots (O) [_{IP} S \ldots (O) \ldots . V_{finite}]]$

Abels (2001) reports that the future auxiliary *byt'* prohibits this pattern, as shown in (47).

(47) Rugat'sja(-to) ja konečno ne budu (*rugat'sja),...
scold.INF.IMPF(-PTCL) I.NOM certainly NEG FUT.AUX scold.INF.IMPF
'As for making a row, I certainly will not do it,…'

We observe the same blocking effect with other auxiliaries/modals (48a), as well as aspectual (or restructuring) verbs, such as the inceptive aspectual verb in (48b).

(48) a. Pomoč'(-to) emu ja konečno smogu (*pomoč'),…
help.INF(-PTCL) him.DAT I.NOM certainly can help.INF
*me.DAT*
'Speaking of helping him, I certainly can do it,…'

[13] Landau's (2006) analysis of bare infinitive fronting in Hebrew shares a lot with Nunes derivation of these Vata examples. The two authors differ, however, significantly as to chain resolution. For Landau (2006: 54), chain resolution is constrained by the "Modular Chain Resolution: The decision of which chain copy to pronounce/interpret is locally determined at PF/LF, respectively".

b. Gotovit'sja(-to) k ekzamenu(-to) my uže
prepare.INF(-PTCL) to exam.DAT(-PTCL) we.NOM already
načali (*gotovit'sja),…
start.PST.PL prepare.INF
'As for preparing for the exam, we have already started it indeed,…'

It is therefore clear that doubling possibilities in Russian depend largely on the presence/absence of another verbal element in the clause. This in turn relates to the functional make-up of the clause. Indeed, in addition to typical functional items (e.g., future auxiliary, modals), the class of Russian intervening verbs also includes a restricted set of aspectual and restructuring verbs, which all have been argued to first merge in a functional head position within the clause (Jaeggli and Hyams 1993, Cinque 2004, Wurmbrand 2001, Aboh 2003b, forthcoming). Given this, and taking into account the analysis of Russian verbs in terms of V-to-Asp movement, the correct generalization appears to be that when the lexical verb is able to raise to some position within the functional layer (due to tense/aspect licensing), doubling is also allowed in Russian. On the contrary, when such verb movement is impossible because of an intervening auxiliary, aspectual verb, or a restructuring verb doubling is blocked. Given that predicate fronting without doubling is allowed in all these cases, there seems to be no principled way to account for these facts under a PF approach, be it conditioned by Morphology. One could resort to a language-specific device (e.g., Stray Affix Filter) to account for these cases if the phenomenon were just limited to Russian. But the following discussion on Gungbe shows that it is not.

### 3.2.2 Gungbe

Here we show that almost the same set of functional verbs identified in Russian appears to bleed doubling in Gungbe as well. We have already shown that Gungbe displays VO versus OV alternations and that doubling occurs in VO contexts only (see section 2). Aslo recall from our discussion of the OV sentences, exemplified in (25) and repeated here as (49a), that these are generally licensed by an auxiliary (e.g., progressive marker) or an aspectual verb (e.g., inceptive verbs and motion verbs) and involve a sentence-final particle (glossed as PTCL).

(49) a. Sénà **jɛ̀** xwé lɔ́ gbá ná Kòfí jí.
Sena start house DET build PREP Kofi PTCL
'Sena started building the house to Kofi.'

b. Sénà **yì** xwé lɔ́ sà ná Kòfí gbé.
Sena go house DET sell PREP Kofi PTCL
'Sena went to sell the house to Kofi.'

First, observe that the presence of an auxiliary or an aspectual verb in OV sequences makes these constructions akin to Russian constructions where a relevant auxiliary/modal or aspectual verb is necessary for achieving certain tense, mood or aspect specifications. In a way parallel to the Russian facts, these Gungbe OV sequences also disallow doubling. Consider the following contrast:

Predicate fronting in VO requires doubling (50a), but VP-fronting is excluded (50b).

(50) a. Xíá Sénà **nɔ̀** xíá wémà lɔ́ ná Kòfí.
read Sena HAB read book DET PREP Kofi
'Sena habitually **READS** the book to Kofi.'

b. *[Xíá wémà lɔ́ ná Kòfí] Sɛ́ná **nɔ̀.**
read book DET PREP Kofi Sena HAB
'Sena habitually **READS** the book to Kofi.'

OV constructions, on the contrary, allow fronting of the phrase including the VP and the final particle (51a). On the other hand, V-doubling is disallowed (51b).

(51) a. [Wémà lɔ́ xíá ná Kòfí gbé] wɛ̀ Sɛ́ná yì**.**
book DET read PREP Kofi PTCL FOC Sena go
'Sena has gone to READ THE BOOK TO KOFI.'

b. *Xíá Sɛ́ná **yì** wémà lɔ́ (xíá) ná Kòfí gbé.
read Sena go book DET read PREP Kofi PTCL
'Sena has gone to READ THE BOOK TO KOFI.'

Summarizing, in VO sequences where V-to-Asp has also taken place (see section 2), predicate focus requires doubling and a doublet occurs inside IP. VP-fronting, on the other hand, is prohibited. In OV constructions, the verb is stuck in a lower position than the object. We argued in section 2.2.2 that such structures derive from pied-piping of the AspP including the VP into the specifier of the functional projection (FP) headed by the sentence-final particle (see derivation 27). Given that the fronted sequence in (51a) contains the verb, an internal argument, an adjunct and the sentence-final particle, we conclude that what fronts is the FP as a whole. The latter leaves a gap in the extraction site, stranding the auxiliary. Here, extraction of the verb alone from the pied-piped phrase is impossible and doubling is also excluded. We therefore conclude from this description that doubling in Gungbe is sensitive to the VO versus OV alternation, which is aspectually determined.

This point takes us back to our generalization about Russian that certain functional items block doubling.[14] Put together, the Russian and Gungbe facts indicate that predicate fronting with doubling is sensitive to (tense/aspect) auxiliary selection. The general pattern can be schematized as in (52), where Asp hosts the relevant auxiliary or aspectual verb.

(52) a. $[_{CP}\ V(P)_{[focus/topic]}$ …..$[_{IP}$ …..$Asp_{[\varnothing]}$….$V(P)_{[doublet]}$ ….]

b. $[_{CP}\ V(P)_{[focus/topic]}$ …..$[_{IP}$ …..$Asp_{[Aux/Aspectual/Restructuring\ verbs]}$….gap….]

Under the assumption that Asp is the landing site of the verb when the latter undergoes V-to-Asp movement (e.g., in VO sentences in Gungbe), we reach the following description:

(53) a. Doubling occurs when V can move to Asp and V is also attracted by another higher probe within the left periphery (i.e., Foc, Top).
b. Doubling is absent when V-to-Asp movement is blocked by an intervening auxiliary or aspectual verb, but V remains accessible to a higher probe within the left periphery (i.e., Foc, Top).

(53) predicts that each time a verbal auxiliary, other than the lexical verb, merges in Asp (i.e., technically preventing V-to-Asp movement) predicate fronting with doubling will be

[14] The phenomenon described here goes beyond Russian and Gungbe as it has been reported in the literature to occur in Hebrew and Yiddish as well (e.g., Landau 2006, Harbour 2007, 2008). That typologically different languages with very different morphological properties (e.g., isolating, agglutinating) systematically exhibit this restriction supports the view developed here that the phenomenon is syntactic.

blocked.[15] The Russian and Gungbe facts presented here strongly support this description and further underscore the main argument of this paper: predicate fronting with doubling is a syntactic phenomenon that results from the creation of two chains whereby different probes target the same goal. Our analysis is inspired by Chomsky's (2005) approach to A versus A-bar movement, which we now briefly present as a background for the discussion.

## 4. Parallel chains and the phonetic realisation of multiple copies

Assuming that only phase heads trigger (movement) operations, Chomsky (2005) proposes that the traditional A versus A' distinction can be better understood if reduced to the feature of a phase head that triggers the operation.[16] Under this view, A'-chains result from a goal being attracted by an Edge feature, which is usually related to an operator-like construction (*wh*-, topicalization, etc.). A-chains are constructed by virtue of a goal being attracted by Agree-features of a phase head. Moreover Chomsky assumes that chains should be uniform, i.e. either A or A', with no mixed chains of the type A-A-A'. To achieve this, he proposes that A- and A'-chains are built in parallel such that Edge and Agree-features are checked simultaneously. This means that both A'- and A-movement create uniform chains where the goal is extracted from its base position. Given a sentence such as (54a), Chomsky (2005: 15) proposes that it is derived as in (54b), where the Edge and Agree-features of C probe the goal *who* in [spec v*]. The Agree-features of C, inherited by T, raise it to [spec TP] while the Edge features of C raise it to [spec CP].

(54) a. Who saw John?

b. $[_{CP}$ who$_i$ [ C $[_{TP}$ who$_j$ [ T $[_{v*P}$ who$_k$ $[_{v}$ see John]]]]]

The important observation about (54b) is that *who*$_i$ and *who*$_j$ do not form a chain. Instead, we have a two-member A-chain, *who*$_j$ - *who*$_k$, and a two-member A'-chain, *who*$_i$ - *who*$_k$. With regard to linearization, the lowest copy *who*$_k$ is systematically deleted under current minimalist assumptions (Nunes 2004, Chomsky 2005).[17]

### 4.1. Parallel chains and predicate fronting

Turning now to predicate fronting with doubling, we propose to extend parallel chains to head movement as a property of syntax (Aboh 2004b). More specifically, we argue that predicate fronting with doubling instantiates parallel chains where the same copy (i.e., the verb) simultaneously checks the features of two different probes within the INFL and the C domains, as illustrated in (55).

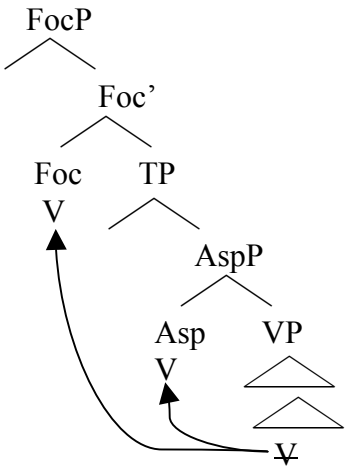
---

[15] This observation strongly recalls Abels'(2001) formulation about Russian that "if a *Base Line Sentence* has only one exponent of both lexical content of the verb and tense information, then doubling takes place. If a *Base Line Sentence* represents these two pieces of information on independent items, no doubling occurs". That our findings on Gungbe confirm this generalization further strengthens the proposal put forward here.

[16] In this framework, Chomsky (2005) suggests that certain phase properties, namely Agree-features, can be inherited by c-commanded heads. For instance, T inherits its φ-features from the higher phase head C. The same could be said of v*-features transmitted onto V, where v* is a light verb with fully instantiated argument structure (transitive/experiencer) (Chomsky 2001).

[17] The question arises why the copy in [spec TP], i.e., the head of the A-chain is not spelled out. Chomsky's (2005: 16) remarks that: "the A-chains are invisible, but familiar properties of A-movement (binding, scope, weak cross-over, etc.) reveal that there really is a copy in the position *who*$_j$ heading the two-member A-chain, even though it is not pronounced." Obviously, this cannot be the definitive answer to this question and much work is needed before we understand this phenomenon. We believe that the discussion here contributes to understanding the nature of doubling in general. With regard to the issue proper of 'silencing' *who* in [spec TP] under Chomsky's proposal, we have nothing insightful to add to this observation and hope to return to it in future work. But see Rizzi and Shlonsky (2007) for discussion.

(55)




Under this representation, predicate fronting with doubling involves two parallel movements anchored to the same foot: V-movement to Asp, and V(P)-movement to the left periphery, as described in section 2. Following Chomsky (2005) we argue that a V(P) movement to the C domain (or left periphery) could be understood as one that is ensured by the Discourse features of the phase head C, while a V-movement to the INFL domain (i.e., V-to-Asp) is sensitive to the Agree-Tense-Aspect features of C. More precisely, we adopt Rizzi's (1997) split-C hypothesis and assume that the C-domain consists of distinct discourse-related heads (i.e., Foc, Top) responsible for licensing focus and topic expressions (see also Aboh 2004a, 2006b). These two heads project between ForceP, dedicated to clause-typing, and FinP, whose head Fin is the locus of Agree-Tense-Aspect features that match those of the lower INFL domain.

Keeping to the same logic as that Chomsky (2005) proposes for the A versus A' distinction, we claim that V-to-Asp movement values all Agree-Tense-Aspect features of Fin and V becomes invisible to further operations. Therefore a V that has moved to Asp/T cannot be subsequently extracted. Similarly, V-to-Foc/Top movement checks off Focus- or Topic-features of Foc and Top and the fronted V(P) is not supposed to move any further.

With this in mind, let us now turn to the analysis proper of predicate fronting with and without doubling in Russian and Gungbe. We show that predicate fronting reduces to two main scenarios: (i) Two probes in the periphery (i.e., within C) target one and the same goal leading to apparent doubling. This corresponds to generalization (53a). (ii) Two probes in the periphery target two goals, bleeding doubling. This situation represents generalization (53b).

### 4.2. Two probes, one goal

#### 4.2.1. Russian: Remnant VP-movement and apparent VP-V chains

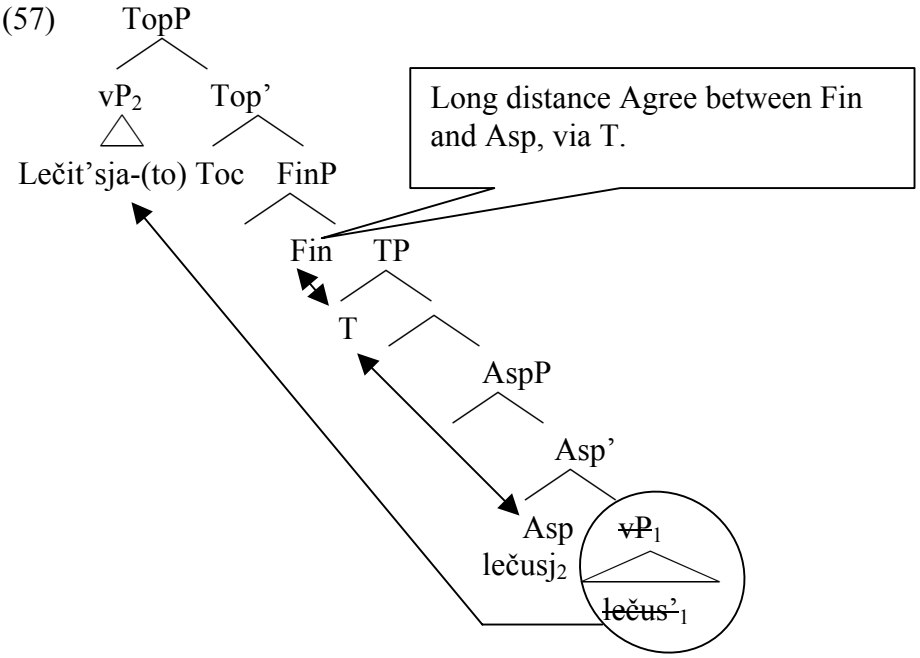
Consider again the Russian example given in (56).

(56) Lečit'sja(-to) ja lečus',…
take.medication.INF (-PTCL) I.NOM take.medication.1S
'As for taking medication, I do take it,… '

With regard to examples like (56), we argue, following Abels (2001), that the non-finite form in the sentence-initial position corresponds to a vP that is pied-piped to [Spec TopP] under attraction of the [Topic] feature under Top. This creates the chain ($vP_1$, $vP_2$). Though what moves here is the whole vP, it is crucial to understand that this is an instance of Generalized Pied-piping (GPP) as defined in Chomsky (1995: 262) because the ultimate goal of the operation is the V head bearing the relevant [Topic] feature (see also Aboh 2004b). The result

of GPP is that the whole VP is interpreted contrastively (see section 2.1.2). With regard to the IP-internal finite verb form, we assume that it is the head of the V-chain created by V-to-Asp movement. Here we propose that the verb merges in V fully specified for aspect, but must move to the relevant Asp to check its aspect features.[18] V-to-Asp movement in Russian appears to target a lower position than the position targeted by the scrambled object. Keeping with our proposal that the Agree-Tense-Aspect features of C are instantiated by Fin, we further claim that the relevant uninterpretable Agree-Tense-Aspect features under Fin are ultimately checked under long distance agreement (via T) as represented in (57).

(57)




Since the two chains (i.e., ($V_1$, $V_2$), and ($vP_1$, $vP_2$)) are constructed in parallel with features being checked simultaneously, we have an explanation for why the two verbs in Russian are strictly identical with regard to aspect specification. With regard to the non-finite morphology on the fronted verb, we tentatively propose that it satisfies a morphological requirement imposed by the Top head. Namely, we assume, following Aboh (2006a) that the non-finite morphology on the fronted verb is a nominalizing device that meets the requirement that topics must be referential (and therefore nominal).[19]

That this might be the right characterization is suggested by the fact that even though the discourse topic particle *–to* is optional in cases such as (56), it appears obligatory in a situation like (9), repeated here as (58), where the two verbal tokens are identical and share the same finite morphology.

---

[18] Filip (2003), for instance, proposes that Russian verbal prefixes are not inflectional but better qualify as derivational morphemes. According to this author, "a prefixed perfective verb in Slavic languages is best seen as a new verb that stands in a derivational relation to its base, rather than being an aspectually different form of one and the same lexeme."(p. 75).

[19] The particle *–to* can also occur with nouns as indicated below.

| | | | | | | |
|---|---|---|---|---|---|---|
| (i) | Knigu-to | on | kupil | no | ne | tu |
| | Book.ACC-PTCL | he.NOM | buy.PST | but | NEG | DEM.ACC |

'As for the book, he bought the wrong one'

That infinitives relate to nominals is easily illustrated by the fact that in some languages, infinitives can take determiners. This is the case in French where certain infinitives (e.g., manger, boire, dire) can take the definite determiner as in *le manger* "the food", *le boire* "the drink", *les dires* "the sayings". The same holds of Italian and Dutch infinitives.

(58) Slomalas' *(-to) ona slomalas', …
broke.PST-PTCL she.NOM break.PST.FEM.S
'As for breaking, it did break,…' [= (18) in Paillard and Plungjan 1993: 272]

Accordingly, *–to* is optional when the fronted verb has overt nominal morphology, but obligatory when this morphology is missing. In other words, *–to* unambiguously signals the referential nature of the fronted verb phrase. Under this view therefore, (58) has the same derivation as (56), modulo the nominal morphology on the fronted verb. Our analysis of these Russian facts shares a lot with Abels' (2001) proposal, the only difference being that we assume the two VP- and V-chains to be formed in parallel.

### 4.2.2. Gungbe: V-movement and V-V chains

Applied to verb focusing in Gungbe VO sentences, the proposed analysis suggests that a sentence like (59a), has the derivation in (59b).

(59) a. Xíá Sɛ́ná **nɔ̀** xíá wémà ná Kòfí.
read Sena HAB read book PREP Kofi
'Sena habitually **READS** books to Kofi.'

b. [$_{FocP}$ [$_{Foc}$ **xíá**$_{[F]}$ [$_{TP}$ Sɛ́ná [$_{T}$ [$_{AspP1}$ [$_{Asp1}$ nɔ̀ [$_{AspP2}$ [$_{Asp2}$ **xíá**$_{[Asp]}$[$_{vP}$ [$_{VP}$ ~~xíá~~ wémà ná Kòfí ]]]]]]]]]]

In terms of this analysis, the discourse-related Focus feature of C in Foc attracts V forming a V-chain, consisting of the fronted V and the V in the first merge position. The Agree-Tense-Aspect-features of $Asp_2$ (arguably inherited from Fin) attract V to $Asp_2$, creating a second V-chain.[20] We therefore end up with two chains (xíá$_{[F]}$, xíá) and (xíá$_{[Asp]}$, xíá), with no direct relation between (xíá$_{[F]}$) and (xíá$_{[Asp]}$). As before, the tail of these chains is deleted, while the heads are spelled out.

Data from Gengbe support this view. In section 2, we showed that V-to-Asp movement in this language results in the verb adjoining to the aspect marker. This is illustrated again in (60).

(60) Kòfí to-**na**. **Gengbe**
Kofi go.out-HAB
'Kofi often goes out.'

Gengbe is like Gungbe in that it does not require nominalization of the fronted verb, unlike Ewegbe and Yoruba (see examples 31 and 32). Accordingly, our analysis in terms of parallel chains predicts that in Gengbe predicate fronting with doubling, the sentence-initial verb will occur as a bare root (just as in Gungbe), while the IP-internal doublet adjoins to aspect (unlike in Gungbe). The prediction is borne out as indicated by example (61).

(61) to ye Kòfí to-na. **Gengbe**
go.out FOC Kofi go.out-HAB
'Kofi often GOES OUT.'

As our analysis predicts for Gbe, the reverse pattern where the fronted verb is marked for aspect as opposed to the IP-internal verb does not occur in these languages (62a). Similarly,

[20] Under the split-C and the split-I hypotheses (Pollock1989, Rizzi 1997, Cinque 1999) T and Asp, arguably, belong to the same domain such that the tense-aspect features inherited from C can be transmitted to T and Asp.

sequences where both verbs show aspect morphology (similarly to Russian, 58) are also ruled out (62b).[21]

(62) a. *to-na ye Kòfí to. **Gengbe**
go.out-HAB FOC Kofi go.out
'Kofi often GOES OUT.'

b. *to-na ye Kòfí to-na.
go.out-HAB FOC Kofi go.out-HAB
'Kofi often GOES OUT.'

A theory of predicate fronting with doubling that resorts to phonetic realization of multiple copies of a single chain incorrectly rules in these sequences, which could easily derive from scattered deletion (or some of its variants, Nunes 2004). In the analysis proposed here however, these sequences are excluded because the IP-internal verb (i.e., the one that undergoes V-to-Asp movement) is not the target of the Focus probe, and as a result it cannot raise to the focus position.

This shift of perspective allows for a better account for the absence of intervention effects between the fronted verb and the elements of the IP-domain in Gungbe. Recall from the discussion in section 2.2 that the fronted verb can cross the intervening tense and aspect markers, as illustrated again in (63).

(63) Xɔ̀ Sɛ́ná ná nɔ̀ xɔ̀ wémà ná Kòfí.
buy Sena FUT HAB buy book PREP Kofi
'Sena will habitually **BUY** a book to Kofi.'

The ungrammatical example in (35), repeated in (64), indicates that the fronted verb cannot successively adjoin to the intervening tense and aspect morphemes on its way to Foc (see Koopman 1984, Aboh 2003a, 2004a).

(64) *xɔ̀-nɔ̀-ná Sɛ́ná xɔ̀ wémà ná Kòfí.
buy-HAB-FUT Sena buy book PREP Kofi

Under previous accounts, these facts were seen as evidence for long head movement. Even though the intuition was right, such head movement operation appeared unexpected under strictly cyclic head movement and therefore required additional stipulations. In terms of Aboh (2004a, chapter 7) for instance, doubling in these cases was seen as a last resort phenomenon for rescuing the derivation from violating the HMC. On such a view, the doublet is comparable to a pleonastic element. This analysis is reminiscent of Abels'(2001) view of doubling in Russian, where the IP-internal copy is required by the Stray Affix Filter. Yet, given that the Gungbe aspect markers are free standing morphemes, it is not clear why the tense/finiteness (overt or covert) affix on the verb could not lean onto a preceding aspect marker (i.e., *nɔ̀* in 64), thus freeing the verb to move to Foc.[22]

In terms of the present analysis, however, these facts fall out naturally because the two copies satisfy two probes, and the sentence in (64) is correctly ruled out. If indeed the chain created by V-to-Asp movement and that created by V-to-Foc movement arise as result of distinct features being activated under distinct probes within C, we do not expect them to interfere with each other, and no minimality effects are expected to arise. This means that

[21] This latter fact supports our view that even in Russian, the aspectually determined V that fronts belongs to the pied-piped remnant VP and is therefore formally distinct from the copy that has raised to Asp.

[22] Aboh's (2004a: 36) discussion of floating tones in Gungbe actually suggests that stranded tones representing functional items may attach to the immediately preceding element.

minimality effects reduce to intervention effects among competing features only (e.g., Tense vs. Aspect) but not across types of features (Focus vs. Tense) (see Rizzi 1990, 2001).[23]

The idea that the two probes trigger two fundamentally different chains has some implications for the following facts about negation, which until now have not received a proper analysis. Though the verb can cross intervening tense, mood, and aspect markers, as we have just illustrated, it cannot move past the negation marker. In Gungbe, for instance, sentential negation is expressed by the marker *má*, as shown by the minimal pair in (65).

(65) a. Sɛ́ná ná nɔ̀ xɔ̀ wémà ná Kòfí.
Sena FUT HAB buy book PREP Kofi
'Sena will habitually buy a book to/for Kofi.'

b. Sɛ́ná **má** ná nɔ̀ xɔ̀ wémà ná Kòfí.
Sena NEG FUT HAB buy book PREP Kofi
'Sena will not habitually buy a book to/for Kofi.'

When the verb is focused (66), wide sentential negation is lost (66a). Negation in such sentences can only be interpreted narrowly, where the relevant interpretation implies a contrast between the expressed event and some other envisaged event. In (66b), for instance, we understand that there has been some other event in addition to the buying event which is being discussed. Therefore negation in this situation cannot be interpreted as a simple denial of the buying event, as was the case in (65b) (Aboh 2003a, 2004a: chapter 7, 2004b).

(66) Xɔ̀ Sɛ́ná má ná nɔ̀ xɔ̀ wémà ná Kòfí.
buy Sena NEG FUT HAB buy book PREP Kofi

a. *'Sena will not habitually **BUY** a book to/for Kofi.'

b. 'Sena will not only **BUY** a book to/for Kofi habitually, she will do something more [meaning she will buy the book and do some other things].'

We propose that the impossibility to obtain sentential negation under predicate fronting in Gungbe (66a) can be understood as an intervention effect induced by the negative head. Under the assumption that focus movement is quantificational, as is negation, verb fronting with sentential negation in (66) would induce Minimality violation, since the targeted V must cross the intervening Neg *má*, which is a closer target to the higher probe Foc. Accordingly, sentence (66) is correctly ruled out under the reading in (66a) due to Minimality.

Comparing Gungbe to Russian, we observe that the latter displays no interference between the fronted verbal phrase and sentential negation, as is shown in (67).

(67) Rugat'sja(-to) my ne rugalis',…
quarrel.INF(-PTCL) we.NOM NEG quarrel.PST.PL
'As for quarrelling, we did not quarrel,…'

This would follow from the fact that predicate fronting with doubling fulfils different discourse functions (topic vs. focus) and target different categories (V vs. VP) in Russian and Gungbe (see section 2.1). On the assumption that focus, but not topic, is quantificational (Rizzi 1997), the absence of minimality effects in Russian predicate fronting is expected.

[23] Alternatively, one could adopt Koopman's (1984) original analysis (recently revived by Vicente 2005, 2006) that these instances of long verb movement are actually movement of V into a specifier position (i.e., [spec FocP]). The facts about negation suggest that this view cannot be maintained for Gungbe given that focused maximal projections do not show intervention effects of any sort with negation.

To sum up, the discussion in the previous paragraphs is compatible with generalisation (53a) that doubling occurs when V can move to Asp, and V is simultaneously attracted by a higher probe (Foc, or Top). In the following section we take on the generalisation in (53b) that doubling is necessarily absent when V-to-Asp movement is blocked by an intervening auxiliary or aspectual verb, though V(P) can still move to the higher probe.

### 4. 3. Two probes, two targets

#### 4.3.1. Russian

This generalisation is compatible with the Russian data discussed in section 3.2.1, where it was shown that merging a restructuring verb or a modal cancels doubling. This was illustrated by example (48), repeated here as (68). In accounting for these constructions, we argue that the unifying factor for all these functional elements is that they merge in a position that interferes between V-to-Asp movement (e.g., with restructuring verbs) or else between the long distance agreement between Fin and the verb.

With regard to the restructuring verb (68a), we propose that it merges in Asp, which otherwise is the landing site of verb movement (Aboh forthcoming). This means that V-to-Asp movement is blocked in such contexts and the intervening restructuring verb serves as the goal for Fin$^{o}$. On the other hand, the lexical verb stuck in VP serves as the goal for Top$^{o}$, as illustrated in (68b).

(68) a. Gotovit'sja k ekzamenu(-to) my uže
prepare.INF to exam.DAT(-PTCL) we.NOM already
načali (*gotovit'sja),…
start.PST.MASC.S prepare.INF
'As for preparing for the exam, we have already started it indeed,…'

b. [$_{TopP}$ Gotovit'sja k ekzamenu(-to) [$_{FinP}$ my uže načali [$_{AspP}$ [$_{Asp}$ načali [$_{VP}$ ~~gotovit'sja k ekzamenu~~]]]]]

A similar derivation is proposed for sentence (69a) involving a modal. Here we assume that the modal first merges in MoodP, as partially represented in (69b).

(69) a. Pomoč'(-to) emu ja konečno smogu (*pomoč'),…
help.INF(-PTCL) him.DAT I.NOM certainly can help.INF
'Speaking of helping him, I certainly can do it,…'

b. [$_{TopP}$ Pomoč'(-to) emu [$_{Top}$ [$_{FinP}$ ja konečno [$_{MoodP}$ [$_{Mood}$ smogu [$_{VP}$ ~~pomoč'~~]]]]]]

This rationale extends to the future auxiliary (70a). We propose that V under VP is probed over by Top to check the [topic] feature. This results in remnant vP movement to [spec TopP]. Simultaneously, the Agree-Tense-Aspect-features under Fin are checked and valued under long distance Agree with the auxiliary that merges in T, as in (70b) (irrelevant projections ignored).

(70) a. Kupat'sja(-to) my budem,…
swim.INF(-PTCL) we.NOM AUX.FUT.1P
'As for swimming, we will swim,…'

b. [$_{TopP}$ Kupat'sja(-to) [$_{Top}$ [$_{FinP}$ my [$_{TP}$ [$_{T}$ budem [$_{VP}$ ~~kupat'sja~~]]]]]]

These examples therefore indicate that whenever the head of a functional projection between FinP and VP is morphologically realized, this head acts as an intervener between Fin and the lexical verb. As a consequence, doubling is blocked due to Minimality because Fin probes

over the closest intervening element. That doubling is sensitive to Minimality further confirms that it is a syntactic phenomenon.

An interesting contrast now emerges between Russian and Gungbe which is worth mentioning. While the tense and modal auxiliaries block doubling in Russian, they do not in Gungbe. The Gungbe case was discussed in section 4.2.2. where it appeared that the doublet may follow a string of tense, mood and aspect markers. While this contrast is a serious counterargument for tenants of Stray Affix Filter, it further suggests that the difference in the two languages may eventually reside in their morphological properties. Russian has a very rich morphology that allows us to postulate that the verb first merges fully specified for tense and aspect though it still has to check (or value) its tense and aspect features in the course of the derivation. On the other hand, the Gungbe verb starts out as a bare root similarly to the tense, aspect, and mood markers (all such elements are monosyllabic in Gungbe). This has the consequence that the verb-aspect, verb-tense, or verb-mood combination is primarily derived in the syntactic component. This contrast suggests that Russian seems to allow Multiple Agree, which in terms of Hiraiwa (2000) is sensitive to Minimality (see also Chomsky 2000, 2001). On the other hand, Gungbe seems to operate on an auxiliation rule which Aboh (forthcoming) has shown to be derived from serialization, which itself relates to syntactic restructuring. We hope to come back to this issue in future work.

### 4.3.2. Gungbe

#### 4.3.2.1. Predicate fronting in OV sequences

Returning to predicate fronting in OV sequences in Gungbe, the data we now discuss further support the analysis proposed here in terms of parallel chains. We have already shown in section 3.2.2. that predicate fronting in OV sequences excludes doubling. This is illustrated again by the contrast between example (71a) which derives from a VO structure and (71b) which results from an OV sequence. It appears in these examples that while VO structures necessarily trigger doubling, OV structures instead involve pied-piping of the OV sequence including the sentence-final particle to the sentence-initial position and there is no IP-internal doublet. Representation (71c) recalls the derivation of OV sequences as proposed in (27), schematized again here for convenience.

(71) a. Wlé mí wlé àgásá lɔ́ lɛ́.
catch 1P catch crab DET NUM
'We **CAUGHT** those crabs.'

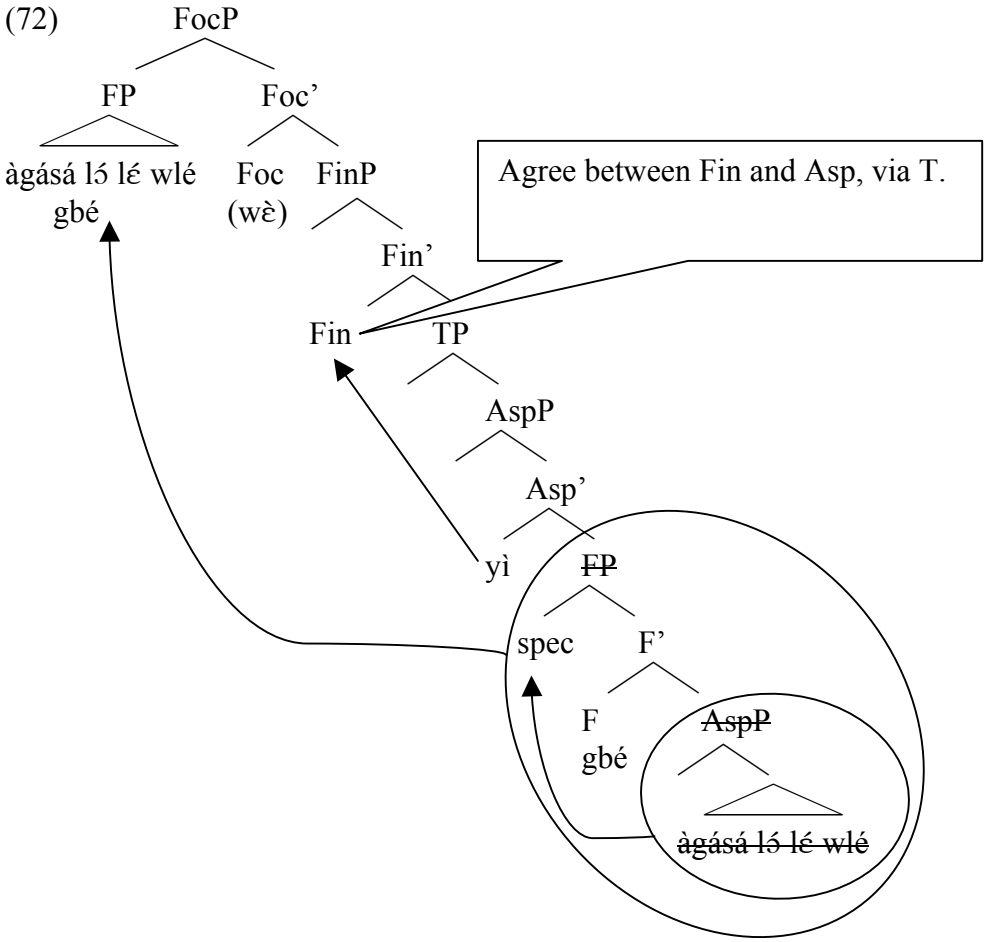
b. [àgásá lɔ́ lɛ́ wlé gbé] (wɛ̀) mí yì.
crab DET NUM catch PURPOSE FOC 1P go
'We went TO CATCH THE CRABS.'

c. ...tò/yì [$_{FP}$ [$_{F}$ gbé [$_{AspP}$ O [$_{Asp}$ V [$_{VP}$ $t_V$…$t_O$]]]]]

Building on the derivation in (71c), we have a clear answer as to why OV sequences require pied-piping of the OV sequence and lack doubling. Indeed, if the OV sequence results from movement of the constituent including the shifted object and the verb (i.e., AspP) into [spec FP], which itself is embedded under the aspectual verb, then predicate fronting in these cases results in subsequent fronting of the whole FP containing the OV sequence to [spec FocP]. We clearly see this in example (71b) where the fronted sequence includes the purpose morpheme *gbé*, which is analysed as the expression of F and normally occurs at the right edge (Aboh 2004a, chapter 6, 2005, forthcoming). At the same time, the aspectual verb under Asp is probed over by the Agree-Tense-Aspect features under Fin$^{o}$. We propose that,

similarly to Russian, this latter relation is established by long distance Agree between Fin$^{o}$, T, and Asp, as represented in (72).

(72)




As the derivation shows, doubling of the verb in OV context is blocked by the conjunction of two factors: (i) the aspect verb acts as the closest goal for the Fin probe and (ii) the attracted verb is contained in a phrase that realises the specifier of the pied-piped projection FP. It is therefore clear that the absence of doubling here is a consequence of the structure rather than a decision made at PF. Therefore Gungbe OV sequences complement the Russian facts in showing that predicate fronting with doubling is systematically blocked when the sentence contains an auxiliary or an aspectual verb that can serve as the goal for Agree-Tense-Aspect features of C, while the lower phrase is attracted by another probe within C.

Upon this conclusion, a scenario that immediately comes to mind is a situation where the lexical verb is morphologically complex such that its different parts may check features of different probes. The question then is whether such situations exist and whether they show predicate doubling or not. If what is said thus far is right, we expect such situations to bleed doubling. We show in the next section that our expectations are fully borne out by data from Gungbe (and the Kwa languages in general).

#### 4.3.2.2. Predicate fronting with Inherent Complement Verbs

A notorious property of the Kwa languages is that they possess a class of the so-called Inherent Complement Verbs (ICVs). These are verbs whose citation form requires a verbal part, glossed here as V, and a nominal part functioning as a direct object (Manfredi 1991, Essegbey 1999, 2003). Some Gungbe examples are given in (73).

(73) a. Dó wèzùn
$V_{[plant]}$ race
'To run'

b. Kò nú
$V_{[laugh]}$ thing
'To laugh'

c. Đì zɔ̀nlìn
$V_{[bury]}$ walk
'To walk'

d. Lɛ̀ tɔ̀
$V_{[bathe]}$ river
'To swim'

Example (74a) indicates that the verb and its inherent complement must occur in the sentence. This is so even if a second object is being selected as in (74b).

(74) a. Kòfí *(dó) *(wèzùn) sɔ́n xwégbè.
Kofi $V_{[plant]}$ race from house
'Kofi ran out from the house.'

b. Kòfí *(dà) *(tú) àjòtɔ́ lɔ́.
Kofi $V_{[throw]}$ gun thief DET
'Kofi shot the thief.'

Let us now consider what happens in predicate fronting. Recall form previous discussion that predicate fronting in Gungbe VO sentences requires doubling. Accordingly, we expect the same to apply to ICVs in VO sequences. Interestingly, however, VO sentences involving an ICV exclude doubling in the same way as OV constructions do. As shown by the examples under (75), only the (c) variant, where the object fronts but the verbal part remains IP-internal, is allowed across Gbe languages.

(75) a. *Dó Kòfí dó wèzùn sɔ́n xwégbè.
$V_{[plant]}$Kofi $V_{[plant]}$ race from house

b. *Dó wézùn (wɛ̀) Kòfí dó sɔ́n xwégbè.
$V_{[plant]}$ race FOC Kofi $V_{[plant]}$ from house
'Kofi **RUN** out from the house.'

c. Wézùn (wɛ̀) Kòfí dó sɔ́n xwégbè.
race FOC Kofi $V_{[plant]}$ from house
'Kofi **RUN** out from the house.'

Data from Gengbe show that the verbal part has raised to the IP domain in cases like (75c). In our discussion on V-to-Asp movement in Gbe, we showed that Gengbe-type languages allow the verb to adjoin to the habitual aspect affix. In a neutral Gengbe sentence involving an ICV therefore, the verb necessarily adjoins to the aspect marker as in (76a). The same situation obtains when predicate fronting occurs: the object fronts to the focus position, while the verbal part adjoins to Asp as indicated by example (76b). The ungrammatical example (76c) indicates that V-to-Asp movement is mandatory.

(76) a. Kòfí pu-**na** du.
Kofi V-HAB race
'Kofi often runs.'

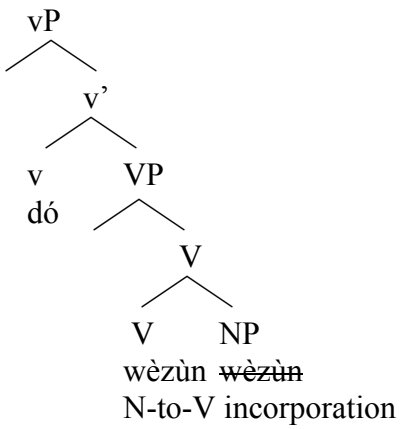
b. **edu** ye Kòfí pu-**na**.
race FOC Kofi V-HAB
'Kofi often RUNS.'

c. ***edu** ye Kòfí **na** pu-.
race FOC Kofi HAB V
'Kofi often RUNS.'

Thus the only way to focus an ICV in Gbe is to front the inherent complement part (75c), (76b). The verb, on the other hand, undergoes V-to-Asp movement (when possible). A remarkable fact here is that though fronting targets the inherent complement, the resulting interpretation is that of a focus on the event as a whole (i.e., VP) not on the inherent argument only. If we were to assume that the fronted verb and the IP-internal copy in predicate fronting form a single movement chain, it would not be clear why ICVs require fronting of the object but not of the verb.[24]

In order to account for these facts, we propose that ICV predicate fronting should be analysed as situations where two probes within C target two different goals. To begin with, we assume Hale and Keyser's (1993) analysis of denominal verbs and propose that an ICV involves the structure in (77), which stands for *dó wèzùn* [V- race] 'run'. In this view, the verbal part is actually a light verb that first merges in little *v* and selects a VP whose head is a transitive empty V.[25] Such an empty V takes a bare NP complement creating as such the relevant context for an incorporation of the head N into V, (Baker 1988). Therefore, the incorporated N lexicalises the empty V. It results from this description that the semantics of an ICV derives (compositionally) from the complex v + N (incorporated into V).

(77)




Under this view, ICVs differ from lexical verbs in that they do not involve V-to-v movement, as the v position is already filled by the light verb.

With this description in mind, we conclude from the fronting facts that ICVs provide good evidence that different types of features of a phase head can be checked independently of each other. In a case like the Gungbe example (75c), the nominal part *wèzùn* embedded in the VP checks the [Focus] feature under Foc, and the verbal part represented by the light verb

[24] To the best of our knowledge Manfredi (1993) was the first to point out these cases and argue for a unified analysis of predicate fronting with doubling whereby the head moving to the INFL domain and the deverbal nominal phrase moving to [spec CP] are not part of the same chain.

(i) $[_{CP}$ NP $[_{C}$ $[_{IP}$ V $[_{VP}$ ~~V~~ [ ~~NP~~ ]]]]]

Extending this view to cases like predicate fronting with doubling, Manfredi proposes that what fronts in those cases are event cognate objects. This view, however, appears not to be adequate because state verbs (and in some cases state adjectives) allow predicate doubling and it is not clear whether those too require an event cognate object. In this paper, we adapt Manfredi's original analysis of predicate fronting in ICVs and propose that in cases of doubling, it is the predicate itself (or a remnant phrase embedding that predicate) that fronts, not its cognate object. This way, we provide a uniform analysis for all verb types.

[25] See Ihonu (1992) for an alternative.

*dó* in v checks the Tense-Aspect-Mood (Agree) feature of C under Asp. The derivation is represented in (78a). Representation (78b) stands for the Gengbe example (76b).

(78) a. [$_{FocP}$ [$_{VP}$ wézùn] [$_{Foc}$ **wɛ̀** [$_{TP}$ Kòfĩ [$_{T}$ [$_{AspP*}$ [$_{Asp}$ dó $_{[Asp]}$[$_{vP}$ [$_{v}$ ~~dó~~ [$_{VP}$ ~~wézùn~~ sɔ́n xwégbè]]]]]]]] Gungbe

b. [$_{FocP}$ [$_{VP}$ edu] [$_{Foc}$ **ye** [$_{TP}$ Kòfĩ [$_{T}$ [$_{AspP*}$ [$_{Asp}$ pu-**na** $_{[Asp]}$[$_{vP}$ [$_{v}$ ~~pu~~ [$_{VP}$ ~~edu~~]]]]]]]] Gengbe

The element that fronts in these constructions is the VP rather than just the lexicalized V because, as we can see from example (79a), the fronted sequence can embed an adverb. This is impossible in contexts where V alone fronts, which is why example (79b) illustrating predicate fronting with doubling in VO contexts is ungrammatical.

(79) a. Wézùn tàùn (wɛ̀) Kòfĩ dó ɖɔ́ wá dó wìn ná mì
race very FOC Kofi $V_{[plant]}$ to come plant message to me
'Kofi **REALLY RAN** in order to come to deliver the message to me.'

b. *Hɔ̀n tàùn (wɛ̀) Kòfĩ hɔ̀n ɖɔ́ yì yòvótòmɛ̀
flee very FOC Kofi flee to go Europe
'Kofi **REALLY FLED** to go to Europe.'

We further conclude from the discussion on ICVs that they bleed doubling, not by preventing V-to-Asp movement as in the case of auxiliary and restructuring verbs that merge in Asp, but by providing the language with a complex v+V[N] such that v, being independently lexicalised by a light verb, can move to Asp, while the V[N], contained in VP, can be attracted by a higher probe (i.e., Foc).

### 4.4. Interim summary

The analysis we put forth here suggests that predicate fronting constructions with doubling in Russian and Gungbe are only apparent examples of phonetic realization of multiple copies of a single movement chain, contrary to what is often assumed in the literature. The putative doublets, in fact, represent heads of simultaneous chains created in order to satisfy the discourse features (i.e., Topic, Focus) and the Agree-Tense-Aspect features of C, respectively. In these apparent doubling cases, two heads within C may probe over the same goal: V. The discussion also shows that, when necessary, the active heads within C probe over different goals: V is attracted by the features under Foc (in Gungbe) or Top (in Russian), while the Agree-Tense-Aspect features under Fin target an auxiliary or an aspect verb that merges within the INFL layer. A similar situation arises in ICVs where the VP comprises two mobile elements v and V[N], which can be probed over individually by two heads within C. Thus, all the discussed cases comply with a general mechanism of chain reduction whereby heads are *always* spelled out and tails are *always* deleted.

## 5. Some seemingly unrelated cases

In this section we discuss two seemingly unrelated cases of predicate fronting which, under close inspection, turn out to support the analysis in terms of parallel chains.

### 5.1 Speculations about do-support in English

The proposed analysis for predicate fronting not only unifies the data from Gungbe and Russian, but also points to a striking similarity between these languages and Germanic languages like English where predicate fronting induces *Aux*-support as is well known from work on *do*-support in the literature. It is clear from our perspective that *do*-support in such English sentences as "*I ask**ed** John to repair the car and repair the car he **did***" represent a "two probes-two goals" scenario similar to the ones just described for Russian and Gungbe.

The discourse-related features under Foc/Top attract the fronted verb inside the VP, while the Agree-Tense-Aspect features under Fin$^{o}$ (inherited by T) probe over *do*.[26] Consequently *do*-support in English is arguably a case of parallel chains.

(80) a. I asked John to repair the car and [repair the car] he did.
b. …and [$_{FocP}$ [$_{VP}$ repair the car] [$_{Foc}$ [$_{FinP}$ he did [$_{VP}$ ~~repair the car~~]]]]

What the representation in (80) now suggests is that the variation between English-type languages which lack doubling and Russian/Gungbe-type languages which show doubling in certain contexts only boils down to the existence of pleonastic or auxiliary verbs that can *always* enter Agree with Fin in the former but not in the latter (Chomsky 1995).

Given this line of argumentation, phonetic realization of multiple copies appears to be highly constrained and apparently unavailable in the languages under consideration. In this regard, what this study shows is that the lower copies, which incidentally appear to be those within the lower phase, always delete without exception. Granting that delete only operates up to recoverability, one way to interpret this observation is to conjecture that phase-internal copies can be deleted freely because they are 'remembered' at the phase-level (or by the phase-level memory under Chomsky 2005). If we take this view seriously, then the operation delete, that is, the licensing of unpronounced copies, appears to be a syntactic process that is determined in a local configuration. Given Chomsky's (2000, 2001, 2005) derivation by phase, a conjecture that comes to mind is that the sanctioning of unpronounced copies proceeds essentially in the same way: by phase. We hope to come back to this issue in future work.[27]

### 5.2. Subject intrusion in Dutch

Van Koppen & Barbiers (2006) show that certain dialects of Dutch as well as child Dutch exhibit subject intrusion as illustrated in (81). In this construction, the fronted verb precedes the subject pronoun which in turn precedes a stranded tense affix.

(81) a. Dan **noem**-ik-**te** jou Sinterklaas.
then call-I-PST you Saint. Nicholas
'Then, I called you Saint Nicholas.'

b. Dat **lust**-ik-**te** niet.
that like-I-PST not
'That I did not like.'

As the authors indicate, such constructions are restricted to sentences with subject inversion, that is, sentences involving a constituent other than the subject in the initial position, as well as in yes-no questions. Such inversion contexts are illustrated in (82).

(82) a. Ga je op vakantie?
go you on holiday
'Are you going on holiday?'

b. Welke ijsje wil je?
what ice want you
'What sort of ice do you want?'

[26] We remain agnostic as to whether the fronted VP moves to TopP or FocP in English.
[27] See Kayne 2005 for some discussion on this matter.

c. Vandaag ga ik naar Parijs.
today go I to Paris
'I'm going to Paris today.'

Since den Besten (1977) and much related work, it is assumed that sentences like (82) involve movement of the relevant category to [spec CP] in combination with V-to-I-to-C movement as depicted in (83).

(83) $[_{CP}\ XP_i\ [_{C}\ V_{[+T]}\ [_{TP}$ subject $[_{T}\ \ t_{V+T}\ [_{VP}\ \ldots\ t_{V}\ldots\ t_{XP}\ \ ]]]]]]$

Assuming that the tense affix attaches to the verb as a consequence of its movement via T on the way to C, the subject intrusion structures in (81) are unexpected. These derivations would require the verb to strand its tense affix under T in order to raise to C.

In their account for such unexpected structures under classical V-to-C movement approaches, van Koppen and Barbiers (2006) argue that sequences like (81) support the copy-theory of movement as developed in Nunes (2004). According to the authors, a sentence like (81a) has the representation in (84), where the verb merges in V fully inflected and moves cyclically to T and C in overt syntax. Linearization of the derivation forces chain reduction, which deletes offending copies. This process applies to (84a) in a scattered way as represented in (84b), where the lower copy deletes fully, the stem *noem* deletes in *noem-te*$_2$ and the tense affix *–te* deletes in *noem-te*$_3$.

(84) a. $[_{CP}$ dan $[_{C}$ noem-te$_3$ $[_{TP}$ ik $[_{T}\ \ $ noem-te$_2$ $[_{VP}$ jou Sinterklaas $\ [_{VP}$ noem-te$_1$]]]]]]

b. $[_{CP}$ dan $[_{C}$ noem-~~te$_3$~~ $[_{TP}$ ik $[_{T}\ \ $ ~~noem~~-te$_2$ $[_{VP}$ jou Sinterklaas $\ [_{VP}$ ~~noem-te$_1$~~]]]]]]

Yet, as van Koppen & Barbiers (2006) rightly point out, this analysis needs to be refined because it overgenerates. More specifically, it is not clear why scattered deletion does not allow for sequences where just the tense morpheme is spelled out in C leaving the verb copy in T. Such structures are ungrammatical, as evidenced by (85a) derived as in (85b).

(85) a. *dan-de ik noem jou Sinterklaas.
then-PST I call you Saint.Nicholas

b. $[_{CP}$ dan $[_{C}$ ~~noem~~-te$_3$ $[_{TP}$ ik $[_{T}\ \ $ noem-~~te$_2$~~ $[_{VP}$ jou Sinterklaas $\ [_{VP}$ ~~noem-te$_1$~~]]]]]]

We take the impossibility of the structure under (85) to be additional evidence against a single chain formation followed by chain reduction. In terms of the parallel-chains approach to movement, structures involving subject intrusion appear similar to Russian/Gungbe cases where the Discourse features (Topic, Focus) and Agree features within the C-system attract two different goals. More specifically, we propose that sentences like (81a) derive from movement of the verb to the relevant functional head within C, where the verb is attracted by a discourse-related feature under C (e.g., focus, topic, interrogative), while Agree-Tense-Aspect features are simultaneously checked under long distance Agree with the morpheme that merges in T. As proposed previously, the lower copy is deleted, and the derivation does not involve V-to-T movement in overt syntax (86).

(86) $[_{CP}$ dan $[_{C}$ noem $\ [_{TP}$ ik $[_{T}$ te $[_{VP}$ jou Sinterklaas $\ [_{VP}$ ~~noem~~]]]]]]

Under this analysis the only difference between standard Dutch on the one hand and child Dutch and certain non-standard Dutch varieties on the other seems to result from the nature

of the element in T. The latter is an affix in standard Dutch, but functions as a free morpheme in contexts of subject inversion in child Dutch and some varieties of Dutch.[28]

## 6. Conclusion

In the present paper we proposed a revised analysis of predicate fronting with doubling in Gungbe and Russian. The main premise for the analysis was the assumption that certain instances of doubling conform to the general principles of chain reduction, whereby only heads are spelled out. Adopting Chomsky's (2005) proposal on parallel chain formation, we argued that predicate fronting with doubling is best analyzed as realizing two distinct chains whose heads are spelled out and whose tails are successfully deleted. On the PF side therefore, the cases at hand represent no special context for phonetic realisation of multiple copies.

The conclusions reached in this paper may have far reaching consequences as to the typology of doubling phenomena. If indeed it turns out that most (or probably all) cases of doubling are obtained by parallel chain formation or else to some syntactic configuration, then we will have to ask the question of whether phonetic realisation of multiple copies of a single movement chain really exists. This is obviously not a trivial question as it relates to the general theoretical debate on the choice between parallel chains versus non-uniform chains.

Another question that arises in the context of this discussion is the choice between consecutive movements and simultaneous movements of the goal (to check the features under distinct higher probes). In terms of Chomsky's (2001) Phase Impenetrability Condition, the answer seems obvious. Indeed, given the phase transfer delay imposed by this condition, an element that is probed over remains accessible for simultaneous or parallel operations up to transfer. The data on predicate fronting with ICVs would seem to support this view over an approach that adopts consecutive movement. Yet, the right answer might not be this simple given that the issue bears on other questions such as multiple spell-out and phase extension, which are still under debate (e.g., Gallego 2005, Pesetsky 2007, den Dikken 2008).

**References**:

Abels, K. 2001. Predicate cleft construction in Russian. In: Franks, S., Yadroff, M. (Eds.), Formal Approaches to Slavic Linguistics 9, 1–19.

Aboh, E. O. 2003a. Focus constructions across Kwa. In: Githiora, C., Littlefield, H., Manfredi, V. (Eds.), Kinyira njira! - Step firmly on the pathway! Trends in African Linguistics 6, 7–22. Africa World Press, Trenton New Jersey.

Aboh, E. O. 2003b. Les constructions à objet préposé et les series verbales dans les langues Kwa. In: Sauzet, P., Zribi-Hertz, A. (Eds.), Typologie des langues d'Afrique et universaux de la grammaire, vol. 2 : 'Benue-Kwa, Soninke, Wolof'. L'Harmattan, Paris, pp. 15–40.

Aboh, E. O. 2004a. The Morphosyntax of Complement-Head Sequences. Clause Structure and Word Order Patterns in Kwa. Oxford University Press, New York.

Aboh, E. O. 2004b. Snowballing movement and generalized pied-piping. In: Breitbath. A., van Riemsdijk, H. (Eds.), Trigger. Mouton, Berlin, pp. 15–47.

Aboh, E. O. 2005. Object shift, verb movement and verb reduplication. In: Cinque, G., Kayne, K. (Eds.), The Oxford Handbook of Comparative Syntax. Oxford University Press, pp. 138–177.

[28] As mentioned by two anonymous reviewers, this leaves open the question of why these Dutch varieties do not seem to have sequences like "*ik te jou Sinterklaas noem*" (i.e., in non-V2 contexts), or "*dan noem ik noemde jou Sinterklaas*" (i.e., V2 context). For the time being, we have nothing insightful to say about this and we leave it for future work.

Aboh, E. O. 2006a. When predicates go fronting". In: Fiedler, I., Schwarz, A. (Eds.), *ZAS Working Papers in Linguistics*, pp.21–48.

Aboh, E. O. 2006b. Complementation in Saramaccan and Gungbe: the case of c-type modal particles. Natural Language and Linguistic Theory 24, 1–55.

Aboh, E. O. Forthcoming. Clause structure and verb series. To appear in Linguistic Inquiry. Volume 40, Number 1 (Winter 2009)

Babko-Malaya, O. 2003. Perfectivity and prefixation in Russian. Journal of Slavic Linguistics 11, 5–36.

Bailyn, J. 1995. Underlying phrase structure and 'Short' verb movement in Russian. Journal of Slavic Linguistics 3, 13–58 .

Baker, C. M. 1988. Incorporation: A theory of grammatical function changing. The University of Chicago Press. Chicago.

Barbiers, S. and van Koppen, M. 2006. Een plaats voor tijd in het middenveld van het Nederlands. Ms, Meertens Instituut.

Boškovič, Z. 2001. On the Nature of the Syntax-Phonology Interface. Cliticization and related phenomena. Elsevier, Amsterdam.

Cinque, G. 1999. Adverbs and Functional Heads, A Cross-linguistic Perspective. Oxford University Press, New York.

Cinque, G. 2004. Restructuring and functional structure. In: Belletti, A. (Ed.), Structures and Beyond. The Cartography of Syntactic Structures. Oxford University Press, New York, pp. 132–191.

Chomsky, N. 1993. A minimalist program for linguistic theory. In: Hale, K., Keyser, S. J. (Eds.), The View from Building 20. MIT Press, Cambridge, Mass., pp. 1–52.

Chomsky, N. 1995. The Minimalist Program. MIT Press, Cambridge, Mass:.

Chomsky, N. 2000. Minimalist inquiries: The framework. In: Martin, R., Michaels, D., Uriagereka (Eds.) Step by Step: Essays in Minimalist Syntax in Honor of Howard Lasnik, J. MIT Press, Cambridge, MA:., pp. 89–155.

Chomsky, N. 2001. Derivation by phase. In: Kenstowicz M. (Ed.) Ken Hale: A Life in Language. MIT Press, Cambridge, Mass:, pp. 1–52.

Chomsky, N. 2005. On Phases. Ms. MIT

Den Besten, H. 1977. On the interaction of root transformations and lexical deletive rules. Ph.D dissertation, University of Tilburg.

den Dikken, M. 2008. Small Clauses, Phases, and Phase Extension — The Case of Scope and Object Shift. Talk given at the 31st GLOW Colloquium, Newcastle University, Newcastle, United Kingdom March 27th 2008.

Essegbey, J. 1999. Inherent Complement Verbs Revisited: Towards an Understanding of Argument Structure in Ewe. MPI series, Ponsen & Looijen bv, Wageningen.

Essegbey, J. 2003. On definiteness asymmetry in double object constructions. In: Lébikaza, K., (Ed.), *Actes* du 3e Congrès Mondial de Linguistique Africaine, Lomé 2000. Rüdiger Köppe Verlag, Cologne.

Filip, H. 2003. Prefixes and the delimitation of events. Journal of Slavic Linguistics 11, 55–101.

Gallego, A. 2005. Phase effects in Iberian Romance. Ms, Universitat Autònoma de Barcelona.

Gehrke, B. 2007. Goals and sources are aspectually equal: Evidence from Czech and Russian prefixes. Lingua 118, 1664–1689.

Hale, K., and S. J. Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In: K. Hale and Keyser, S. J. (Eds.), The View from Building 20. The MIT Press, Cambridge, MA. 53–109.

Harbour, D. 2007. Against PersonP. Syntax 10, 223–242.

Harbour, D. 2008. Klivaj Predik, or Predicate clefts in Haitian. Lingua 118, 853–871.
Hiraiwa, K. 2000. Multiple Agree and the defective intervention constraint in Japanese. MIT Working Papers 40, 67–80.
Ihionu, P. 1992. Verb compounding in Igbo, an overview. MIT Working Papers in Linguistics 17, 165–182.
Jaeggli, O and Hyams, N. M. 1993. On the independence and interdependence of syntactic and morphological properties: English aspectual come and go. Natural Language and Linguistic Theory 11, 313–346.
Kallestinova, E. D. 2007. Aspects of word order in Russian. PhD dissertation. University of Iowa.
Kandybowicz, J. 2007. On fusion and multiple copy spell-out. The case of verbal repetition. In: Corver, N., Nunes, J. (Eds.), The Copy Theory of Movement. Amsterdam. Benjamins, pp. 119–150
Kayne, R. 1994. Antisymmetry of syntax. MIT Press. Cambridge, MA.
Kayne, R. 2005. On Parameters and on principles of pronunciation. Ms. New York University.
King, T. 1995. Configuring Topic and Focus in Russian. CSLI Publications: Center for the Study of Language and Information, Stanford, California.
Kinyalolo, K. K. W. 1997. The verbal gerund in Fon. In: Déchaine, R. M., Manfredi, V. (Eds.), Object Position in Benue-Kwa. The Holland Academic Graphics, The Hague.
Koopman, H. 1984. The Syntax of Verbs: From Verb Movement Rules in the Kru Languages to Universal Grammar. Foris, Dordrecht.
Koopman, H. 2000. The syntax of specifier and heads. Routledge, London.
Landau, I. 2006. Chain resolution in Hebrew V(P)-fronting. Syntax 9, 32–66.
Manfredi, V. 1991. Agbo and Ehungbo: Igbo Linguistic Consciousness, its Origins and Limits. Ph.D. dissertation, Havard University.
Manfredi, V. 1993. Verb focus in the typology of Kwa/Kru and Haitian. In: Byrne, F., Winford, D. (Eds.), Focus and grammatical relations in Creole languages. Benjamins, Amsterdam.
McCoy, S. 2002. Semantic and discourse properties of colloquial Russian construction of the form X-to X, a... Glossos 3. Spring 2002. http://seelrc.org/glossos/issues/3/mccoy
Nunes, J. 2004. Linearization of chains and sideward movement. MIT Press, Cambridge MA.
Pesetsky, D. 1998. Some optimality principles of sentence pronunciation. In: Barbosa, P. (Ed.), Is the best good enough? Optimality and competition in syntax. MIT Press, Cambridge MA.
Pesetsky, D. 2007. “On phase extension” by Marcel den Dikken. Ms. MIT, Cambridge. MA.
Paillard, D. and Plungjan, V. A. 1993. Ob odnom tipe konstrukcij s povorotom glagola v Russkom jazyke. Russian Linguistics 17, 263–77.
Pollock, J.Y. 1989. Verb Movement, Universal Grammar and the Structure of IP. Linguistic Inquiry 20, 365–424.
Ramchand, G. 2004. Time and event: the semantics of Russian prefixes. Nordlyd 32, 323–261.
Ramchand, G. 2007. Perfectivity as aspectual definiteness: Time and the event in Russian. Lingua 118, 1690–1715.
Rizzi, L. 1990. Relativized Minimality. MIT Press, Cambridge, MA.
Rizzi, L. 1997. The fine structure of the left periphery. In: Haegeman, L. (Ed.), Elements of Grammar. Kluwer, Dordrecht, pp. 281–337.
Rizzi, L. 2001. Locality and left periphery. Ms., University of Siena.

Rizzi, Luigi and Shlonsky, Ur. 2007. Strategies of Subject Extraction. In: Hans-Martin Gärtner and Uli Sauerland (Eds.), Interfaces + Recursion = Language? Mouton, Berlin, pp. 115–160.

Romanova, E. 2004. Superlexical versus lexical prefixes. Nordlyd 32, 255–278.

Romanova, E. 2007. Constructing perfectivity in Russian. PhD dissertation. University of Tromsoe.

Slioussar, N. 2007. Grammar and Information Structure: A Study with Reference to Russian. PhD dissertation. Utrecht University. LOT publications No.161.

Svenonius, P. 2004. Slavic prefixes inside and outside VP. Nordlyd 32, 205–251.

Van Koppen, M. 2005. One Probe - two Goals: Aspects of agreement in Dutch dialects. PhD dissertation. University of Leiden. LOT publications No.15.

Vincente, L. 2005. Toward a unified theory of movement: an argument from Spanish predicate clefts. Leiden Papers in Linguistics 2, 43–67.

Vincente, L. 2006. The syntax of heads and phrases: A study of verb (phrase) fronting. PhD dissertation, University of Leiden.

Wurmbrand, Suzanne. 2001. Infinities. Restructuring and Clause structure. Mouton. Berlin.