

Exceptional Movement from/into the Criterial Position*

Mayumi Hosono, Keio University

(mayumi.hosono@keio.jp)

Abstract

In this paper, I discuss exceptional movement from/into the Criterial Position within the framework of Labeling Algorithm (Chomsky 2013, 2015). I argue, contra Chomsky (ibid.), that a category raised into the Criterial Position should not be able to move up further in the derivational system of Labeling Algorithm. In Scandinavian Object Shift (Holmberg 1986), the object pronoun can exceptionally move out of the Spec of R, which is the Criterial Position for objects in the unmarked case in which they complete the valuation of their unvalued Case feature. In Icelandic Stylistic Fronting (Holmberg 2000), the categories that do not have any feature(s) in which they should agree with T can exceptionally move to the Spec of T, which is a typical Criterial Position claimed in the literature (Rizzi 2015). On the basis of the literature (Hosono 2013, Holmberg 2000), I propose that these kinds of exceptional syntactic 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) can occur only when it is required from phonology. I also suggest that a sentential element without any unvalued feature(s) can merge (either externally or internally) to a lower position/Spec of a head the projection of which has already been labeled: when a higher syntactic object is already labeled, a syntactic object inside it does not need a new label, with a sentential element merged (either externally or internally) to a lower position/Spec unnecessary to agree with any head.

1. Introduction

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

* I am indebted to Hisatsugu Kitahara for his very helpful comments, which enabled me to improve this paper significantly. Many thanks to Johan Brandtler for a lot of his helpful comments on the original version of this paper. (Part of) this paper was presented at The 153rd Meeting of the Linguistic Society of Japan, 3-4 December 2016, and at Keio University Linguistics Colloquium, 8 January 2017. I would like to thank the audience for their helpful comments. I am responsible for any errors.

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]~~].²
 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). I argue, contra Chomsky (ibid.), that a category raised into the CriP should not be able to move up further in the LA derivational system. In Scandinavian *Object Shift* (OS, Holmberg 1986), the object pronoun can exceptionally move out of the Spec of R, which is the CriP for objects in the unmarked case in which they complete the valuation of their unvalued Case feature. In Icelandic *Stylistic Fronting* (SF, Holmberg 2000), the categories that do not have any feature(s) in which they should agree with T can exceptionally move to the Spec of T, which is a typical CriP claimed in the literature (Rizzi 2015). On the basis of the literature (Hosono 2013, Holmberg 2000), I propose that these kinds of exceptional syntactic movement from/into the CriP in which a raised category does not have any unvalued feature(s) (in which it should agree with a head in a raised position) can occur only when it is required from phonology. I also suggest that a sentential element without any unvalued feature(s) can merge (either externally or internally) to a lower position/Spec of a head the projection of which has already been labeled: when a higher syntactic object is already labeled, a syntactic object inside it does not need a new label, with a sentential element merged (either externally or internally) to a lower position/Spec unnecessary to agree with any head.

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. Sections 3 and 4 introduce the basic properties of Scandinavian OS and Icelandic SF respectively. In each section, the way of deriving relevant constructions is presented on the basis of the LA system, and exceptional properties of these movement phenomena are discussed. Section 5 proposes that exceptional syntactic movement from/into the CriP can occur only when it is required from phonology. Some problems on labeling are also discussed. Section 6 briefly concludes this paper.

2. Labeling Algorithm and the Properties of the Criterial Position

According to Chomsky (2013, 2015), a syntactic object does not inherently have a phrasal label, but it is labeled in the course of derivation by LA, a minimal search of computation. Chomsky proposes the following labeling procedures. First, when a phasal head, either v^* or C, merges to a maximal projection, XP, LA takes the label of that phasal head.

Secondly, when a non-phasal 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-phasal head to strengthen it. The raised category and the non-phasal head agree in some feature(s), and LA takes the shared feature(s) as the label of the projection.

² Here, I tentatively notate the embedded and matrix clauses as CP. The notation of phrasal labels is to be renewed in the next section and thereafter.

Thirdly, when two maximal projections, XP and YP, merge, one way to label the projection is that one of them moves out of that configuration. 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 that LA searches the feature shared by Agree between XP and YP. LA takes the shared feature, e.g. ϕ -features, and labels the projection $\langle \phi, \phi \rangle$.

Chomsky (2015) argues that the HP (1a-b) is derived as follows. When *which dog* moves and stays in the Spec of the (embedded) C, which has Q, Agree occurs between the unvalued [Q] of *which dog* and the valued [Q] of C_Q. The projection of C_Q, i.e. β , is labeled $\langle Q, Q \rangle$, with the shared feature [Q] taken; see (2a). When *which dog* moves out of [Spec, β], LA takes C_Q as the label of β . This means, he argues, that the embedded clause is interpreted as a *yes-no* question, a gibberish interpretation, which causes (2b) to be ungrammatical.

- (2) a. You wonder [$\beta_{\langle Q, Q \rangle}$ [*which dog*] C_Q John likes ~~[*which dog*]]~~. (=1a)
 b. *_[α] [*which dog*] do you wonder [$\beta_{\langle C_Q \rangle}$ ~~[*which dog*]]~~ C_Q John likes ~~[*which dog*]]~~? (=1b)

Chomsky's account for (2b) is quite odd, however. First, it indicates that when *which dog* moves to [Spec, β], Agree between the embedded C_Q and *which dog* in its Spec can be avoided, and the latter can move up further. Since Chomsky (2001), it has been argued that syntactic operations should immediately occur when they are to occur. For instance, when there is an intervening category between a head and its goal, the head agrees with that intervening category, which causes the Intervention Effect. In the same way, Agree between the embedded C_Q and *which dog* in its Spec must immediately occur as long as it can occur, and it should not be avoided.

Secondly, Chomsky's account indicates that *which dog* can move through [Spec, β] up to [Spec, α], escaping from LA's minimal search. When *which dog*, which can be expected to agree with the embedded C_Q, moves to [Spec, β], LA would expect Agree to occur between them and would try to find some shared feature(s) to label the embedded clause as soon as possible. It is quite odd to argue, as long as LA is said to be a minimal search, that the raised category that LA should definitely target can escape from LA's minimal search and move up further.

Recall Chomsky's account for (2a): after Agree occurs between the unvalued [Q] of *which dog* and the valued [Q] of C_Q, LA finds the shared feature [Q], and immediately labels β $\langle Q, Q \rangle$. Note that *which dog* completes the valuation of its unvalued [Q] in [Spec, β] and does not have any more unvalued feature(s),³ which prevents it from moving up to the matrix Spec. That is, the CriP, i.e. [Spec, β] here, 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 agree with the matrix C head, which prevents it from moving up to the Spec of α . This indicates that, 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.

³ The unvalued Case of the (*wh*-)object has already been valued in a lower Spec, which I turn to soon below.

The argument above indicates that movement is actually not free in the LA system, contra Chomsky (2013, 2015). That is, it was assumed in Chomsky (2001) that syntactic movement is allowed to occur only when a raised category receives a new semantic effect that it could not receive in its original position. Scandinavian OS, which I turn to below in the next section, was accounted in the following way: a full NP does not move since it receives a new or focus interpretation that it normally receives in its original position; an object pronoun can move since it receives an old or specific interpretation that it cannot receive in its original position. Movement that does not cause any semantic change was assumed to occur in phonology by definition.

Through the theoretical transition (Chomsky 2004, 2008), Chomsky (2013, 2015), in his LA derivational framework, completely eliminates such a constraint on movement. As we saw at the beginning of this section, to label the projection of a non-phasal head, something inside its complement is required to move to its Spec, regardless of whether the raised category receives a new interpretation or not in the raised Spec; to label [XP,YP], either of the two maximal projections is simply allowed to move out, regardless of whether it receives a new interpretation in the raised position. Thus, since any category can move in narrow syntax regardless of whether it can receive a new semantic interpretation in its raised position, movement would seem to be free in the LA framework.⁴

However, as argued above, a raised category must have some unvalued feature(s) in which it agrees with a head in its raised position and which can be valued in that raised position only by that head. Thus, movement is actually not free 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 must stop in that raised position, i.e. in the CriP for that category, and cannot move up further.⁵

In sum, movement is not free in the LA system: a raised category must have some unvalued feature(s) in which it agrees with a head and which can be valued in its raised position; after it completes the valuation of all of its unvalued feature(s), it cannot move up further. The HP problem (2a-b) is fully accounted for along this argument: Agree occurs between the unvalued [Q] of *which dog* and the valued [Q] of C_Q; LA finds the shared feature [Q] and labels $\beta <Q,Q>$; without any unvalued feature(s), *which dog* cannot move up further and it is frozen in its raised position. Thus, a category raised into the CriP should not be able to move up further in the LA derivational system.⁶

⁴ Of course, a category can receive a new interpretation in a raised position. The point here is that in the LA system, there is no constraint on movement that a raised category must receive an interpretation that it cannot receive in its original position, contra Chomsky (2001).

⁵ Johan Brandtler (p.c.) suggests that a circularity might arise in the statement here: 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 the Spec of T 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.

⁶ As Hisatsugu Kitahara points out (p.c.), a category raised into the CriP cannot move up further by definition under the Criterial assumption in the cartographic framework; see a series of Rizzi's (2006, 2010, 2015) works on

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.'

Scandinavian OS is dependent on verb movement (*Holmberg's Generalization*, Holmberg 1986). That is, 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 can move across the negation in neither of the cases.

- (4) a. Jag målade <^{OK}den> inte [_{VP} målade <^{OK}den>].⁷ [Swe.]
 I painted it not it
 'I didn't paint it'
- b. Jag har <*den> inte [_{VP} målat <^{OK}den>].
 I have it not painted it
 'I haven't painted it.'
- c. Jag sa att jag <*honom> inte [_{VP} 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.

cartography.

⁷ Here, the verbal projection is tentatively notated as VP.

- (5) a. ... C [_{α<φ,φ>} jag [T [_β inte [_{γ<v*>} ~~jag~~ [málade(=R)+v* [_{δ<φ,φ>} den [~~málade(=R)~~ [_ε ~~den~~]]]]]]]]]]
 b. ... C [_{α<φ,φ>} jag [T [_β inte [_{γ<v*>} ~~jag~~ [kysste(=R)+v* [_{δ<φ,φ>} Marit [~~kysste(=R)~~ [_ε ~~Marit~~]]]]]]]]]]

The verbal root R, *málade* (5a)/*kysste* (5b), merges to the internal argument, *den* (5a)/*Marit* (5b). Since *málade/kysste*(=R) is a non-phasal head and weak, *den/Marit* moves to [Spec,δ] to strengthen it. The phasal 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 *málade/kysste*(=R). *Málade/kysste*(=R) and *den/Marit* in its Spec Obj(ect)-agree and the latter is assigned an Acc(usative Case). δ is labeled <φ,φ>. *Málade/kysste*(=R) moves to v* to become a verbal category. Phasehood is activated in the original position of R. ε, the complement of R (which is now vacuous), is transferred.

Then, the external argument of v*, *jag*, the negation *inte* and T merge in turn.⁸ Since T is a non-phasal 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 phasal head v* and γ is labeled <v*>. The phasal 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 <φ,φ>. Phasehood is activated in T. γ<v*>, the complement of T, including δ<φ,φ>, is then transferred.

Consider the properties of the position where the object is located, i.e. [Spec,δ]. The object, *den* (5a)/*Marit* (5b), moves to that position and Obj-agrees with *málade* (5a)/*kysste* (5b). The unvalued Case of the object is assigned an Acc by the φ-features in *málade/kysste*(=R). The object stops there. That is, [Spec,δ], i.e. the Spec of R 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,δ] 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 feature(s) such as an unvalued Case valued in [Spec,δ], the object could not move out of [Spec,δ]. But object pronouns in the Scandinavian languages can exceptionally move out, though it does not have any more unvalued feature(s).⁹

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).¹⁰ In (6a), the embedded subject position is empty. The sentence adverb

⁸ In section 5, I turn to the problem on how to label β, in which the negation *inte* merges to γ.

⁹ In Icelandic, full NPs can optionally move, which I leave aside here.

¹⁰ The data of Icelandic SF is taken from Holmberg (2000). Holmberg refers to Jónsson (1991) for some of his data.

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, i.e. the Spec of T, 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 in (8), which illustrates the derivational stage at which the *wh*-subject *hver* reaches the Spec of *að* with the sentence adverb *sennilega* raised to [Spec,α].¹¹

- (8) ... [hver [að [_{α<φ,φ>} sennilega [_{α<φ,φ>} hver [hefði+T [_{β sennilega} [_{γ<v*>} hver
 [skrifað(=R)+v* [_{δ<φ,φ>} þessa bók [skrifað(=R) [_{ε þessa bók}]]]]]]]]]]]

The verbal root R, *skrifað*, merges to the internal argument, *þessa bók*.¹² Since *skrifað(=R)* is a non-phasal head and weak, *þessa bók* moves to [Spec,δ] to strengthen it. The phasal 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 <φ,φ>. *Skrifað(=R)* moves to v* to become a verbal category. Phasehood is activated in the original position of R. ε, the complement of R (which is now vacuous), is transferred.

Then, the external argument of v*, *hver*, the sentence adverb *sennilega*,¹³ and T, to which the Aux *hefði* adjoins,¹⁴ merge in turn. Since T is a non-phasal head and weak, DP in its complement, i.e. *hver* in [Spec,γ], moves to [Spec,α] to strengthen it. After *hver* moves out, LA finds the phasal head v* and γ is labeled <v*>. The phasal 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 *hver* in its Spec Subj-agree and the latter is assigned a Nom. α is labeled <φ,φ>. Phasehood is activated in T. γ<v*>, the complement of T, including δ<φ,φ>, is then transferred.

¹¹ In section 5, I turn to the positions to which the sentence adverb *sennilega* and the *wh*-subject *hver* move.

¹² I leave aside the internal structure of the object noun phrase *þessa bók* ‘this book’ here.

¹³ In section 5, I turn to the problem on how to label β, from which the sentence adverb *sennilega* moves out.

¹⁴ 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.

The *wh*-subject *hver* is then raised to [Spec,*að*] due to its unvalued [wh]. The sentence adverb *sennilega* moves to [Spec, α], tentatively to a Spec higher than the one a copy of *hver* occupies, adopting *tucking-in* operations and the multiple Spec hypothesis (Richards 2001).¹⁵

Note that though (*hefði*+)T and *sennilega* in its Spec, being in configuration [XP,YP], would have to agree in some feature(s), it is unclear whether the adverb has any unvalued features in which it agrees with T. 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. Contrary to nominals that have, e.g. 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, α] could not move at all.¹⁶ But the adverb can exceptionally move to [Spec, α] 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).¹⁷

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 the Spec of R, the CriP for the 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). It is only when downstep needs to be caused that the object pronoun can move.

Regarding Icelandic SF, Holmberg (2000) convincingly argues that it occurs due to the requirement that something phonologically visible must occupy the Spec of T, i.e. [Spec, α] in

¹⁵ Movement of *sennilega* (to one of the multiple Specs) is countercyclic, as Hisatsugu Kitahara (p.c.) points out, but *tucking-in* operations have widely been assumed. Note that multiple Specs have to be assumed here, since the *wh*-subject is raised leaving its copy: the sentence adverb cannot be raised to the position which the copy of the *wh*-subject occupies and cannot be replaced with it. Later, I turn to this issue in detail.

¹⁶ 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).

¹⁷ Hosono's account is owed to Bruce's (1977) intonation theory of Swedish. I turn to the simple tense form in which the object pronoun does not move soon later.

(8). 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,α]. According to Holmberg, Icelandic SF does not produce any new semantic effects such as focus and topic, but it occurs only to fill the Spec of T visibly. He claims that the finite T has a feature that requires a phonologically visible sentential element to occupy its Spec, 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 the Spec of T 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).¹⁸ 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 of the CriP.¹⁹

For confirmation, this exceptional movement required from phonology occurs in narrow syntax, not in the phonological component, contra Chomsky (2001). As illustrated in (10), the object pronoun moves across the negation *inte*, which is located in [Spec,β]. After $\gamma<v^*>$ including $\delta<\phi,\phi>$ is transferred, the element(s) inside $\gamma<v^*>$ cannot move up further. Hence, the object pronoun must move across the negation before $\gamma<v^*>$ is transferred.²⁰

¹⁸ Josefsson (2003) has already claimed, with her experimental data, that OS is optional in Swedish.

¹⁹ The statement here that OS occurs only when downstep needs to occur answers the question how movement that occurs due to the requirement from phonology can be restricted, which is raised by Johan Brandtler (p.c.). He also suggests the possibility that the requirement from phonology that something must move could override the syntactic movement required due to feature valuation. Actually, this possibility does not arise. When a (pronominal) object has an unvalued Case, it moves to the Spec of R and its unvalued Case is valued there. Thus, when a sentential element with some unvalued feature(s) moves, that is an obligatory syntactic movement and cannot be overridden by any phonological requirement.

²⁰ The same argument applies to verb movement: the complex verbal head *målade*(=R)+ v^* could not move to T after $\gamma<v^*>$ is transferred; it must move before $\gamma<v^*>$ is transferred.

- (10) ... C [$\alpha<\varphi,\varphi>$ jag [T [den [β inte [$\gamma<\nu^*>$ ~~jag~~ [málade(=R)+ ν^* [$\delta<\varphi,\varphi>$ ~~den~~ [málade(=R) [ε ~~den~~]]]]]]]]]]

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.

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 its raised position. In Scandinavian OS, after the object pronoun has its unvalued Case valued in the Spec of R, it exceptionally moves out without any more unvalued feature(s). In Icelandic SF, such categories as adverbs can exceptionally move to the Spec of T, though they do not have any unvalued feature(s) in which they should agree with T there. 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:

- (11) 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 its raised position) occurs in syntax only when it is required from phonology. (Final)

I turn to some remaining problems on labeling. First, it is not clear how to label the projection in which the object pronoun is adjoined. It has been argued that the object pronoun must move across the negation before $\gamma<\nu^*>$ is transferred. In (10), which is repeated in (12), the object pronoun *den* moves and lands somewhere above the negation *inte* and below T:

- (12) ... C [$\alpha<\varphi,\varphi>$ jag [T [den [β inte [$\gamma<\nu^*>$ ~~jag~~ [málade(=R)+ ν^* [$\delta<\varphi,\varphi>$ ~~den~~ [málade(=R) [ε ~~den~~]]]]]]]]]]

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.

Secondly, it is unclear how to label β in (8), which is repeated in (13), after the sentence adverb *sennilega* moves out. A possible way would be for LA to take the phasal head ν^* and label $\beta<\nu^*>$. But LA would have to look inside $\gamma<\nu^*>$ across the external argument *hver*. Though the (*wh*-)subject has already been phonetically empty in [Spec, γ], it is not clear whether LA can search a candidate label across a category of a maximal projection.

- (13) ... [hver [að [$\alpha<\varphi,\varphi>$ sennilega [$\alpha<\varphi,\varphi>$ ~~hver~~ [hefði+T [β ~~sennilega~~ [$\gamma<\nu^*>$ ~~hver~~ [skrifað(=R)+ ν^* [$\delta<\varphi,\varphi>$ þessa bók [skrifað(=R) [ε ~~þessa bók~~]]]]]]]]]]

One way to account for these cases will be simply to say, contra Chomsky (2013, 2015), who claims that labels are necessary for the interpretation for all syntactic objects at the interfaces,

Note that a higher syntactic object, i.e. α here, is already labeled $\langle \phi, \phi \rangle$ in all the cases above. Recall the derivational process of (12) described in section 3. When the negation *inte* merges to γ , β is not labeled at this derivational stage. But after *T* merges and the subject *jag* in [Spec, γ] moves to [Spec, α], *T* and *jag* Subj-agree, and α , a syntactic object higher than β , is labeled $\langle \phi, \phi \rangle$. Also, the object pronoun moves after α is labeled $\langle \phi, \phi \rangle$: after *T* and *jag* Subj-agree and α is labeled $\langle \phi, \phi \rangle$, $\gamma < v^* \rangle$, the complement of *T*, is transferred; before that transfer, the object pronoun moves and is located above the negation. Recall also the derivational process of (13) described in section 4. After *hver* in [Spec, γ] moves to [Spec, α], (*hefði*+)*T* and *hver* in its Spec Subj-agree and α is labeled $\langle \phi, \phi \rangle$. After *hver* is raised to [Spec, $\alpha\delta$] due to its unvalued [wh], the sentence adverb *sennilega* moves to one of the multiple Specs of α . It is thus after α is labeled $\langle \phi, \phi \rangle$ that *sennilega* moves out of β .

(14) a. ... [hver [að [sennilega [$\alpha_{\langle \varphi, \varphi \rangle}$ hver [hefði+T [β sennilega [$\gamma_{\langle v^*, v^* \rangle}$ hver
[skrifað(=R)+v* [$\delta_{\langle \varphi, \varphi \rangle}$ þessa bók [skrifað(=R) [ϵ þessa bók]]]]]]]]]]]

b. ... [hver [að [$\alpha_{\langle \varphi, \varphi \rangle}$ hver [sennilega [hefði+T [β sennilega [$\gamma_{\langle v^*, v^* \rangle}$ hver
[skrifað(=R)+v* [$\delta_{\langle \varphi, \varphi \rangle}$ þessa bók [skrifað(=R) [ϵ þessa bók]]]]]]]]]]]

11

internally) merged sentential element is unnecessary to agree with any head.^{21,22}

6. Conclusion

In this paper, I have discussed exceptional movement from/into the CriP within the LA framework (Chomsky 2013, 2015). I have argued, contra Chomsky (*ibid.*), that the category raised into the CriP should not be able to move up further in the LA derivational system. In Scandinavian OS (Holmberg 1986), the object pronoun can exceptionally move out of the Spec of R, which is the CriP for objects in the unmarked case in which they complete the valuation of their unvalued Case feature. In Icelandic SF (Holmberg 2000), the categories that do not have any feature(s) in which they should agree with T can exceptionally move to the Spec of T, which is a typical CriP claimed in the literature (Rizzi 2015). On the basis of the literature (Hosono 2013, Holmberg 2000), I have proposed that these kinds of exceptional syntactic movement from/into the CriP in which a raised category does not have any unvalued feature(s) (in which it should agree with a head in a raised position) can occur only when it is required from phonology. I have also suggested that a sentential element without any unvalued feature(s) can merge (either externally or internally) to a lower position/Spec of a head the projection of which has already been labeled: when a higher syntactic object is already labeled, a syntactic object inside it does not need a new label, with a sentential element merged (either externally or internally) to a lower position/Spec unnecessary to agree with any head.

The argument in this paper suggests that there is no movement in the phonological component. As stated at the end of section 2, it was assumed in Chomsky (2001) that syntactic movement is allowed to occur only when a raised category receives a new semantic effect that it could not receive in its original position. Movement that does not cause any semantic change was assumed to occur in phonology by definition. But through the theoretical transition (Chomsky 2004, 2008), Chomsky (2013, 2015) completely eliminates such a constraint on movement. In the new LA system, any category can move in narrow syntax regardless of whether it can receive a new semantic interpretation in its raised position. We have argued that 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

²¹ The proposal here has already been suggested by Hornstein (2009), who claims that any number of adverbs can move adjoined to a VP in VP topicalization; the internal structure of such a raised VP can be ambiguous. The proposal here generalizes his argument: if a higher projection has already been labeled, a phrasal structure inside it can in general be unlabelable.

²² According to Chomsky (2013, 2015), languages such as Italian that have a rich agreement system have a strong T which can label itself without help of a category raised to its Spec. It is thus not implausible that Icelandic with quite a rich agreement system too has a strong T which can label itself. But this argument applies when the subject position is empty. That is, when a sentence has a null subject, Italian can label its own projection without Agree between the subject and T. But when an overt subject is present in the Spec of T, which results in configuration [XP,YP], Agree must occur between the subject and T to label the projection. In the same way, even if Icelandic T is assumed to be strong, Agree must occur to label the projection when an overt subject is present in the Spec of T.

References

- Broekhuis, Hans. 2008. *Derivations and Evaluations: Object Shift in the Germanic Languages*. Berlin: Mouton de Gruyter.
- Bruce, Gösta. 1977. *Swedish Word Accents in Sentence Perspective*. Travaux de L'Institut de Linguistique de Lund XII. CWK GLEERUP. PhD dissertation, Lund University.
- Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1-52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2008. On Phases. In *Foundational Issues in Linguistic Inquiry: Essays in Honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133-166. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33-49.
- Chomsky, Noam. 2015. Problems of projection: Extensions. In *Structures, Strategies and Beyond: Studies in Honour of Adraian Belletti*, ed. by Elisa Di Domenico, Cornelia Hamann, and Simona Matteini, 3-16. Amsterdam: John Benjamins.
- Diesing, Molly. 1992. *Indefinites*. Cambridge, MA: MIT Press.
- Diesing, Molly. 1997. Yiddish VP Order and the Typology of Object Movement in Germanic. *Natural Language and Linguistic Theory* 15:369-427.
- Erteschik-Shir, Nomi. 2005. Sound Patterns of Syntax: Object Shift. *Theoretical Linguistics* 31:47-93.
- Fox, Danny and David Pesetsky. 2005. Cyclic Linearization of Syntactic Structure. *Theoretical Linguistics* 31:1-45.
- Gussenhoven, Carlos. 2004. *The Phonology of Tone and Intonation*. Cambridge: Cambridge University Press.
- Holmberg, Anders. 1986. *Word Order and Syntactic Features in the Scandinavian Languages and English*. PhD dissertation, University of Stockholm.
- Holmberg, Anders. 1999. Remarks on Holmberg's Generalization. *Studia Linguistica* 53:1-39.
- Holmberg, Anders. 2000. Scandinavian Stylistic Fronting: How any category can become an expletive. *Linguistic Inquiry* 31:445-483.
- Holmberg, Anders and Christer Platzack. 1995. *The Role of Inflection in Scandinavian Syntax*. Oxford: Oxford University Press.
- Hornstein, Norbert. 2009. *A Theory of Syntax: Minimal Operations and Universal Grammar*. Cambridge: Cambridge University Press.
- Hosono, Mayumi. 2013. *Object Shift in the Scandinavian Languages: Syntax, Information Structure, and Intonation*. PhD dissertation, Leiden University.

²³ See also Hosono (2013:ch.5) for a convincing argument that movement in phonology cannot be carried out in a principled way.

- Jónsson, Jóhannes Gísli. 1991. Stylistic fronting in Icelandic. *Working Papers in Scandinavian Syntax* 48:1-43. Department of Scandinavian Languages, Lund University.
- Josefsson, Gunlög. 2003. Four Myths about Object Shift in Swedish – and the Truth.... In Lars-Olof Delsing, Cecilia Falk, Gunlög Josefsson, and Halldór Á. Sigurðsson, eds., *Grammar in Focus: Festschrift for Christer Platzack 18 November 2003 Volume 1*, pp.199-207. Department of Scandinavian Languages, Lund University.
- Josefsson, Gunlög. 2010. Object shift and optionality. An intricate interplay between syntax, prosody and information structure. *Working Papers in Scandinavian Syntax* 86:1-24.
- Mikkelsen, Line. 2011. On Prosody and Focus in Object Shift. *Syntax* 14:230-264.
- Richards, Norvin. 2001. *Movement in Language: Interactions and Architectures*. Oxford: Oxford University Press.
- Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-Movement: Moving On*, ed. by Lisa Lai-Shen Cheng and Norbert Corver, 97-133. Cambridge, MA: MIT Press.
- Rizzi, Luigi. 2010. On some properties of criterial freezing. In *The Complementizer Phase: Subject and Operators*, ed. by E. Phoevos Panagiotidis, 17-32. Oxford: Oxford University Press.
- Rizzi, Luigi. 2015. Cartography, criteria, and labeling. In *Beyond Functional Sequence: The Cartography of Syntactic Structures, Volume 10*, ed. by Uri Shlonsky, 314-338. Oxford: Oxford University Press.
- Sells, Peter. 2001. *Structure, Alignment and Optimality in Swedish*. Stanford, CA: CSLI Publications.
- Vikner, Sten. 2001. The Interpretation of Object Shift and Optimality Theory. In Gereon Müller and Wolfgang Sternefeld, eds., *Competition in Syntax*, pp.321-340. Berlin: Mouton de Gruyter.