On the NTC and Labeling*

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The No-Tampering Condition is often taken to derive effects of the Extension Condition and the Inclusiveness Condition; however there is no definition of the No-Tampering Condition in Chomsky's articles that fully captures effects of both conditions. This paper proposes a new condition which in connection with other properties of the proposed system not only derives effects of the Extension Condition and the Inclusiveness Condition, but also has several welcome consequences. The proposal is couched in a derivational model where every operation Merge produces a phase and labeling triggers Transfer. It is shown that the proposed system does not need to employ null phase heads and the Phase Impenetrability Condition and that it supports the copy theory of movement.

Keywords: concatenation, labeling, merge, phase, syntactic conditions, transfer

1 Introduction

Let us begin with the Inclusiveness Condition. This condition states that no new features can be added in the course of derivation of an expression. Consider the definition in (1), taken from Chomsky 2000:113, (30c), where C_{HL} means the computational procedure of human language (see also Chomsky 1995b:228, 2001:2-3, 2004:107, 2007:note 14, 2008:138). According to Chomsky, the Inclusiveness Condition bars, for instance, introduction of traces and bar levels.

* For comments and helpful suggestions, I would like to thank Anke Assmann, Fabian Heck, Gereon Müller, Marc Richards, Martin Salzmann, Tobias Scheer, Radek Šimík and Philipp Weisser.

(1) The *Inclusiveness Condition*: No new features are introduced by C_{HL}.

As to the Extension Condition, it was originally formulated in Chomsky 1995b:190-191. This condition brings about cyclicity of the operation Merge since it requires both Merge operations to happen at the root of the syntactic object, as shown in (2), taken from Chomsky 1995b:254. For other discussions, see Chomsky 2000:136, 2004:109, 110, 117, 2005:13, 2008:138 and for an overview of approaches to cyclicity effects, see, for example, Lasnik 2006. Since the operation Merge cannot target a subtree according to the Extension Condition, then, for instance, downward movement is barred.

(2) […] Merge always applies in the simplest possible form: at the root. What about Move? The simplest case again is application at the root […].

Keeping this in mind, let us now consider the No-Tampering Condition. This condition is often taken to capture effects of the Extension Condition and the Inclusiveness Condition. However, there is no definition of the No-Tampering Condition in Chomsky's articles that can fully derive effects of both conditions. There are different formulations of the No-Tampering Condition; consider the formulation in (3), taken from Chomsky 2005:13.

(3) Assuming the no-tampering condition that minimizes computational load, both kinds of Merge to A will leave A intact.

According to Chomsky 2005:13, the Extension Condition is entailed by the No-Tampering Condition in (3). This is correct, as the comparison of (2) and (3) makes obvious. However, the formulation in (3) does not prohibit changes in the moved syntactic object, which is a certain disadvantage, given the computational-load reasoning in (3). This may be the reason

why Chomsky 2007:8, 2008:138 proposes the stronger version of the No-Tampering Condition; see (4), from Chomsky 2008:138. According to this definition, Merge leaves *both* syntactic objects participating in the operation intact.

(4) A natural requirement for efficient computation is a "no-tampering condition" (NTC):

Merge of X and Y leaves the two SOs unchanged.

Although the No-Tampering Conditions in (3) and (4) derive effects of the Extension Condition, the effects of the Inclusiveness Condition are derived only in the case of the operation Merge. In addition, the effects are derived only in the moment of the operation. Effects of the Inclusiveness Condition, however, are more general since the condition holds for the whole syntactic computation (narrow syntax); consider (1) again. According to Chomsky 2007, the No-Tampering Condition says nothing about what happens with the appropriate syntactic objects after the operation Merge. This means that the syntactic objects affected by Merge can later change. For instance, some feature(s) could later be added to them, which would violate the Inclusiveness Condition, but not the No-Tampering Condition. The No-Tampering Condition also has nothing to say about the syntactic object resulting from Merge. Moreover, in addition to Merge, there are also other operations in the syntactic computation that may change syntactic objects, for example, checking and deletion (erasing) of features, adding the generalized EPP feature on phase heads. Note also that Chomsky 2007 employs both the No-Tampering Condition and the Inclusiveness Condition, which suggests that the No-Tampering Condition does not cover all effects of the Inclusiveness Condition.

The article proceeds as follows. Section 2 outlines the framework and provides the necessary background for the analysis presented in section 3. It proposes a condition that in connection with other properties of the system captures effects of both the Extension Condition and the Inclusiveness Condition. In section 3, I discuss my proposal in more detail

and show how effects of the Inclusiveness Condition and the Extension Condition are derived in particular derivations. It will be also shown that the proposed system has some advantages over the standard model.

2 The Proposal

In the preceding section, I introduced three constraints on the syntactic derivation: the Inclusiveness Condition, the Extension Condition and the No-Tampering Condition. What they have in common is that they bar manipulation of syntactic objects, either syntactic objects directly affected by the operation Merge or syntactic objects generally participating in the syntactic derivation. Concretely, the Extension Condition and the No-Tampering Condition concern internal and external Merge and the Inclusiveness Condition generally concerns syntactic objects present in the syntactic computation. Thus, since properties of syntactic objects cannot be changed in the course of derivation, I propose the Condition on Syntactic Integrity, as stated in (5).

(5) *The Condition on Syntactic Integrity* (COSI)

The constitution of labeled syntactic objects cannot change.

What "constitution" means is shown in (6). It is in keeping with the standard assumption that syntactic objects are sets of features: {P, F, S}, where P means phonological features, F formal features and S semantic features; see, for example, Chomsky 1995a:394 and 2001:10. There is an important difference between syntactic objects and the constitution itself in (6). Whereas syntactic objects also contain featural values, the constitution of syntactic objects consists only of features. In other words, the constitution is the backbone of syntactic objects. The difference will play an important role in the discussion of the operation Agree (section 3.3).

(6) *Constitution*

a. The constitution of syntactic objects consists of sets of features.

b. Syntactic object consist phonological, formal and semantic features and their values.

As far as Merge and labeling are concerned, I follow Chomsky's proposal (1995a:396-397, 2000:133, 2001:3) that the operation Merge combines two syntactic objects and forms a new element with a label which is identical to one of the original elements; consider the following formulation from Chomsky 1995a:396-397:

(7) *Merge*

Applied to two objects α and β, Merge forms the new object γ. […] γ must therefore at least (and we assume at most) be of the form {δ, {α, β}}, where δ identifies the relevant properties of γ; call δ the *label* of γ. […] the label δ is either α or β; one or the other *projects* and is the *head* of γ. If α projects, then γ = {α, {α, β}}.

This means that Merge is composed of two different operations, the set-constructing operation - also called concatenation - and the operation labeling (cf. Gärtner 2002:64, Boeckx 2008:84ff, Hornstein and Nunes 2008, Hornstein 2009, Carnie 2010:265ff).[1]

At this point, the question arises why the constitution of labeled syntactic objects cannot change, as stated in COSI. The main rationale behind it is the phase status of labeled syntactic objects. Specifically, labeling triggers Transfer, which sends the labeled syntactic object to the interfaces. This means that labeling closes the appropriate syntactic object and consequently its constitution cannot change. In other words, every operation Merge

[1] There are also label-free approaches; see, for instance, Collins 2002.

constitutes a phase in the derivation (cf. Epstein and Seely 2002), which I consider to be the null hypothesis.

Concerning the relation between labeling and Transfer, labeling brings about the completeness of the new syntactic object. The simplest way is to assume that Transfer always happens as soon as a syntactic object is complete – that is, built -, which is exactly the point when the newly derived syntactic object gets a label. The notion of stability (asymmetry) is relevant in this respect; compare approaches correlating stability (asymmetry) with labeling and instability (symmetry) with unlabeled structures (e.g. Boeckx 2008:79ff, Chomsky 2008:160, note 34, Ott 2011:64ff, Chomsky 2013:11ff). When a syntactic object is labeled, then it is stable (asymmetric) and can be properly interpreted by the interfaces, which means that it can be transferred.

With respect to Transfer, I follow Chomsky 2008:142. Transfer is an operation which, applying to a syntactic object, separates the information relevant for phonetic interpretation from the information relevant for semantic interpretation and sends the two informations to the appropriate interfaces. Ideally, Transfer to both interfaces happens at the same stage of derivation (see also the discussion in section 3.3).

The proposal so far does not allow movement out of labeled syntactic objects. So, how does movement work? Consider first the definition of labeling below:

(8) *Labeling*

i. Labeling happens as soon as possible.

ii. It is not possible if:

a. The concatenated syntactic object contains an uninterpretable movement-feature.

b. The labeling terminates the derivation and the numeration is not exhausted.

According to the definition, labeling happens immediately after concatenation unless ii.a or ii.b holds. (8ii) has the effect that it delays labeling and the derivation avoids a crash, which would be caused by the uninterpretable feature of the to-be-moved syntactic object transferred to the interfaces or by the non-exhausted numeration (cf. Chomsky 2013 (and references therein), who argues that in certain cases labeling must be delayed). Given the strictly derivational system proposed here, I assume that it is the uninterpretable feature of the moving syntactic object that triggers movement (cf. Chomsky 1995a, 1995b:chap. 3, Surányi 2005, Bošković 2007b); for simplicity, I will call it "movement-F". Labeling then happens immediately after movement of the syntactic object with the movement-F out of the concatenated constituent, given (8i). In a similar fashion, labeling happens immediately after Merger of a new syntactic object from the numeration.

I also assume Chain, which plays a similar role as in Chomsky's system. It expresses the assumption that the moving syntactic object must c-command the original syntactic object. It is important to realize that the standard model also needs to assume a version of Chain, for example, to ban cases where a moved syntactic object is not merged with the syntactic object containing its copy (cases of sideward movement without merging back; see Chomsky 1995b:253). Such cases are not excluded by the No-Tampering Condition in the standard model.

(9) *Chain*

The moving syntactic object c-commands its copy.

The final question in this section deals with where exactly COSI applies. Recall that COSI is meant to cover effects of the Extension Condition and the Inclusiveness Condition. Since the Extension Condition concerns the operation Merge, COSI must be at work in narrow syntax. According to Chomsky 2000:117, 2004:107, 2007:6, note 8, the Inclusiveness

Condition holds true of narrow syntax, but not of the phonological and semantic component. The condition also cannot hold of the numeration because in contrast to intrinsic features – which are present on lexical items in the lexicon - non-intrinsic features are assigned to lexical items as they enter the numeration (see e.g. Chomsky 1995b:chap. 4). From this I conclude that the application domain of COSI spans between the numeration and the phonological and semantic component.

3 How It Works

In this section, I demonstrate how the current proposal derives effects of the Inclusiveness Condition and the Extension Condition. We will see that in some respects, it is even stricter than the Inclusiveness Condition and that it supports the copy theory of movement. I will show how the analysis works in particular derivations, employing various syntactic operations. To keep the proposal as simple and general as possible, I will use primarily abstract examples. In the course of the discussion, we will also see that the proposed system has some advantages over the standard model.

3.1 The Condition on Syntactic Integrity and the Inclusiveness Condition

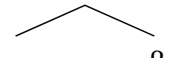
As defined in (1), the Inclusiveness Condition bars introduction of new features. Why is this operation banned by COSI? According to COSI, the constitution of syntactic objects that are labeled cannot change and according to Constitution in (6), the constitution of syntactic objects consists of sets of features. Consequently, each adding a new feature to a syntactic object that is labeled necessarily changes its constitution and violates the proposed condition.

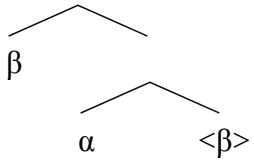
More concretely, suppose that α is externally merged with β. I assume that lexical items (phrases, too) coming from the numeration have a label. In other words, there is a similarity between transferred, that is, labeled, syntactic objects and lexical items, which bear a label from the beginning, that is, already in the numeration. This is in line with the view that non-

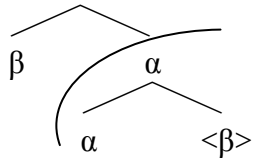
atomic syntactic objects derived by Merge become atomic or lexical item when they are transferred (see e.g., Uriagereka 1999). Thus, if external Merge merges α and β coming directly from the numeration, adding a feature to any of them will violate COSI because they are already labeled and their constitution would change.

What about the resulting syntactic object? The first possibility is that labeling happens immediately after Merger in accordance with (8i). In this case, adding a feature to the resulting syntactic object again violates COSI because the object is already labeled (the syntactic object is transferred upon labeling). Given the definition of COSI, it is necessary to show that the unwelcome operation cannot apply to unlabeled syntactic objects. Thus, consider the second possibility: labeling is delayed, for instance, because it waits for the new syntactic object to be merged, in accordance with (8iib). Since the resulting syntactic object is not labeled, a feature could be added to it. This would create the following syntactic object: {F, α, β}. Although this does not violate COSI (and violates the Inclusiveness Condition), it goes against the assumption that syntactic objects derived by Merge have a binary structure, as stated in (7).

Let us now consider how the effects of the Inclusiveness Condition are derived in the case of internal Merge. Suppose that α and β are externally merged and that β is going to move (10a). As discussed in section 2, moving elements bear an uninterpretable feature of the greedy type. Therefore, given (8iia), labeling must wait. I assume that the movement-F forces syntactic objects to move immediately, as shown in (10b). Further, I follow Bošković 2007b:619 in that there is a two-way correlation between having an uninterpretable feature and functioning as a probe, which means that an uninterpretable feature must function as a probe. Specifically, the uninterpretable feature of β can be checked only if it c-commands its goal. After movement of β, labeling must immediately happen because of (8i), which means that {α, {α, β}} is transferred; see (10c).

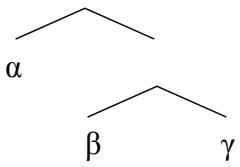
(10) a. 

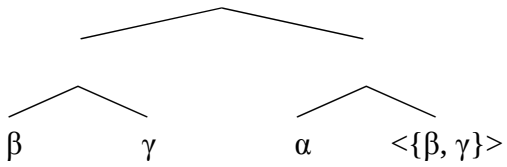
b. 

c. 

This has the consequence that adding a feature to the unlabeled {α, β} is not possible because there is no time for such an operation (movement of β and labeling of {α, β} must happen immediately). And adding a feature to {α, β} after labeling would violate COSI. As to the moving β, it is already labeled, hence adding a new feature to it would also violate COSI. Thus, it is impossible for the copy of β, for instance, to receive an index.

Now suppose a more complex case where β bears a movement-F and pied-pipes γ. Because of the presence of the uninterpretable movement-F (8iia), the syntactic object {β, γ} is not labeled and α is concatenated, as shown in (11a). Adding a new feature to α, β or γ would violate COSI because they are already labeled. A new feature could be added to the unlabeled {β, γ} but this would create the ternary syntactic object {F, α, β} and violate Merge in (7). Then {β, γ} is moved and concatenated, as in (11b).

(11) a. 

b. 

Given (8i) and the standard assumption that uninterpretable features are eliminated on the copy of the moved constituent, the copy of {β, γ} is immediately labeled and transferred. The same holds for the mother of α. Consequently, adding new features to these constituents is not possible any more, again deriving the effect of the Inclusiveness Condition. (11) differs from the preceding example in that there are two subsequent labelings. Because of the definition of labeling in (8i), there is no time for the mother of α to get a new feature.

In what follows, I show that in some respects the current proposal is even stricter than the Inclusiveness Condition. It bars not only adding new features but also replacing or removing features. For instance, in (10) replacing or removing features from β changes the constitution of the labeled syntactic object, hence it violates COSI. For this reason, for example, F-movement is banned. Since F-movement creates the chain $CH_F = (F, t_F)$ leaving a trace in the original syntactic object (Chomsky 1995b:265), the constitution of the labeled syntactic object changes.

If in (10), instead of the copy of β, a trace remains in situ, it will also violate COSI because some features are removed from the labeled original syntactic object and others remain. For instance, NP-traces bear φ-features and at least in some cases also semantic features and the phonological features are missing (for discussion of the semantic content of traces, see e.g. Sauerland 1998). The label also remains present in the trace.

With respect to unlabeled constituents, the same reasoning applies. Consider, for example, the unlabeled {β, γ} in (11). The constitution of this syntactic object consists only of features of β and γ. This means that if a feature is removed or replaced with another feature or a trace, it happens to the labeled syntactic object β or γ. At this point, COSI again applies. This also bans replacing of {β, γ} with a trace. Thus, since lexical items are always labeled, COSI is necessarily violated in such cases. From this discussion, one can conclude that the current proposal supports the copy theory of movement.

As to bar levels, they are standardly considered to be assigned by labeling, hence the definition of Merge in (7) applies. Given that the label of the syntactic object constructed from α and β is either α or β, as stated in (7), bar levels are blocked from appearing on the new syntactic object. Neither α nor β has a bar level.

We saw in section 1 that the No-Tampering Condition cannot cover all effects of the Inclusiveness Condition because it is concerned only with the merging constituents. Regarding this, the current proposal fares better than the No-Tampering Condition because it

has a wider application domain. It derives all effects of the Inclusiveness Condition and in some respects, it is even stricter. Although the No-Tampering Condition also prohibits removing or replacing features, it holds true only for the merging syntactic objects. In contrast, the current proposal can also cover cases which have nothing to do with Merge. Since COSI generally bans changes in the constitution of labeled syntactic objects, later modifications - like removing, replacing and adding features – are excluded. Thus, COSI correctly bans, for example, the generalized EPP features added later to phase heads (Chomsky 2000:109, 2001:34).

To conclude, we have seen that the current proposal is stronger in its effects than the No-Tampering Condition. The Inclusiveness-Condition effects are derived either directly by COSI (5) or by Merge (7) or by Labeling (8). Since COSI also holds for lexical items, which are labeled but not transferred, COSI cannot be generally derived from the phase status of transferred syntactic objects.

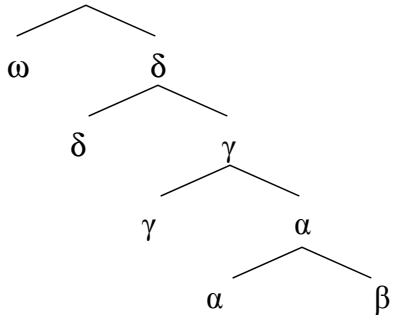
3.2 The Condition on Syntactic Integrity and the Extension Condition

3.2.1 Merge

I begin with the cyclic external Merge. Suppose the following numeration: {α, β, γ, δ, ω} and the derivation in (12b), where ω externally merges with δ. This derivational step is in accordance with the Extension Condition (and the No-Tampering Condition). This also conforms to COSI because the constitution of the labeled syntactic objects in (12b) did not change. The derivation in (12b) can represent, for instance, (12a), where *country* corresponds to β, *our* to α, *of* to γ, *king* to δ, and *the* to ω.

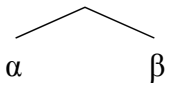
(12) a. The king of our country

b.



How the whole derivation works is shown in (13). In the first step, α concatenates with β, as in (13a). Since there are elements present in the numeration, then given (8iib) labeling must wait. This ensures that the numeration will be exhausted and that the derivation can continue. Thus, γ is concatenated, as illustrated in (13b). Now, given (8i), labeling happens, α projects and α_{max} is transferred; consider (13c).

(13) a.



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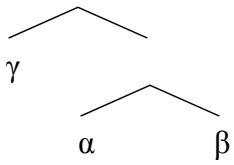

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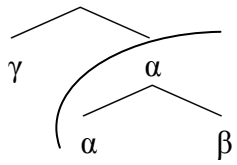
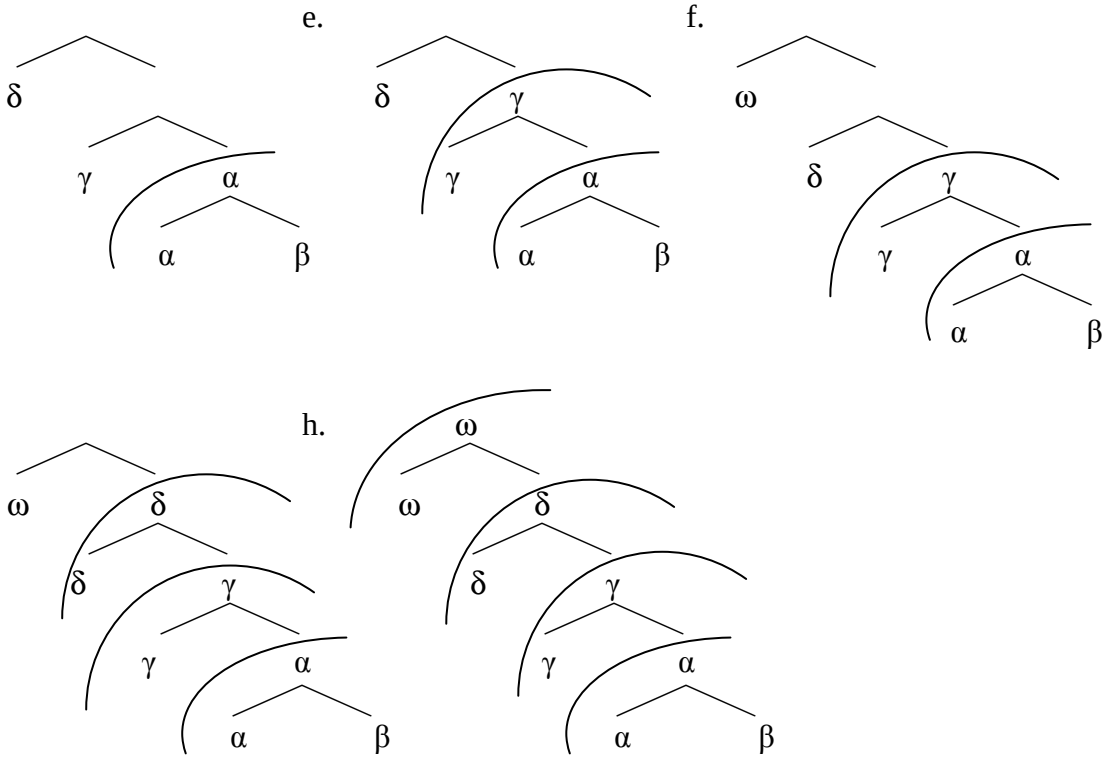


This analysis has the advantage that the Phase Impenetrability Condition (PIC) – keeping the edge accessible for the next Merge - is not necessary. Because of the delayed labeling, there is always a syntactic object accessible for the new constituent coming from the numeration (recall that Chomsky 2013 adds the delayed labeling to his earlier phase model with PIC). There is also no dichotomy between the phase and the transferred part of the phase (i.e. the phase complement in Chomsky's approach) because in the present approach the whole phase - the product of Merge - is transferred.

In the next step, δ is concatenated (13d). This cannot be done below γ since α_{max} is not accessible, which derives the Extension Condition effect. Then labeling happens because of

(8i) and γ_{max} is transferred (13e). Given (8iib), the next labeling must wait and ω is concatenated (13f). After this, labeling happens, δ projects and δ_{max} is transferred, as in (13g). Since the numeration is empty, given (8i), labeling happens and ω_{max} is transferred, as shown in (13h).

(13) d. e. f.



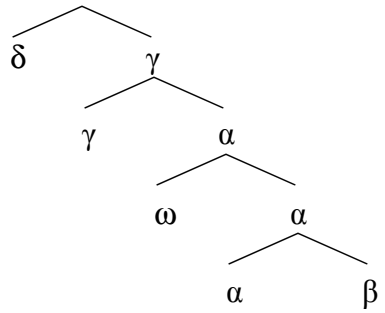
g. h.

As mentioned above, in Chomsky's phase model (2000 *et seq*.), the transferred part of the phase differs from the phase itself, therefore some null phase head must always be merged on top of the structure to ensure that the whole derivation will be sent to interfaces. In contrast, no such null phase head is necessary in the current analysis since given (8i) the operation labeling, hence Transfer, always happens if it is possible.

Now let us turn to the acyclic external Merge. Suppose that in contrast to (13), ω externally merges with α after Merger of δ, as shown in (14). This violates the Extension Condition. This derivational step is also correctly excluded by COSI because the constitution of the labeled syntactic object γ was changed by insertion of ω and α. The derivation proceeds

as in (13) but when ω is going to concatenate, γ - containing α - is already labeled, hence transferred.

(14)



To sum up, the Extension Condition effects are here derived by the immediate labeling (8i), that is, by Transfer of the labeled syntactic objects.

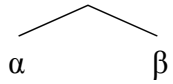
3.2.2 Movement

In this section, I show how the proposal works in the case of movement operations. Consider first cyclic upward movement, as demonstrated in (16). This derivation can partially represent, for instance, *wh*-movement of the subject of an unaccusative verb, as in (15), where *what* corresponds to β, *burn* to α and the unaccusative *v* to γ.[2] In the first step, α concatenates with β (16a). Suppose that β bears the movement-F. As already discussed in section 2 and 3.1, this greedy feature forces β to move immediately and concatenate; see (16b). Given the presence of this feature, labeling must wait (8iia) and after the movement step it immediately applies because of (8i), as shown in (16c). Since there is another element in the numeration, the next labeling operation waits and γ is concatenated, as in (16d). The movement-F again forces β to move; see (16e). Because of this uninterpretable movement-F and (8iia), labeling cannot happen until after the movement step, as shown in (16f).

[2] Assuming that head movement is a PF phenomenon (Chomsky 2000).

(15) What burns?

(16) a.



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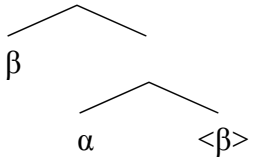

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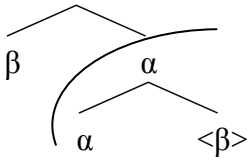

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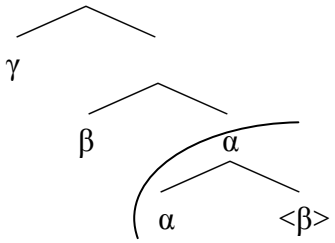

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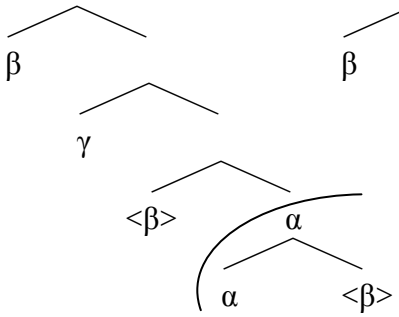

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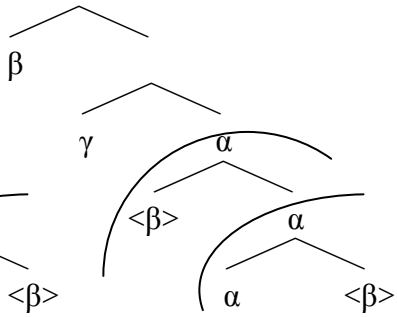
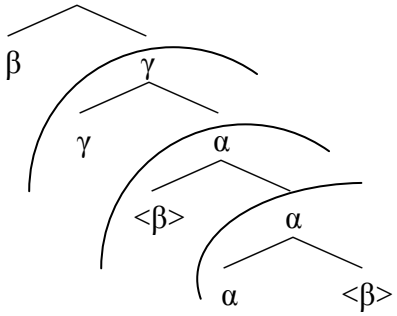


g.



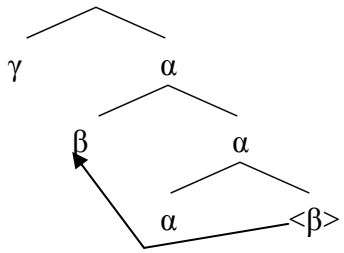
Since β with its feature escaped the c-command domain of γ, the next labeling can happen, in line with (8i), and the syntactic object {γ, {γ, {α, {β, {α, {α, β}}}}}} is transferred; see (16g). In this way, β moves successive-cyclically up the tree until it reaches the position where its feature is checked (in the case of (15), it is Spec,CP). This movement is very local. It targets every constituent produced by Merge, which can be taken to be the null hypothesis since no justification of particular landing sites is necessary (in this respect, it is somewhat stricter than proposals like Takahashi 1994, Bošković 2002, Boeckx 2003, Müller 2004, where successive cyclic movement targets every maximal projection).[3] It is obvious from the discussion that

[3] This means that the current proposal is not compatible with antilocality analyses of movement, as proposed e.g. in Grohmann 2000, Abels 2003, Bošković 2005.

this movement does not violate COSI. It just extends the structure, which means that the constitution of the labeled syntactic objects does not change.

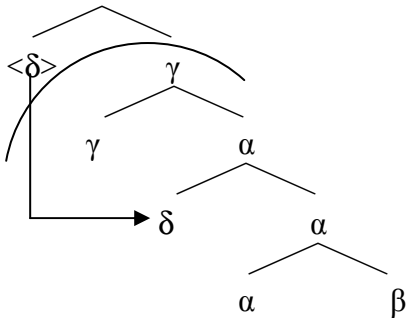
Now let us consider acyclic upward movement, as demonstrated in (17). Suppose that β is going to move after concatenation of γ. This is excluded by the Extension Condition (and also by the No-Tampering Condition). Such a derivation is also excluded in the system proposed here. Specifically, since moving syntactic objects bears the uninterpretable movement-F that forces them to move immediately, β must move prior to concatenation of γ. Even if β had no movement-F, (17) could not be derived because right after concatenation of γ, labeling of {α, β} and Transfer would have to happen according to (8i).

(17)



As to downward movement, consider example (18), where δ is countercyclically merged to {α, {α, β}}. This derivation is correctly excluded by COSI because the constitution of the labeled syntactic object γ was changed by inserting δ and α.

(18)

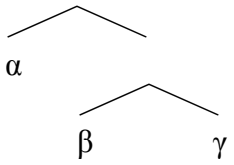


Derivationally, after concatenation of δ, its sister γ_{max} is labeled/transferred because of (8i); hence δ cannot concatenate with a syntactic object within it.

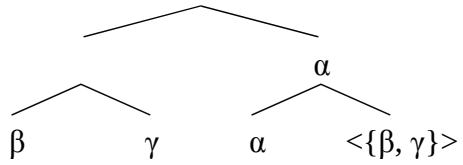
In what follows, I show that unwelcome operations also cannot apply in cases with the delayed labeling, that is, in cases where COSI does not apply. Suppose that β bears the uninterpretable movement-F (20a), and pied-pipes γ across α, as demonstrated in (20b). After that, δ concatenates with the moved syntactic object, as shown in (20c). This might be the beginning of the derivation of (19), with the correspondence between *which* and β, *candle* and γ, *burn* and α, and *v* and δ.

(19) Which candle burns?

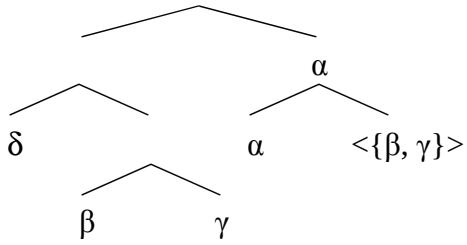
(20) a.



b.



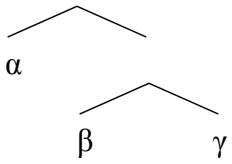
c.



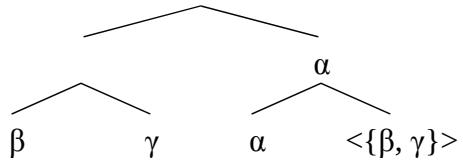
The last step violates the Extension Condition. How is this derivational step excluded in the current system? Here, Chain plays an important role; consider (9). Since the moving syntactic object {β, γ} does not c-command its copy in (20c), the derivation is banned.

Now consider the following derivation with two moving syntactic objects. β again bears the movement-F (21a) and pied-pipes γ across α, as shown in (21b).

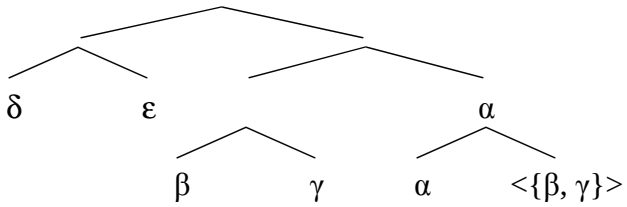
(21) a.



b.

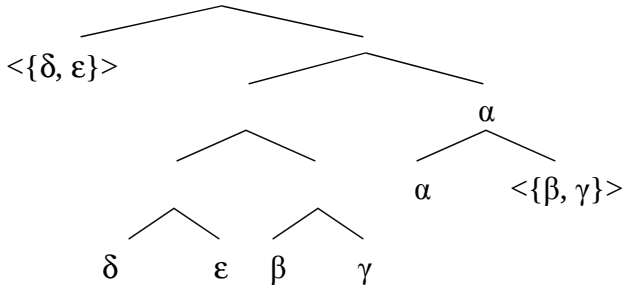


c.



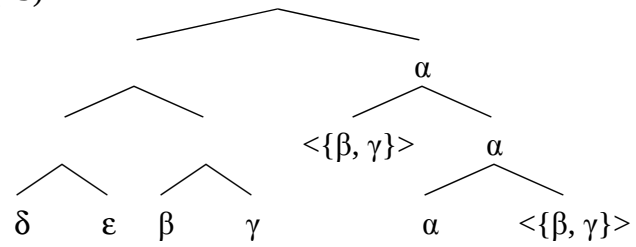
δ also bears the movement-F and the syntactic object {δ, ε} concatenates with the root, as demonstrated in (21c). Assume that in the next step, δ pied-pipes ε, {δ, ε} moves down and concatenates with {β, γ}, as illustrated in (22). This derivation violates Chain: not only {β, γ}, but also {δ, ε} does not c-command its copy.

(22)



Let us now consider another possibility. Suppose that instead of downward movement of {δ, ε}, as in (22), {β, γ} moves up and concatenates with {δ, ε}, as illustrated in (23). Although there is no downward movement, the derivation is again banned by Chain because the moving {β, γ} does not c-command its copy from the landing position.

(23)



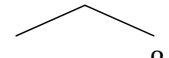
To summarize, in the case of movement, Extension Condition effects are derived either by COSI (and the greedy movement-F) or by Chain.

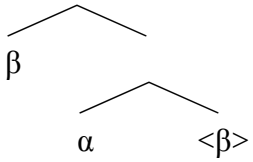
Now I will demonstrate how the proposed system deals with remnant movement. The resulting configuration of remnant movement looks like (24).

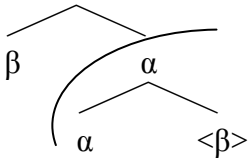
(24) $[[_{\alpha P} \ldots <\beta> \ldots] \ldots [\ldots \beta \ldots [\ldots <\alpha P> \ldots]]]$

Since the derivation proceeds in the bottom-up fashion and movement-Fs force appropriate constituents to move immediately, the embedded syntactic object (that is, β in (24)) always moves first out of the dominating constituent (αP) and then the remnant moves, as shown in (26); which in fact derives the freezing effect. If it is correct that passive participles can be moved by remnant movement in Bulgarian, then (26) may represent the beginning of the derivation of (25). *Izsledvani* corresponds to the moved remnant {γ, {α, {β, {α, {α, β}}}}}, *v* to γ, *sa* to δ and *pet modela* to the extracted β. First, α concatenates with β, as in (26a). Suppose that β bears the movement-F, hence it must immediately move and labeling must wait, as shown in (26b). After concatenation of β, labeling applies because of (8i) and the syntactic object {α, {α, β}} is transferred; see (26c).

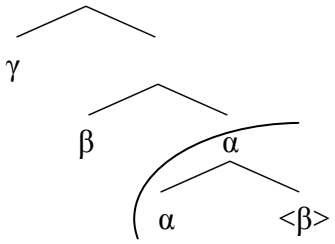
(25) Izsledvani sa pet model-a.
investigated are five model-COUNT.FORM
'Five models were investigated.'

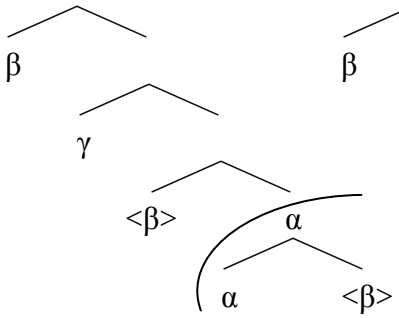
(26) a. 

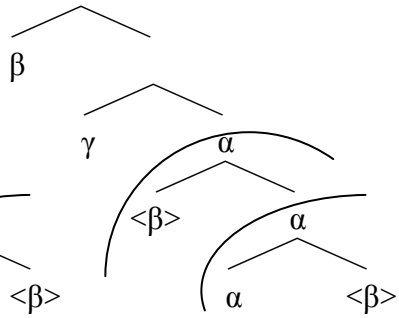
b. 

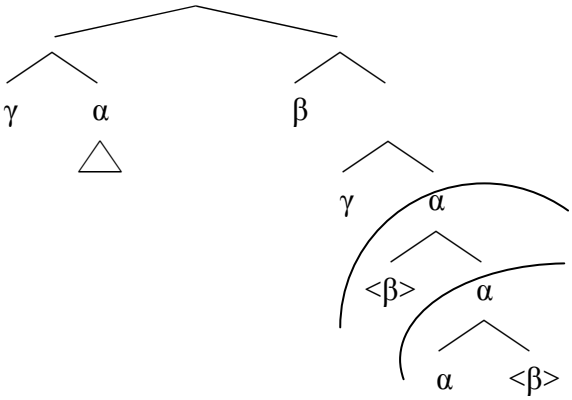
c. 

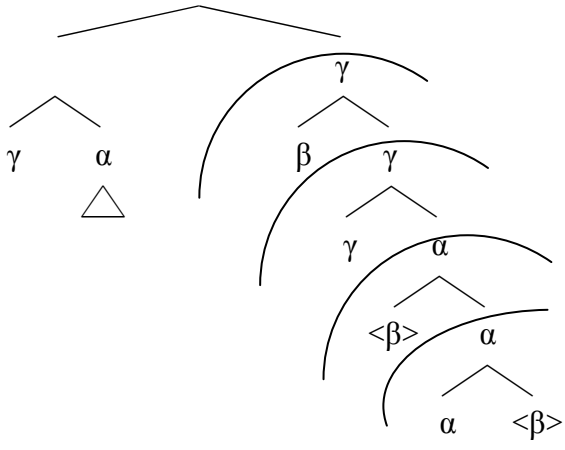
There are other elements in the numeration, therefore labeling waits and γ is concatenated, as demonstrated in (26d). Then, because of the presence of the movement-F on β, labeling must wait and β moves (26e). After this movement, labeling/Transfer happens, as shown in (26f). Now suppose that β reached its final position and that γ bears the movement-F and pied-pipes its sister, that is, the remnant, as in (26g). Although α_{max} is already transferred, this movement is possible because transferred elements generally must be able to undergo movement as a part of a larger active constituent; consider, for instance, the case of topicalized CPs, which contain two phase complements. What is important in cases like this is that there is some non-transferred element – like γ in (26g) – that can pied-pipe the transferred syntactic object(s).

(26) d. 

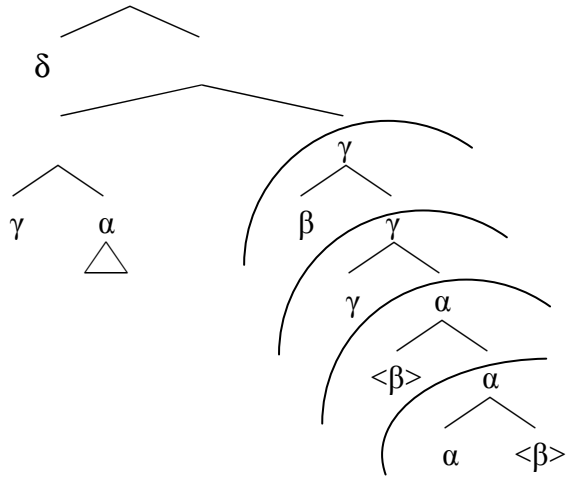
e. 

f. 

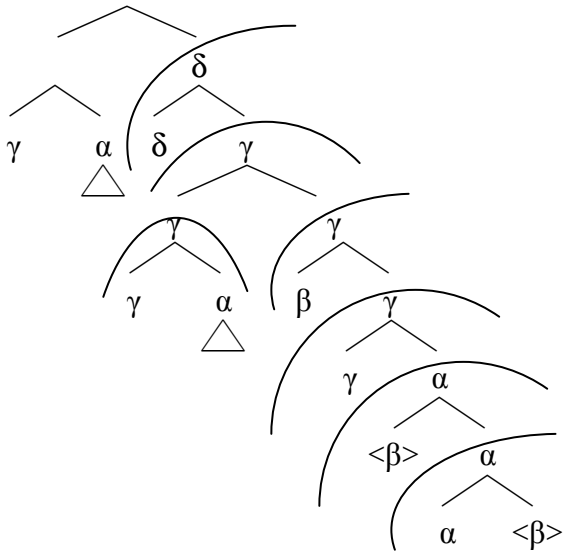
g. 

h. 

i.



j.



In the next step, given Labeling (8i), the copy of the remnant is labeled and transferred and the same holds for the mother of β, as shown for both constituents in (26h). Since γ bears the movement-F, the next labeling must wait and δ is concatenated, as illustrated in (26i). Labeling is still not possible and γ pied-pipes α across δ. After this movement, labeling happens and γ and δ project, as shown in (26j). If the remnant occurs in its landing position in (26j) – which can be true for sentence (25), where the position would be Spec,TP - and there is no other element in the numeration, the remnant and the whole structure will be labeled and the derivation will terminate. If it is not the landing position and there is another element in the numeration, labeling will wait and the remnant will move up again.

As far as the Inclusiveness Condition and Extension Condition effects are concerned, they are derived in the same way as in the examples above. For instance, adding a feature to the moving β is excluded by COSI. Adding a feature to the unlabeled remnant is not possible because it violates either COSI – when the feature is added to the labeled γ or α – or Merge – when the feature is added to the binary set created from γ and the complex α. Note that the new feature also cannot be added to the whole constituent as its label because it would violate Labeling (8iia). The Extension Condition effects are derived by COSI and Labeling. β and the

remnant cannot move in the acyclic or downward fashion because there is just a small derivational window in the computation and the lower syntactic objects are already labeled and transferred in the moment of their movement.

At this point, the question arises why remnant movement is not excluded by Chain. In the definition of Chain in (9), "the moving syntactic object" is meant to refer to the *actively* moving syntactic object, not to the *moved* syntactic object, as for instance, part of a remnant. Specifically, with respect to structure (24), "the moving syntactic object" refers only to the second β (and also to the higher αP).

3.3 Agree

Given the strict derivationality of the present system, Agree must not be affected by the operation labeling and Transfer (for exemption of Agree from the PIC and how to deal with its exceptional behavior, see, e.g., Stjepanović and Takahashi 2001, Legate 2005, Bošković 2007a, 2007b, Müller 2010, Biskup 2012, Richards 2012). As already discussed with respect to the definition of Constitution in (6), there is a difference between the constitution of syntactic objects and syntactic objects themselves. The constitution of syntactic objects consists of features but not of their values. This has the consequence that the operation Agree - which values particular features - does not change the constitution of syntactic objects; hence it does not violate COSI. This means that the current proposal is more permissive than Chomsky's model, which allows Agree to cross maximally one phase boundary in the case of the weak version of PIC (Chomsky 2001). This seems to be an advantage in the light of the long-distance agreement data discussed, for example, in Bošković 2007a (see also references therein).

The proposal works well if the operation Agree has no morphophonological effect or when the effects appear only on the probing constituent. However, it has a problem (as other derivational approaches employing phases) with long-distance agreement effects appearing on

the transferred goal. Consider, for instance, the Icelandic example (27), taken from Sigurðsson 2004:147, where T *höfðu* agrees with the object *hestarnir*, which stays *in situ* and bears the nominative case.

(27) Henni höfðu ekki líkað hestarnir
her.DAT had.3PL not liked horses.the.NOM
'She had not liked the horses.'

There are at least three possibilities how to cope with this issue. The first possibility is to assume that certain features do not have to be valued (and deleted) when they are transferred. It is conceivable that the computational system can differentiate between copied syntactic objects and non-copied syntactic objects, that is, between moving syntactic objects and syntactic objects staying in situ. Standardly, uninterpretable features on the copy of the moving syntactic object are eliminated when the copy is transferred. Let us assume that - in contrast to the copied syntactic objects - unvalued features on non-copied syntactic objects are not deleted when they are transferred and that they can wait for a remote probe. Then, given the argument above that the operation Agree can be non-local and does not violate COSI, for instance, the case feature of the goal could be valued by a remote probe later in the derivation (by T in the case of (27)). If no probe appears that can value the case feature of the goal element, the derivation will crash. This means that the derivational crash would be postponed to the end of the whole derivation. This analysis would probably need Re-Transfer of already transferred phases. It seems that some mechanism along these lines is independently necessary, for instance, to provide prosodic properties like intonation for the whole sentence.

The second possibility is to restrict the operation Transfer and assume that the problematic piece of information does not have to be transferred immediately. In the case under discussion, it would be the case information. There are then two options. Either the

whole morphophonological information – the word *hestarnir* in (27) - waits or only the unvalued (case) features are not transferred. The third possibility is to place agreement phenomena outside narrow syntax and assume that agreement is a morphological, that is, post-syntactic, process (see Bobaljik 2008). In this case, the discussion above dealing with the capability of Agree to circumvent COSI would have no relevance. Given the current state of research on these issues, it is very difficult to decide which possibility is the best one; therefore I leave it open for future research.

4 Conclusion

The article has achieved two goals. First, it has proposed an alternative to the No-Tampering Condition and second, it has explored consequences of the proposed condition for the minimalist system. We have seen that the No-Tampering Condition does not capture all effects of the Inclusiveness Condition. Therefore, it cannot serve as a replacement for both the Extension Condition and the Inclusiveness Condition. The current proposal fares better in this respect. COSI, together with other properties of the proposed system – like Labeling, Merge and Chain –, can derive effects of both conditions. I have shown that the proposed system is even stricter in certain ways. In addition to banning new features, it also bans replacing or removing features, which supports the copy theory of movement.

I have argued for a specific model of cyclic Transfer where the operation Merge is composed of concatenation and labeling and where labeling triggers Transfer. The inaccessibility of syntactic objects is based on labeling/Transfer, which happens after all moveable constituents left the appropriate syntactic object. Since COSI also applies to terminals (which are labeled but not transferred), it cannot be generally derived from the phase status of transferred syntactic objects. We have also seen that the current proposal has some advantages over the standard minimalist approach. For instance, it has cyclic Transfer like the standard model but in contrast to it, it does not need PIC and null phase heads.

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