

Exceptional Movement from/into the Criterial Position*

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Abstract

In this paper, I discuss exceptional movement from/into the Criterial Position within the framework of Labeling Algorithm (Chomsky 2013, 2015). In Scandinavian Object Shift, the object pronoun can exceptionally move out of [Spec,RP], the Criterial Position for objects in the unmarked case in which they complete the valuation of their unvalued Case feature. In Icelandic Stylistic Fronting, the categories that do not have any feature(s) in which they should agree with T can exceptionally move to [Spec,TP], a typical Criterial Position claimed in the literature (Rizzi 2015). Hosono (2013) argues that the object pronoun in the Scandinavian languages moves to cause downstep. Holmberg (2000) argues that Icelandic Stylistic Fronting occurs due to the requirement that something phonologically visible must occupy [Spec,TP]. On the basis of their claims, I propose that exceptional movement from/into the Criterial Position can occur only when it is required from phonology. It is argued that though a raised category must have some unvalued feature(s) in which it should agree with a head in a raised position in the system of Labeling Algorithm, a category can move without any unvalued feature(s) in this exceptional syntactic movement.

1. Introduction

It has been argued that a sentential element cannot move up further from some structural positions, the problem called the Halting Problem (Rizzi 2006, 2010, 2015; Chomsky 2013, 2015). In (1a), the *wh*-object *which dog* moves from its original position to [Spec,(embedded)CP] and must stop there. It cannot move up to [Spec,(matrix)CP]; see (1b). Such positions as [Spec,(embedded)CP] in which a sentential element is frozen (and cannot move up further) are called the *Criterial Position* (CriP).¹

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¹ See Rizzi (2006, 2010, 2015) for an account of the CriP in terms of Criterial Freezing.

- (1) a. You wonder [_{CP} [which dog] C John likes [~~which dog~~]].
 b. * [_{CP} [which dog] do you wonder [_{CP} [~~which dog~~] C John likes [~~which dog~~]]]?

In this paper, I discuss exceptional movement from/into the CriP within the framework of *Labeling Algorithm* (LA, Chomsky 2013, 2015), taking Scandinavian *Object Shift* (OS, Holmberg 1986, 1999) and Icelandic *Stylistic Fronting* (SF, Holmberg 2000) as example.² In Scandinavian OS, the object pronoun can exceptionally move out of [_{Spec,RP}], the CriP for objects in the unmarked case in which they complete the valuation of their unvalued Case. In Icelandic SF, the categories that do not have any feature(s) in which they should agree with T can exceptionally move to [_{Spec,TP}], a typical CriP claimed in the literature (Rizzi 2015). According to Hosono (2013), the object pronoun in the Scandinavian languages moves to cause downstep. According to Holmberg (2000), Icelandic SF occurs due to the requirement that something phonologically visible must occupy [_{Spec,TP}]. On the basis of their claims, I propose that exceptional movement from/into the CriP can occur only when it is required from phonology. It is argued that though a raised category must have some unvalued feature(s) in which it should agree with a head in a raised position in the LA derivational system, a category can move without any unvalued feature(s) in this exceptional syntactic movement.

The paper is organized as follows. In section 2, I briefly introduce the basic idea of the LA framework and describe how to derive (1a-b) within this framework. Section 3 and section 4 introduce the basic properties of Scandinavian OS and Icelandic SF in that order. In each section, the way of deriving relevant constructions on the basis of the LA system is presented, and exceptional properties of these movement phenomena are discussed. Section 5 proposes that exceptional movement from/into the CriP can occur only when it

² In this paper, the term *Object Shift* refers to weak pronoun shift only.

is required from phonology. Section 6 briefly concludes this paper, suggesting some problems on labeling.

2. Labeling Algorithm and the Derivation of the Halting Problem

According to Chomsky (2013, 2015), a syntactic object does not inherently have a phrasal label, but the label is determined in the course of derivation by LA, a minimal search of computation. In the structure where a phase head, either v^* or C, merges to a maximal projection, XP, LA takes the label of that phase head. When a non-phase head, either a verbal root R or T, which is weak by assumption, merges to XP, a category inside XP needs to move to the Spec of that non-phase head to strengthen it. The raised category and the non-phase head agree in some feature(s), and LA takes the shared feature(s) as the label of the projection.

In the structure in which two maximal projections, XP and YP, merge, one way to label the projection is that one of them moves out. LA searches the head of the remaining maximal projection, either X or Y, and takes it as the label of the projection. The other way is to take the feature shared by XP and YP as the label, i.e. by Agree between XP and YP. LA takes the shared feature, e.g. φ -features, and labels the projection $\langle\varphi,\varphi\rangle$. When the latter strategy is taken, neither XP nor YP can move up further: if one of them moved out, it would be invisible in their agreeing position, e.g. as in (XP ...) [~~XP~~, YP], and labeling of the construction [~~XP~~, YP], could not be done. This accounts for why a category in the CriP cannot move up further, which is described below.

The Halting Problem, (1a-b), is derived as illustrated in (2a-b). *Which dog* moves to the Spec of the embedded C that has Q. Agree occurs between the unvalued [wh] of *which dog* and the valued [Q] of C_Q , and the projection of C_Q is labeled QP (2a). If *which dog* moved out of [Spec,QP] as in (2b), it would be invisible in [Spec,QP], and the embedded clause could not be labeled. Thus,

which dog must stop in [Spec,QP], the CriP for that *wh*-phrase, and cannot move up further.³

(2) a. You wonder [_{QP} [_Q *which dog*] C_Q John likes [~~_Q *which dog*]]].~~

b. * [_Q *which dog*] do you wonder [_{QP} [~~_Q *which dog*]] C_Q John likes [~~_Q *which dog*]]?~~~~

Note that *which dog* completes the valuation of its unvalued [wh] in [Spec,QP] and does not have any more unvalued feature(s),⁴ which prevents it from moving up to the matrix Spec. That is, the CriP is the position where a raised category completes the valuation of all of its unvalued features. Without any more unvalued feature(s), *which dog* cannot move up to the matrix Spec, since it cannot agree with the matrix C head. Thus, in the LA system, a raised category must have some unvalued feature(s) in which it agrees with a head in a raised position. After it completes the valuation of all of its unvalued feature(s), it cannot move up further. It must stop in that raised position, i.e. in the CriP for that category.

Within the phase framework until Chomsky (2008), it was assumed that syntactic movement is allowed to occur only when a new semantic effect is produced. Movement that does not cause any semantic change was assumed to occur in phonology. But a corollary of the LA derivational system is that any category can move in narrow syntax regardless of whether a semantic change occurs or not. Movement of any category would seem to be free. However, a raised category must have some unvalued feature(s) in which it agrees with a head in a raised position and which can be valued in that raised position only by that head.⁵ Thus, movement is actually not free in the LA system.

³ Hereafter, projections are notated with the label of (phase or non-phase) heads in such a way as TP, v*P, etc.

⁴ The unvalued Case of the (*wh*-)object has already been valued in a lower Spec, which I turn to soon below.

⁵ Johan Brandtler (p.c.) raises the concern that a circularity might arise in the statement here:

3. Exceptional Movement from the Criterial Position – Scandinavian Object Shift

In the Scandinavian languages, weak pronominal objects can move across a sentence adverb like a negation (3a), contrary to full NP objects that do not move in the unmarked case (3b).

- (3) a. Jag målade den inte. [Swe.]
I painted it not
'I didn't paint it.'
- b. Jag kysste inte Marit.
I kissed not Marit
'I didn't kiss Marit.'

OS in the Scandinavian languages is dependent on verb movement (*Holmberg's Generalization*, Holmberg 1986). Specifically, in simple tense forms (4a), the main verb moves to the second position; the object pronoun can move too. OS is obligatory in some of the Scandinavian varieties, but optional in others. On the other hand, in complex tense forms (4b), the main verb does not move due to the presence of the Aux(iliary verb). In embedded clauses (4c), main verb movement does not occur. The object pronoun cannot move across the negation in either of the cases.

- (4) a. Jag målade <^{OK}den> inte målade <^{OK}den>. [Swe.]
I painted it not it
'I didn't paint it'

movement does not apply freely, since a raised item must have some unvalued feature to be valued in a raised position; but it is only when it moves that we can see that it has an unvalued feature. What is meant here is that a raised item must have some unvalued feature(s), as long as it moves. Not only a raised item but also an item that does not move can have unvalued features. T, for instance, has unvalued φ -features inherited from C which are valued by an item raised to [Spec,TP] as we see in detail soon below, but T itself does not move (or will move in phonology, according to Chomsky 2013, 2015). However, an item that moves must have some unvalued feature(s) in which it agrees with a head in a raised position in the LA system.

- b. Jag har <*den> inte målat <^{OK}den>.
 I have it not painted it
 ‘I haven’t painted it.’
- c. Jag sa att jag <*honom>inte målade <^{OK}honom>.
 I said that I him not portrayed him
 ‘I said that I didn’t portray him.’

No movement phenomenon other than OS in which movement of a sentential element is dependent on that of another sentential element has been found. Due to this property, OS has long been controversial in generative syntax (Diesing 1992, 1997; Holmberg and Platzack 1995; Holmberg 1999; Chomsky 2001; Sells 2001; Vikner 2001; Josefsson 2003, 2010; Fox and Pesetsky 2005; Erteschik-Shir 2005; Broekhuis 2008; Mikkelsen 2011; among others).

The derivation of (3a-b) based on the LA system is illustrated in (5a-b). Let us consider the derivational process until when v*P is transferred.

- (5) a. ... C [_{α(=TP)} jag [T [_β inte [_{γ(=v*P)} jag [målade(=R)+v*
 [_{δ(=RP)} den [~~målade(=R)~~ [_ε den]]]]]]]]] (=3a)
- b. ... C [_{α(=TP)} jag [T [_β inte [_{γ(=v*P)} jag [kysste(=R)+v*
 [_{δ(=RP)} Marit [~~kysste(=R)~~ [_ε Marit]]]]]]]]] (=3b)

The verbal root R, *målade* (5a)/*kysste* (5b), merges to the internal argument, *den* (5a)/*Marit* (5b). Since *målade/kysste(=R)* is a non-phase head and weak, *den/Marit* moves to [Spec,R] to strengthen it. The phase head v* merges to δ. Phasehood is inherited from v* to R, that is, functional features such as φ-features that are located in v* are inherited to *målade/kysste(=R)*. *Målade/kysste(=R)* and *den/Marit* in its Spec Obj(ect)-agree and the latter is assigned an Acc(usative Case). δ is labeled RP. *Målade/kysste(=R)* moves to v*

to become a verbal category.⁶ Phasehood is activated in the original position of R. ε , the complement of R (which is now vacuous), is transferred.

The external argument of v^* , *jag*, merges to the syntactic object that has already been built. The negation *inte* and T also merge.⁷ Since T is a non-phase head and weak, DP in its complement, i.e. *jag* in [Spec, γ], moves to [Spec, α] to strengthen it. After *jag* moves out, LA finds the phase head v^* and γ is labeled v^*P . The phase head C merges to α . Phasehood is inherited from C to T, that is, functional features in C including φ -features are inherited to T. T and *jag* in its Spec Subj(ect)-agree and the latter is assigned a Nom(inative Case). α is labeled TP. Phasehood is activated in T. $\gamma(=v^*P)$, the complement of T, including $\delta(=RP)$, is then transferred.

Consider the properties of the position where the object is located, i.e. [Spec,RP]. The object, *den* (5a)/*Marit* (5b), moves to that position and Obj-agrees with *målade* (5a)/*kysste* (5b). The unvalued Case of the object is valued and assigned an Acc by the φ -features in *målade/kysste(=R)*. The object stops there. That is, [Spec,RP], in which the object completes the valuation of all of its unvalued feature(s), is the CriP for the object. Except when the object still has other unvalued feature(s) that cannot be valued there and need to be valued in a higher position, as in the case of *wh*-objects that have an unvalued [wh], the object stops and is frozen in [Spec,RP] in the unmarked case.

Therefore, the object, whether it is an object pronoun such as *den* (5a) or a full NP object such as *Marit* (5b), could not move up further: with all the unvalued features including Case valued in [Spec,RP], the object could not move out of [Spec,RP]. However, object pronouns in the Scandinavian

⁶ It is assumed that after *målade/kysste(=R)* moves to v^* to become a verbal category, v^* is deleted, since v^* is an affix and invisible to LA. A question arises whether LA can find v^* , which has already been deleted, as the label. I leave aside the issue on the deletion of v^* here.

⁷ Later, I turn to some problems on labeling, e.g. how to label β , in which the negation *inte* merges to γ .

languages can exceptionally move out, though it does not have any more unvalued feature(s).⁸

4. Exceptional Movement into the Criterial Position – Icelandic Stylistic Fronting

In Icelandic, a sentential element can optionally move to the subject position when it is empty (Holmberg 2000).⁹ In (6a), the embedded subject position is empty. The sentence adverb *sennilega* can optionally move to that position (6b). In (7a), the subject position is occupied by the expletive *það*. When the expletive is deleted, one of the clausal elements, the past participle *tekin*, moves to the subject position (7b). As claimed in the literature, the subject position, [Spec,TP], is a typical CriP; see Rizzi (2006, 2010, 2015).

- (6) a. Hver sagðir þú [að __ hefði sennilega skrifað þessa bók]? [Ice.]
 who said you that has probably written this book
 ‘Who did you say has probably written this book?’
- b. Hver sagðir þú [að sennilega hefði __ skrifað þessa bók]?
- (7) a. Það hefur verið tekin erfið ákvörðun. [Ice.]
 there has been taken difficult decision
 ‘A difficult decision has been taken.’
- b. Tekin hefur verið __ erfið ákvörðun.

The embedded clause of (6b) would be derived within the LA framework as illustrated in (8). We consider the derivational process until v*P is transferred.

- (8) ... að [_{α(=TP)} sennilega [hefði+T [_β sennilega [_{γ(=v*P)} ~~það~~ [skrifað(=R)+v*
 [_{δ(=RP)} þessa bók [skrifað(=R) [_ε þessa bók]]]]]]]]]]

⁸ In Icelandic, full NPs can optionally move, which I leave aside here.

⁹ The data of Icelandic SF is taken from Holmberg (2000). Holmberg refers to Jónsson (1991) for some of his data.

The verbal root R, *skrifað*, merges to the internal argument, *þessa bók*.¹⁰ Since *skrifað*(=R) is a non-phase head and weak, *þessa bók* moves to [Spec,R] to strengthen it. The phase head v^* merges to δ . Phasehood is inherited from v^* to R, that is, functional features in v^* including φ -features are inherited to *skrifað*(=R). *skrifað*(=R) and *þessa bók* in its Spec Obj-agree and the latter is assigned an Acc. δ is labeled RP. *skrifað*(=R) moves to v^* to become a verbal category.¹¹ Phasehood is activated in the original position of R. ε , the complement of R (which is now vacuous), is transferred.

The external argument of (*skrifað*(=R)+) v^* merges to the syntactic object that has already been built. Since it is phonetically empty as notated as \emptyset , LA cannot find it as the label of γ . With the phase head v^* taken, γ is labeled v^*P . The sentence adverb *sennilega* merges to γ (= v^*P).¹² T, to which the Aux *hefði* adjoins, merges to β .¹³ Since T is a non-phase head and weak, the adverb *sennilega* moves to [Spec,T] to strengthen it.¹⁴ The phase head C, i.e. *að*, merges to α . Phasehood is inherited from C to T, that is, functional features in C including φ -features are inherited to T. T and *sennilega* in its Spec agree, and α is labeled TP. Phasehood is activated in T. γ (= v^*P), the complement of T, including δ (=RP), is then transferred.

It is unclear whether the adverb has any unvalued features in which it agrees with T in [Spec,TP]. As has been stated so far, in the LA derivational system, a raised category must have some unvalued feature(s) that cannot be valued in the original position but can be valued only in a raised position.

¹⁰ I leave aside the internal structure of the object noun phrase *þessa bók* ‘this book’.

¹¹ See footnote 6.

¹² See footnote 7.

¹³ It is plausible that the Aux *hefði* merges as a verbal head in a lower position and moves to T. For simplicity sake, I say here that the Aux adjoins to T.

¹⁴ Later, I turn to the problem of how to label β after the sentence adverb *sennilega* moves out.

Contrary to nominals that have an unvalued Case, the adverb does not seem to have any unvalued feature(s): being able to adjoin to syntactic objects freely and stand alone, the adverb does not have any dependency relation with any category at all. Thus, the adverb that does not have any unvalued feature(s) in which it should agree with T in [Spec,TP] could not move at all.¹⁵ But the adverb can exceptionally move to [Spec,TP] in Icelandic SF.

5. Proposal

Regarding Scandinavian OS, Hosono (2013) argues that downstep (cf. Gussenhoven 2004) occurs in simple tense forms in which the object pronoun moves, whereas downstep does not occur in sentential forms in which the object pronoun does not move. This observation is hypothesized in the way that the object pronoun moves to cause downstep. Holmberg's Generalization is accounted for as follows. In (4a-c), the main verb carries the focus in the unmarked case. In simple tense forms (4a), the object pronoun moves to cause downstep and eliminate a focal effect on the negation located after the main verb. In complex tense forms (4b) and embedded clauses (4c), the final pitch peak occurs on the in-situ main verb located after the negation. Since the pitch continues to rise up to the main verb, the object pronoun must not move and cause downstep before the main verb (Hosono 2013:148-151).¹⁶

Hosono's claim indicates that movement of the object pronoun occurs when it is required from the phonological/phonetic component. As stated in section 3, the object in general cannot move out of [Spec,RP], the CriP for the

¹⁵ The same argument applies to the question why it is always the external argument, not v*P, that moves out; see Chomsky (2013, 2015). The external argument has an unvalued Case, which is assigned a Nom by T, whereas v*P does not have any unvalued feature(s).

¹⁶ Hosono's account is owed to Bruce's (1977) intonation theory of Swedish. Later, I turn to the simple tense form in which the object pronoun does not move (see (4a)).

object in the unmarked case, since it completes the valuation of all of its unvalued features there. But only the object pronoun in the Scandinavian languages can exceptionally move out of that position without any more unvalued feature(s). The object pronoun moves only when it needs to cause downstep.

Regarding Icelandic SF, Holmberg (2000) convincingly argues that it occurs due to the requirement that something phonologically visible must occupy [Spec,TP]. The categories that can be raised in Icelandic SF are sentence adverbs including a negation, adjectives, past participles, verb particles, and locative PPs, neither of which seems to have any unvalued feature(s) in which they should agree with T in [Spec,TP]. According to Holmberg, Icelandic SF does not produce any new semantic effects such as focus and topic, but it occurs only to fill [Spec,TP] visibly. He claims that the finite T has a feature that requires a phonologically visible sentential element to occupy [Spec,TP], which he calls the EPP.

Holmberg's claim indicates that Icelandic SF occurs due to a phonological requirement. As has been stated so far, in the LA derivational system, a raised category must have some unvalued feature(s) in which they agree with a head in a raised position. The categories that do not have any unvalued feature(s) could not move. But in Icelandic SF, the categories that do not have any unvalued feature(s) move to fill [Spec,TP] in a phonetically visible manner.

Based on Hosono's (2013) claim on Scandinavian OS and Holmberg's (2000) claim on Icelandic SF, I propose the following formulation:

- (9) Exceptional movement from/into the Criterial Position can occur only when it is required from phonology. (First approximation)

It is predicted that when there is no requirement from phonology, movement

from the CriP does not need to occur. This is confirmed by Hosono's (2013) statistical data on downstep in the constructions relevant to Scandinavian OS. As stated in section 3, OS is obligatory in some of the Scandinavian varieties, but optional in others; see (4a). According to Hosono, OS is optional in Swedish as well as in far more Scandinavian varieties than considered so far, contrary to the claim in the literature (e.g. Chomsky 2001).¹⁷ Hosono shows that the ratio of downstep in the simple tense form in which the object pronoun moves, i.e. *jag målade den inte* (I painted it not), is significantly higher than the ratio of downstep in the simple tense form in which the object pronoun does not move, i.e. *jag målade inte den* (I painted not it). This data indicates that when downstep needs to occur due to the requirement from phonology, the object pronoun moves out of the CriP and causes downstep. When downstep does not need to occur, the object pronoun does not need to move out.

For confirmation, this exceptional movement required from phonology occurs in narrow syntax, not in the phonological component. Scandinavian OS must occur in narrow syntax, not in phonology as claimed by Chomsky (2001). The object pronoun moves across the negation *inte*, which is located in [Spec, β] in (5a). After $\gamma(=v^*P)$ including $\delta(=RP)$ is transferred, the element(s) inside $\gamma(=v^*P)$ cannot move up further. Hence, the object pronoun must move across the negation before $\gamma(=v^*P)$ is transferred.¹⁸ Regarding movement into the subject position, such movement as Icelandic SF has traditionally been the operation of substitution in which a syntactic position hosts a sentential element raised into it. No reason can be found to justify the assumption that such an operation occurs in phonology.

¹⁷ Josefsson (2003) has already claimed, with her experimental data, that OS is optional in Swedish.

¹⁸ Due to the same reasoning here, verb movement too must occur in narrow syntax, contra Chomsky (2001). the complex verbal head *målade(=R)+v^** could not move to T after $\gamma(=v^*P)$ is transferred; it must move before $\gamma(=v^*P)$ is transferred.

Precisely how is exceptional movement required from phonology syntactically formulated? As has been stated so far, in the LA system, a raised category must have some unvalued feature(s) in which it should agree with a head in a raised position. In Scandinavian OS, after the object pronoun has its unvalued Case valued in [Spec,RP], it exceptionally moves out without any more unvalued feature(s). In Icelandic SF, categories such as adverbs can exceptionally move to [Spec,TP], though they do not have any unvalued feature(s) in which they should agree with T in [Spec,TP]. Thus, exceptional movement required from phonology is the syntactic movement in which a category moves without any unvalued feature(s) (in which it should agree with a head in a raised position). I propose the following final formulation on exceptional movement from/into the CriP:

- (10) Exceptional movement from/into the Criterial Position in which a raised category does not have any unvalued feature(s) (in which it should agree with a head in a raised position) occurs in syntax only when it is required from phonology. (Final)

A question arises how to label α in (8) if Agree does not occur between T and the category raised to [Spec,TP], the latter of which does not have any unvalued feature(s) in which it should agree with T. Note that Icelandic has quite a rich inflectional system, e.g. like Italian. According to Chomsky (2013, 2015), such languages as Italian have a strong T which can label itself without help of a category raised to its Spec. It is not implausible that Icelandic too has a strong T which can label itself TP, regardless of whether a sentential element moves to [Spec,TP]. Thus, a sentential element that does not have any feature(s) in which it should agree with T can move to [Spec,TP] in Icelandic SF.

6. Conclusion

In this paper, I have discussed exceptional movement from/into the CriP within the LA framework (Chomsky 2013, 2015). In Scandinavian OS, the object pronoun can exceptionally move out of [Spec,RP], the CriP for objects in the unmarked case in which they complete the valuation of their unvalued Case feature. In Icelandic SF, the categories that do not have any feature(s) in which they should agree with T can exceptionally move to [Spec,TP], a typical CriP claimed in the literature. According to Hosono (2013), the object pronoun in the Scandinavian languages moves to cause downstep. According to Holmberg (2000), Icelandic SF occurs due to the requirement that something phonologically visible must occupy [Spec,TP]. On the basis of their claims, I have proposed that exceptional movement from/into the CriP can occur only when it is required from phonology. It has been argued that though a raised category must have some unvalued feature(s) in which it should agree with a head in a raised position in the LA system, a category can move without any unvalued feature(s) in this exceptional syntactic movement.

I turn to some problems on labeling. First, it was argued in section 5 that the object pronoun must move across the negation before $\gamma(=v^*P)$ is transferred. It is most likely that in (5a), the object pronoun *den* moves and lands somewhere above the negation *inte* and below T. It is not clear how to label the projection in which the object pronoun is adjoined. The object pronoun does not agree in any feature with any head in the raised position; in fact, no head with which the object pronoun might agree is present. The same problem generally occurs in the projection in which the adverb merges. In (5a), it is not clear how to label β , the projection in which the negation *inte* merges to γ . The adverb in general does not agree in any feature with any head in the merged position; and

no head with which the adverb might agree is present.¹⁹

Secondly, it is unclear how to label β in (8) after the sentence adverb *sennilega* moves out. A possible way would be to take the phase head v^* and label it v^*P . But LA would have to look inside $\gamma(=v^*P)$, crossing the external argument, *þrø*. The pronominal subject is phonetically empty in this case, but it is not clear whether LA can search a candidate label across a category that is normally a maximal projection. I leave these problems on labeling for future research.

Finally, the argument in this paper suggests that there is no movement in the phonological component. As stated at the end of section 2, within the phase framework until Chomsky (2008), it was assumed that movement is allowed to occur in syntax only when a new semantic effect is produced. The movement that does not affect any semantic change was assumed to occur in phonology by assumption. In the new LA system, any category can move in syntax regardless of whether a semantic change occurs or not, though a raised category must have some unvalued feature(s) in which it agrees with a head in a raised position. We have argued that the kind of movement that does not affect any semantic change such as Scandinavian OS and Icelandic SF is formulated as exceptional syntactic movement required from phonology in which a category moves without any unvalued feature(s) (in which it should agree with a head in a raised position). Thus, there is no movement in phonology: any kind of movement should occur in syntax.²⁰

¹⁹ See Hornstein (2009) for an argument that adjuncts are blind to labeling. Chomsky (2013, 2015) claims that labels are necessary for the interpretation at the interfaces.

²⁰ See also Hosono (2013:ch.5) for a convincing argument that movement in phonology cannot be carried out in a principled way.

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